Clark Masts Systems Ltd have been designing and manufacturing telescopic and sectional mast systems for more than 50 years and have built up an extensive range of products that are used by civil and military authorities all around the world.

Design, development and testing are fundamental to the success of our organisation. This leaflet details our PT Series aluminium telescopic masts that are produced to our exacting standards of quality. The standard range is available from 1.5 metres to 21 metres, customised solutions offering variation in retracted and extended heights are available at no extra cost. Clark Masts are used by all of the world’s largest system integrators.

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PT Series

- Extended Height Range 1.5 metre to 21 metres
- Headload Range 9.0kg to 120.0kg
- Vehicle and Shelter Options
- Ground and Field Mounting Options
- Internal Cable Options
- Approved to MIL STD 810F

General Description

PT Series masts are made from 6082T6 Aircraft grade seamless drawn aluminium tube.

Base tube diameter is 4.5” and can have a maximum of seven sections.

Full length machined keyway to prevent relative rotation of sections allowing the whole mast to be easily turned at the base if required.

Rotating and non rotating versions available.

Vehicle or shelter mounted either internally or externally.

Field mounted either with field legs or guys only.

Roof trolley versions for maximum height extensions.

Bearing surfaces fitted with nylon and PTFE for smooth and effortless extension.

Natural rubber seals for reliable operation in the most demanding climatic conditions.

Masts approved to MIL STD 810F.

Plain collar version for lowest collar stack height.

Locking collar version for long term unattended deployment.

Double Supertork anti-twist system fitted as standard reducing torsional movement to +/- 1.5 degrees.

Internal cables available for many PT masts, either standard power cable or twisted pair screened cable for video use.

A range of cable management solutions are available.

Various top fittings to suit your requirements.

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PT Series

- Powerful low-friction antenna clamp
  (Flange mount optional)
- Rotating guy collar
- Large handles for easy section locking
- Adjustable bearing screws
- Powerful totally enclosed telescopic section locking system
- Easily replaced frangible key protecting mast keyway
- Collet ring solidly locks sections on full extension
- Machined keyway aligning telescoping sections
- High tensile corrosion resistant aluminium alloy tube anodised finish
- Optional water drain holes
- Double Supertork notches locking sections in torsion when mast is fully extended.
- Exclusive natural rubber low leak seals
- Teflon bearing rings on each piston
- Location of optional mast extension warning switch (works fitted only)
- Combined pressure relief and condensate drain valve
- Air inlet.

(Alternative bases available for field or vehicle installations, fixed or rotatable)

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PT Series

Configurations and Mountings

Externally Mounted Mast

PT masts can be mounted on a vertical surface of a van or shelter using upper and lower mounting brackets. The mast can be rotated through 360 degrees and locked in position by clamping the rotatable base when required.

Wheel rotation handles fitted to the mast base tube allow the user to turn the whole mast when using directional headloads. Upper brackets are fitted with PTFE bearing pads. Brackets are normally supplied in a painted finish in the same colour as the mast.

Internally Mounted Mast

Normally the most popular way of mounting a Clark Mast on a vehicle, the internally mounted mast uses the weatherproof roof bearing to adapt the vehicle roof and allows the mast to be rotated through 360 degrees when fitted with the rotatable base.

The roof bearing consists of a whole outer ring that is bolted to the vehicle roof skin and bearing halves that are positioned around the mast base tube and then positioned over the fixed ring so any rain or condensation will run off. This roof bearing is fitted with PTFE rings and a weatherproof sealing ring. Roof bearings are supplied in a painted finish in the same colour as the mast.

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### PT Series

#### Range Table

<table>
<thead>
<tr>
<th>Mast Length</th>
<th>2 Section Mast</th>
<th>4 Section Mast</th>
<th>5 Section Mast</th>
<th>6 Section Mast</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP</td>
<td>Retracted Height</td>
<td>Extended Height</td>
<td>Retracted Height</td>
<td>Extended Height</td>
</tr>
<tr>
<td>2.2m</td>
<td>1.90m</td>
<td>3.80m</td>
<td>1.90m</td>
<td>3.80m</td>
</tr>
<tr>
<td>2.4m</td>
<td>1.90m</td>
<td>3.80m</td>
<td>1.90m</td>
<td>3.80m</td>
</tr>
<tr>
<td>2.6m</td>
<td>1.90m</td>
<td>3.80m</td>
<td>1.90m</td>
<td>3.80m</td>
</tr>
<tr>
<td>2.8m</td>
<td>1.90m</td>
<td>3.80m</td>
<td>1.90m</td>
<td>3.80m</td>
</tr>
</tbody>
</table>

| Max Headload | 100kg          | 100kg          | 100kg          | 100kg          |

#### Material Specifications

**Mast Sections:**
Seamless drawn aluminium 10 SWG EANW6082T6.

**Castings:**
Die cast aluminium LM6.

**Finishes:**
Mast sections are anodised and dyed to a choice of colours. The steel fittings are zinc plated and passivated.

