



AIM & THURLBY THANDAR INSTRUMENTS

19" Rack Mounts

GENERAL INFORMATION

Aim-TTi

19" Rack Mounts

Rack Mounts are available for many Aim-TTi products.

This data sheet amalgamates the fitting instructions and drawings for the rack mounts available at the time of creation.

The original documents were created in a variety of formats. Consequently style, font size, page size and page orientation varies throughout.

INDEX

* Note that page numbers apply to the page within the PDF file. Any numbers shown on the pages themselves are relevant only to the individual instruction sheets.

The Index is hyper-linked for quick navigation.

Model No. Height Page No.*

RM50A 2U Page 3

The RM50A is designed to mount a single standard Aim-TTi plastic-cased instrument into a rack. The mount is suitable for the following current models:

1604, 1705, TF930, TF960, TG310, TG315, TG330, TG550, TG1006, TG1000, TG2000

(New models and discontinued models using the same casing style will also fit the rack)

RM200A 2U Page 6

The RM200A is intended to mount one or two 2U half-rack instruments. A blanking plate is included for use when a single instrument is being mounted. The mount is suitable for the following current models:

TG2511A, TG2512A, TG5011A, TG5012A, TGR6000

(New models and discontinued models using the same casing style may also fit the rack - please check with Aim-TTi before ordering)

RM300A 3U Page 9

The RM300A is intended to mount one or two 3U half-rack instruments. A blanking plate is included for use when a single instrument is being mounted. The mount is suitable for the following current models:

TG21010A, TGA1241, TGA12101, TGR1040, TGR2050, LD300, MX100T/TP

(New models and discontinued models using the same casing style may also fit the rack - please check with Aim-TTi before ordering)

RM410 4U Page 11

The RM410 is specific to the QL Series of power supplies (series I and series II). It can mount any combination of one, two or three single output units, one triple output unit, or one single plus one triple output units. Two 1/3 width blanking plates are included.

RM460 4U Page 13

The RM460 is intended for mounting 3U high power supplies whilst providing a 1/2 U ventilation space above and below to ensure sufficient air flow. Both 1/4 width and 1/2 width blanking plates are included.

The mount is suitable for the following current product series:

CPX Series, MX Series**, PL Series, PLH Series, QPX Series, LD400 load

RM1242/4 3U Page 16

The RM1242/4 is intended for mounting a single two or four channel TGA12xx series arbitrary waveform generator.

The mount is suitable for the following current models:

TGA1242, TGA1244, TGA12102, TGA12104

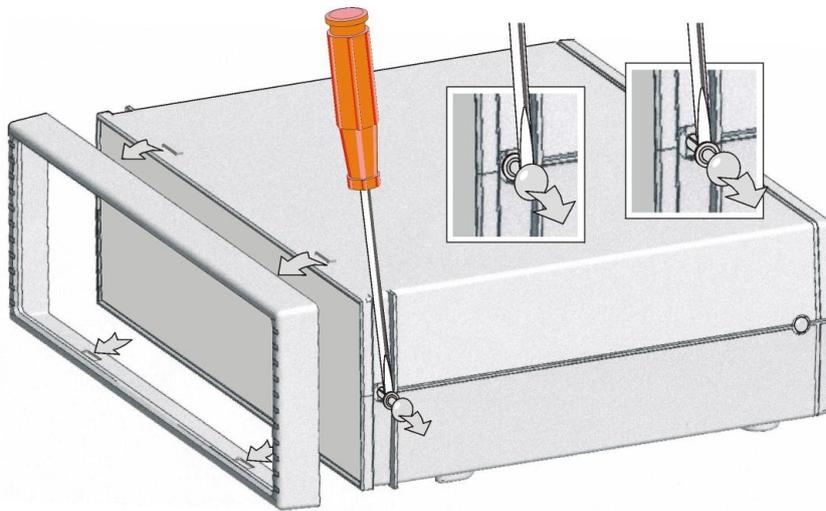
** MX Series, MX100T/TP - these power supplies will fit into both the RM300A and RM460. Limited fixing position exist within the RM300A (2 mountings rather than 4).

Assembly Instructions for the RM50A 19" Rack

The RM50A 19" rack is for use with instruments in the later TTi plastic instrument case, identified by the single-position tilt stand, see diagrams.

