



**E-RACK**<sup>®</sup>  
RUGGIDISED ALUMINIUM

19" transit rack

*Protection for your equipment*

**cp**cases 

[www.cpcases.com](http://www.cpcases.com) +44 (0)208 568 1881

# E-Rack

## Ruggedised Electronic Transit Rack

E-Rack is the culmination of a product development programme between Brunel University, one of Europe's leading engineering universities, and CP Cases Ltd.

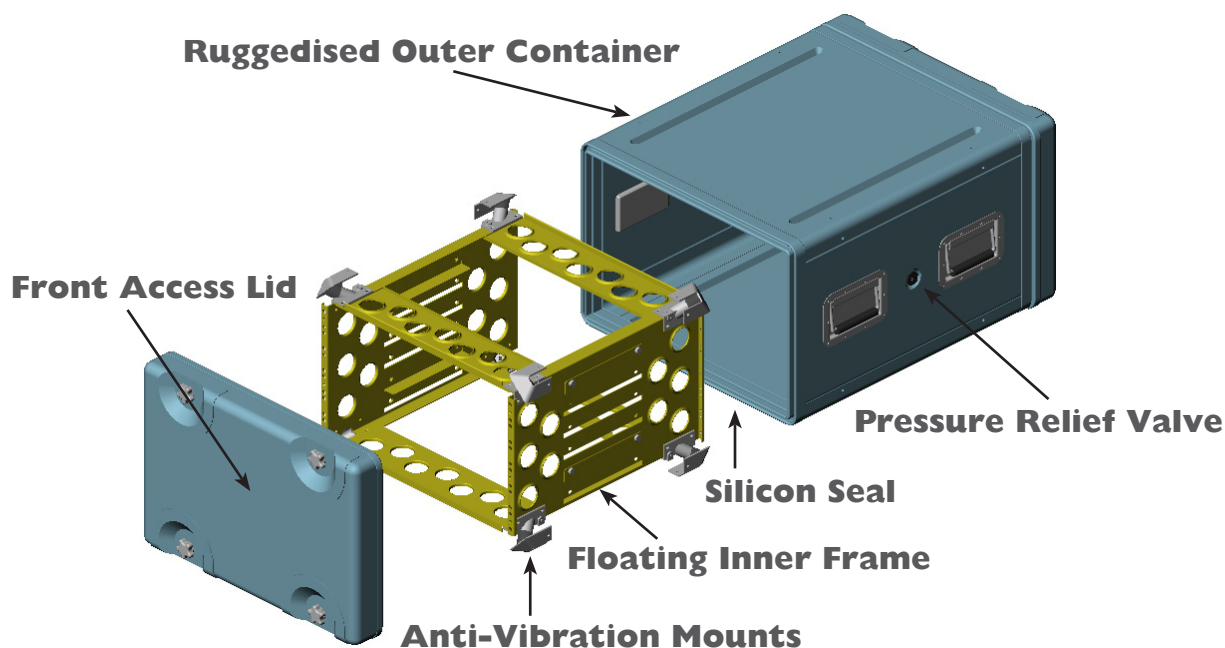
This 19 inch ruggedised electronic transit rack has been designed for commercial and military applications, when protection against physical, climatic and electromagnetic hazards are required, and where weight, strength and portability are critical issues.

Constructed from high-tensile aluminium alloy using the latest adhesive and riveting techniques, E-Racks are used for applications worldwide including:

- Satellite communications
- Land, airborne and seaborne military communications.
- Broadcast Field Stations.
- Test and Measurement Equipment.
- Offshore test equipment.
- Geophysical survey instrumentation

Its design features include:

- 19 inch racks compliant to IEC 60-297 and BS5954
- Rugged, compact aluminium construction.
- Recessed handles and closures.
- Front mounted screw catches for secure closure and to allow access from the front when stacked.
- Weatherproofing to EN 60529 / IP65
- Stackable with inter-locating ribs on container top & bottom surfaces.
- Precision manufactured interchangeable lids.
- Maximum payload of standard case is 46Kg, heavier payloads on request.