**Operating Temperatures:**
-40°C to +55°C (dry air).

**Air Pressure:**
Maximum operating air pressure 30PSI 2BAR.

All PT masts have been tested to MIL STD 810F and have been used around the world in service by military and civil users for over fifty years.

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“Choose from a wide range of models ranging from 1.5 metres to 21 metres in height.”

### PT Series

<table>
<thead>
<tr>
<th>Series</th>
<th>Size</th>
<th>Material</th>
<th>Height (m)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT1-M</td>
<td>2.1m</td>
<td>Steel</td>
<td>0.85m</td>
<td>13.5</td>
</tr>
<tr>
<td>PT2-M</td>
<td>3.0m</td>
<td>Steel</td>
<td>1.15m</td>
<td>23.5</td>
</tr>
<tr>
<td>PT3-M</td>
<td>3.9m</td>
<td>Steel</td>
<td>1.65m</td>
<td>33.5</td>
</tr>
<tr>
<td>PT4-M</td>
<td>5.0m</td>
<td>Steel</td>
<td>2.15m</td>
<td>43.5</td>
</tr>
</tbody>
</table>

### Range Table

#### 6 Section Masts (4.5"/114.3mm Diameter Base Tube, 2.20/3mm Top Tube, 4mm Top Fitting)

<table>
<thead>
<tr>
<th>Model</th>
<th>Retracted Height</th>
<th>Extended Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP</td>
<td>1.45m</td>
<td>6.05m</td>
</tr>
<tr>
<td>TP</td>
<td>1.55m</td>
<td>6.55m</td>
</tr>
<tr>
<td>NC</td>
<td>1.55m</td>
<td>6.55m</td>
</tr>
<tr>
<td>TC</td>
<td>1.55m</td>
<td>6.55m</td>
</tr>
</tbody>
</table>

#### 7 Section Masts (4.5"/114.3mm Diameter Base Tube, 1.5/3mm Top Tube, 4mm Top Fitting)

<table>
<thead>
<tr>
<th>Model</th>
<th>Retracted Height</th>
<th>Extended Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP</td>
<td>1.50m</td>
<td>5.05m</td>
</tr>
<tr>
<td>TP</td>
<td>1.50m</td>
<td>5.05m</td>
</tr>
<tr>
<td>NC</td>
<td>1.50m</td>
<td>5.05m</td>
</tr>
<tr>
<td>TC</td>
<td>1.50m</td>
<td>5.05m</td>
</tr>
</tbody>
</table>

Standard range of PT series of telescopic masts can be field, vehicle or shelter mounted.

**24mm/44mm Top Clamp Fitting**

**Typical Field Mounted Mast**

- Retracted Height (see range table)
- Extended Height (see range table)
- Guy Ropes

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PT masts often need to be deployed for longer periods of time on the ground in varying weather conditions. Clark masts have a tested solution for this application. The PT Field leg set offers a very strong fully adjustable system that enables the mast to be set up on sloping ground allowing the mast to be adjusted to the vertical position for safe extension and retraction. The whole mast can be rotated through 360 degrees to position directional headloads, the base of the mast is attached to a field base which facilitates rotation and has a ball and socket that is clampable to lock the mast after rotating. Each set contains four adjustable legs, two of these are fitted with climbing steps to assist the user when attaching and removing headloads. Levelling is made simple using the standard bubble level.

**PT Field Leg Kits**

- **CAT. NO.**
  - 5316 (Standard Height)
  - 19209 (Short Height)

- 1 x Field Leg Collar with Support Rings & Bubble Level
- 2 x Adjustable Stepped Legs
- 2 x Adjustable Plain Legs
- 1 x Field Base Plate with Locking Ring & Ball Base
- 4 x Ground Spikes
- 1 x Wheel Handle

Special requests for colours available.