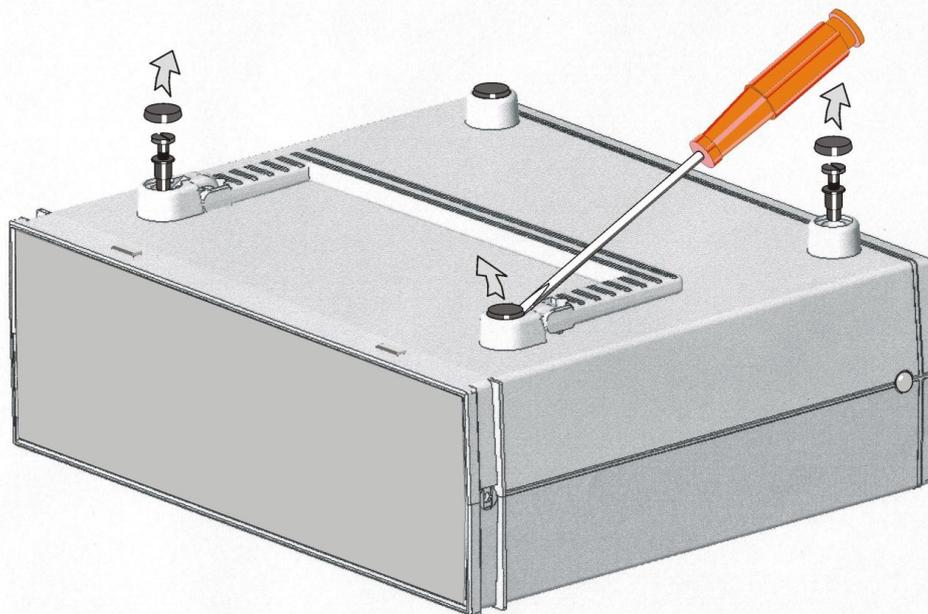
Warning: Disconnect the instrument from all voltage sources before fitting to the rack.

1. Unclip the front bezel by gently pulling the centre of each long edge up and forward. The case halves are held together by 4 plastic push-rivets. Using the blade of a small screwdriver in the slot beside each of the **front rivets only**, first ease out the rivet head and then fully remove the rivet pin followed by the rivet body.