## Ruggedised Outer Container

Constructed from 1.5mm high tensile aluminium alloy (2mm rigidised aluminium available for heavy payloads), with overlapping (double thickness) corner edges giving significantly improved impact protection.

Positive location between lids and body is achieved by the unique male/female extrusions which incorporate a design copyright silicon seal giving all weather protection to levels exceeding IP65.

EMC shielding to customer's requirement available.

Stainless steel recessed hardware (handles and closures) are also weather sealed, and can be operated whilst wearing arctic gloves.

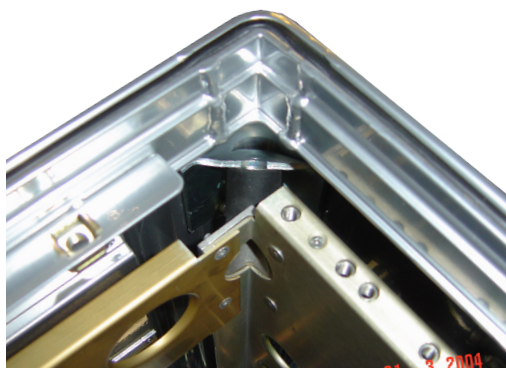
# E-Rack Features

## Floating inner rack frame

The 19 inch chassis is constructed from anodised aluminium alloy, punched with "burst holes" giving enhanced lightness and rigidity.

The chassis is mounted on eight elastomeric mounts, fixed to the outer casing by robust anchor plates, which are focussed towards the centre of mass of the case, ensuring the electronic equipment is attenuated against vibration and impact, regardless of the orientation of the container.

The suspended inner chassis can move > 20mm independently of the outer container, and in any direction. An earthing / grounding strap is fitted to maintain conductivity between the equipment and the outer container.



## Outer Ruggedised Container

### Material

Constructed from high tensile 1.5mm aluminium alloy. For payloads in excess of 46 Kg 2mm rigidised aluminium is available as an alternative. The casing is fitted with recessed, gasket sealed, stainless steel sprung handles.

### Lids

Removable lids (single lid available as an option) are positively secured to the outer casing by front, flush mounted hand turn screws (can be operated with gloved hands).

### Seal Protection

Lid and body joints are sealed with a silicon gasket to exclude the ingress of water, dust and sand. The operational working temperature of the seal is – 40 deg c to + 60 deg c. The climatic protection offered by the case meets IP65 standard.

Two variants are available a "heavy weight" seal predominantly for military applications and a lighter weight commercial seal.

### EMC Shielding

EMC shielding is available to meet customer's requirements.

### Stacking

Stacking ribs are incorporated on the top and bottom surfaces of the casing. Units are fully stackable with front and back access when stacked. Detachable link straps are available for locking stacked containers together.

### Breather valves

To allow equalisation of pressure of the internal casing with the atmosphere there are four alternatives :

- Small bleed hole
- 2 way breathable Gortex membrane
- Manual open/close valve
- Automatic pressure relief valve (APV) with manual override.

# E-Rack Options

## Finishes

Black, olive drab and blue electrostatic powder coated surface finishes, on etch and prime base, are available as standard.

Options include:

- Other British Standard and RAL colours.
- Self coloured, shot-blasted finish.
- Nylon powder coating.
- Wet coatings.
- Infra Red reflective (IRR) coatings.

## Optional Accessories

The following options and accessories are available upon request:

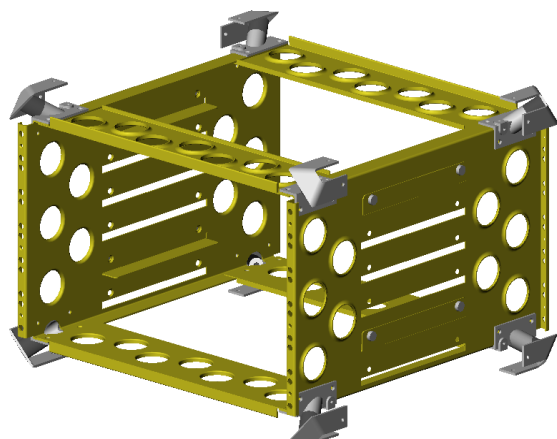
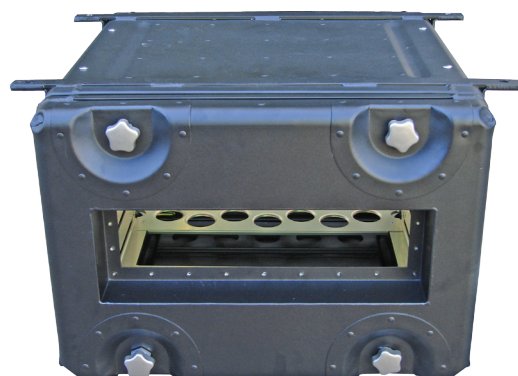
- Wheelboard with swivel / lockable castors.
- Lifting eyebolts for easy location and positioning. Eyebolts are rated at 250Kg per eyebolt.
- Alternatively spring loaded lifting shackles can be fitted.
- Rechargeable desiccant capsules.
- Lids can be fitted with cable cleats, storage pouches and hinged compartments.

## Accessories Continued

- Humidity indicators.
- Brackets for fixing to bulkheads in vehicles and ships.
- EMS/EMC shielding available.
- Silicon rubber skirt / gaiter between the chassis and the outer container for use in adverse weather conditions when the lids are removed (provided the electronics also carry a similar IP rating).

## Labelling Options:

- Metal engraved (ink fill optional).
- Acid etched labels, flush or surface fixed (Ink fill optional).
- Vinyl cut, self adhesive labels.
- Screen printed logos and lettering.
- Stencilled logos and lettering.
- Thermally printed labels on a polyester substrate (in a variety of colours and shapes).
- Sequential serial number printing.
- Bar coding.
- Any other customised label design to your artwork.



## 19 inch Chassis

### Construction

- The chassis is fabricated in anodised aluminium alloy, punched with burst holes for greater rigidity and lighter weight.
- Floating, captive M6 nuts are fitted for securing 19 inch equipment (field changeable if necessary).
- An earthing strap is attached, to maintain conductivity between the chassis and the outer casing.
- > 20mm of sway space allowed in any orientation.

## Accessories and options

### Adjustable shelf supports

- 19 inch storage drawers, keyboard trays, slides and other accessories.
- A flexible skirt seal is available, to eliminate the risk of water, dust and sand contamination to electronics equipment when operated with the lid off. This does not affect the anti-vibration characteristics. It is important that the front panel of the users equipment is weatherproof and firmly mounted onto the 19 inch chassis.



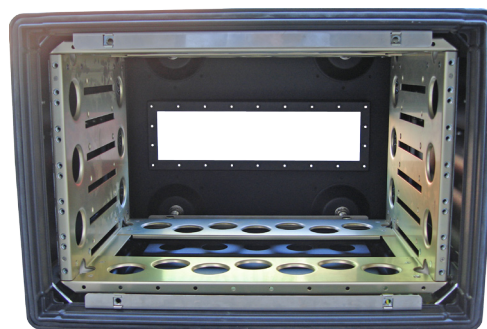
# E-Rack Features

## AVM Suspension & Load characteristics

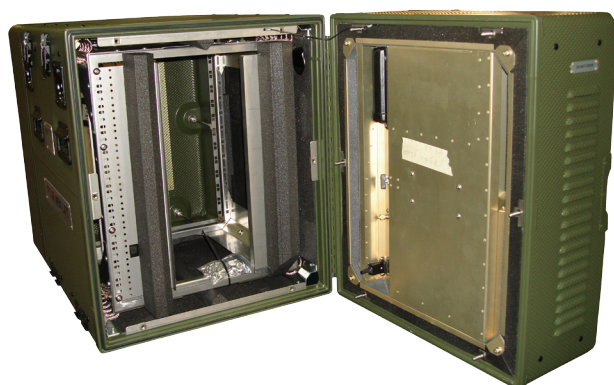
To achieve the recommended / optimum protection for varying equipment payloads, a choice of standard elastomeric mounts are available (see performance matrix below).