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Clark Masts have developed a system for transporting and deploying masts with increased extended heights up to 21 metres. The roof trolley system allows masts with retracted heights of up to 5.5 metres to be safely carried on the roof of a vehicle and then deployed providing a stable platform for setting up the mast prior to and when fully extended. For levelling the vehicle a vehicle stabilising kit is offered for sloping ground.

Clark Masts are fitted with guy collars for attaching guy ropes to, these allow the mast to be rotated whilst still attached. Roof Trolleys are fitted with roof bearings and rotating bases as standard to allow masts to be fully rotated when in use.

<table>
<thead>
<tr>
<th>CAT. NO.</th>
<th>DESCRIPTION</th>
<th>FOR PT MAST MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>7752</td>
<td>PT Short Roof Trolley</td>
<td>Retracted Height 1500mm - 2500mm</td>
</tr>
<tr>
<td>7753</td>
<td>PT Medium Roof Trolley</td>
<td>Retracted Height 2600mm - 3500mm</td>
</tr>
<tr>
<td>7754</td>
<td>PT Long Roof Trolley</td>
<td>Retracted Height 3700mm - 4900mm</td>
</tr>
</tbody>
</table>
PT Series

Vehicle Bracket Set CAT. NO. 48050
Comprising an upper mounting bracket which accepts a special PT mounting collar and an adjustable lower mounting bracket which allows the mast to be positioned vertically on sloping ground as shown.

![Vehicle Bracket Set Diagram]

Guying Systems

Vehicle Bracket Set

- Lower Mounting Bracket. 13664
- Upper Mounting Bracket. 13665

Guying Kits

Top Guy Kit. 40441
PT masts up to 12 metres extended
- 4 x 2484, 24" Guy Picket
- 4 x 25383, Guy Assembly
- 1 x 2932, Accessory Bag
- 1 x B2621, 1.8kg Hammer

Top/Middle Guy Kit. 40442
PT Masts 13 metres - 21 metres extended
- 1 x 18028, Picket Bag
- 8 x 2484, 24" Guy Picket
- 4 x 25374, Guy Assembly
- 4 x 25382, Guy Assembly
- 1 x 2932, Accessory Bag
- 1 x B2621, 1.8kg Hammer

Lower Field Guy Set. 40440
PT masts can also be field mounted with out field legs by using the Lower Field Guy Set in conjunction with the guy kits shown.

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CAT NO. 14049
**Upper Mounting Bracket**
Used to mount mast externally on a wall or shelter. Allows the mast to rotate 360 and fitted with PTFE bearing pads.
*Weight: 2.27kg*

CAT NO. 14050
**Lower Mounting Bracket**
Used for externally mounting a PT mast on a vertical surface of a vehicle or shelter.

CAT NO. 14048
**Roof Bearing**
Used when fitting a PT mast through the roof of a vehicle allows 360 degree rotation and is fitted with PTFE bearings and a weather proof ring.
*Weight: 1.26kg*

CAT NO. 1303
**Saddle Clamp**
Allows PT Mast to be mounted on vertical or horizontal surfaces and to be quickly released when required.
*Weight: 1.00kg*

CAT NO. 13272
**Wheel Handle**
This solid aluminium handle is fitted to the 4.5” base tube of the PT mast when rotation is required.
*Weight: 1.16kg*

CAT. NO. 12994
**Graduated Collar**
Used for PT masts requiring directional bearing references. Indexed 0 to 360°.
*Weight: 0.40kg*

CAT NO.
**Spreader Bar**
Used to hold ‘Nycoll’ cable management system.
*Weight: 3.0kg*

**Model 40 Compressor Range**
Available in 12v (CAT NO. 33648) and 24v (CAT NO. 33648). This self contained power pack compressor is an all in one system for controlling the extension and retraction of PT masts when installed in a vehicle. Field versions can be supplied in conjunction with battery packs.

**Internal Extension Mast-up Warning Switch**
Factory installed when mast is built, this switch is connected to a circuit to provide a read up warning when installed in the vehicle. Shown fitted to a rotatable base with static air entry CAT NO. 13914.

**CAT NO. 29269 SCAM Handpump**
Self contained lightweight aluminium handpump, will extend any PT mast quickly without any auxiliary power. Supplied with 3 metres of hose and connector.

**Internal Extendible Cables**
PT masts can be fitted with an internal extendible cable up to 8 metres in height. Cable entry and junction is provided by base housing and top housing. A choice of electrical and screen cables can be supplied.