For specific attenuation, when all fragility factors and transit data is known / published, a fully customised design service is available, to ensure your exact specifications are met in full.

Examples of customised suspension mounts are available on request.



	Size	Shore hardness	Max. static load Load in compression / mm	Max. static load Load in shear / mm	Optimum attenuation for equipment loads between
A	20D / 25H	45	15kg / 3.2mm	5.5kg / 6.3mm	10-30kg
B	25D / 25H	45	24kg / 3.0mm	9kg / 6.3mm	25-46kg



**Insulated E-Rack with compressor air conditioner fitted into a hinged lid**

## Air Conditioning

Deployable electronics equipment often has to be protected from extremes of heat or cold. CP Cases can offer a range of air-conditioning options including thermoelectric and compressor systems.

Thermoelectric air conditioning units are lighter than other forms of coolers, offering extremely low maintenance due to them being solid state with have no moving parts except axial fans, no refrigerants or CFCs and also have no filters to change.

Thermoelectric coolers operate with no mix of air between ambient and the internal container, making them ideal for hot and humid environments.

The specification of air conditioning requires knowledge of the heat generated by the equipment, together with the ambient and required level of heating/cooling.

Please ask for our air conditioning questionnaire so that we can produce the most cost effective air control solution.



**E-Racks fitted with thermoelectric air conditioning units. Images showing both hot side and cold side**

# E-Rack Sizes

## Standard Sizes

Our standard sizes come in 4u to 12u height (1u = 1.75" / 44.45mm) in 2u increments.

Standard ISO frame depths available are 350mm 480mm and 610mm.

Custom sizes and modifications are available and easily



Code	Unit Height (U)	Frame Depth (mm)	Front / Rear Lid	Overall Depth (mm)	Body Depth (mm)	Body Width (mm)	Body Height (mm)	Weight (kg)
RW04351	4	350	F ONLY	555	485	535	278	17.0
RW04352	4	350	F & R	613	480	535	278	17.3
RW04481	4	480	F ONLY	685	615	535	278	19.0
RW04482	4	480	F & R	743	610	535	278	19.9
RW04611	4	610	F ONLY	815	745	535	278	21.0
RW04612	4	610	F & R	873	740	535	278	22.0
RW06351	6	350	F ONLY	555	485	535	367	19.1
RW06352	6	350	F & R	613	480	535	367	19.6
RW06481	6	480	F ONLY	685	615	535	367	22.1
RW06482	6	480	F & R	743	610	535	367	23.1
RW06611	6	610	F ONLY	815	745	535	367	24.4
RW06612	6	610	F & R	873	740	535	367	26.1
RW08351	8	350	F ONLY	555	485	535	456	21.1
RW08352	8	350	F & R	613	480	535	456	22.6
RW08481	8	480	F ONLY	685	615	535	456	25.1
RW08482	8	480	F & R	743	610	535	456	26.3
RW08611	8	610	F ONLY	815	745	535	456	28.3
RW08612	8	610	F & R	873	740	535	456	29.3
RW10351	10	350	F ONLY	555	485	535	545	24.1
RW10352	10	350	F & R	613	480	535	545	24.6
RW10481	10	480	F ONLY	685	615	535	545	28.0
RW10482	10	480	F & R	743	610	535	545	29.0
RW10611	10	610	F ONLY	815	745	535	545	29.8
RW10612	10	610	F & R	873	740	535	545	30.3

## Contact us

Please contact us to discuss your specific application, place and order or if would like modifications to our standard E-Racks.

**Unit 11, Worton Hall Ind. Est. Worton Road, Isleworth, Middlesex TW7 6ER. England**  
**Tel: +44 (0)20 8568 1881 Fax: +44 (0)20 8568 1141 E-mail - [info@cpcases.com](mailto:info@cpcases.com)**

**cp**cases   
[www.cpcases.com](http://www.cpcases.com)