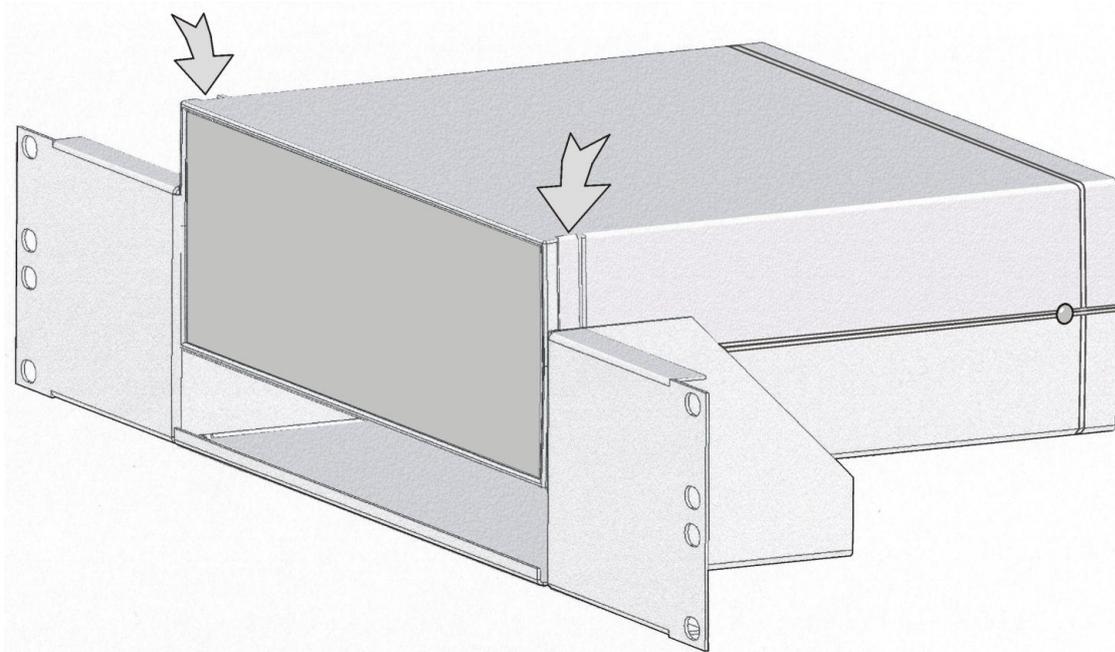


2. Holding the 2 case halves together at the front, to stop them separating, turn the instrument over to give access to the feet and tilt stand.

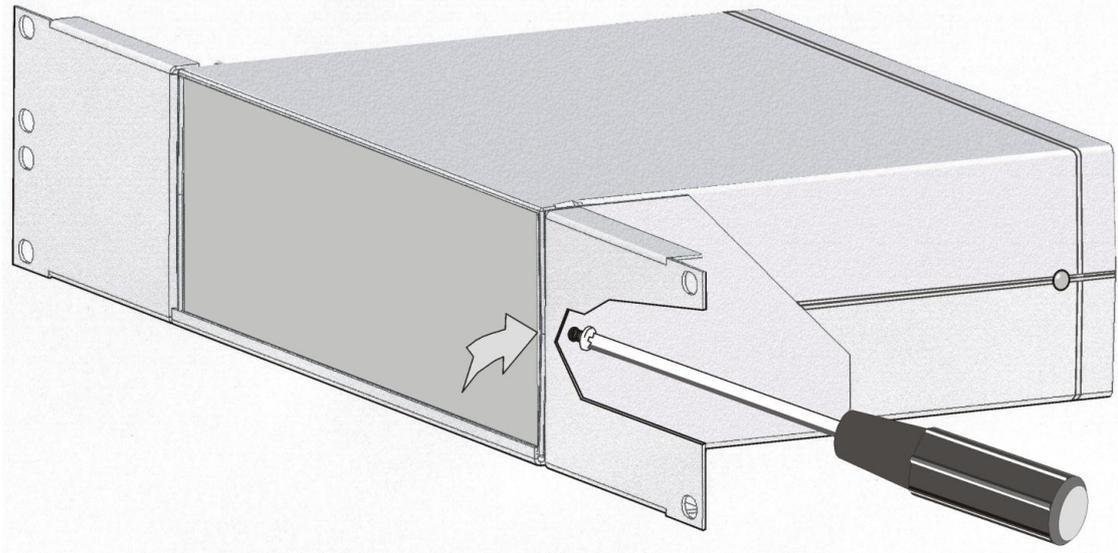
Remove the 4 self-adhesive rubber feet using the blade of a small screwdriver. Unscrew the slotted-head black screw-rivets completely and pull out the body of the rivets. The rear feet will come free with the rivet body; the front feet can be lifted free by raising the front edge so that the rear hook can be disengaged.



3. Holding the 2 case halves together at the front, to stop them separating, turn the instrument the right way up and slide it into the rack as shown. The two short ribs at the front of the case base should locate in the slots in the base of the rack and the 2 threaded bosses in the sides of the rack should align with the 2 push-rivet holes in the case.



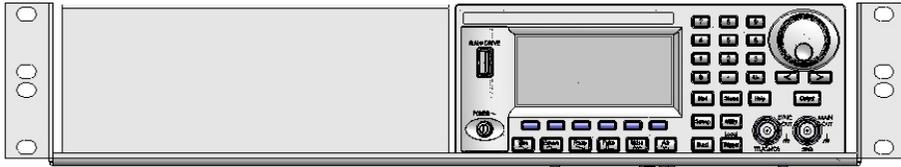
4. Fully screw the 2 M4 x 10mm screws (supplied) into the threaded bosses, keeping gentle pressure on the front corners of the case as the screw threads into the case push-rivet hole.



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The figure below show one instrument fitted to the rack with a blank panel fitted in the other slot.



INSTRUCTIONS FOR TTI 19 INCH RACK KIT TYPE RM200A

Warning: Disconnect the instrument from all voltage sources before fitting to the rack.

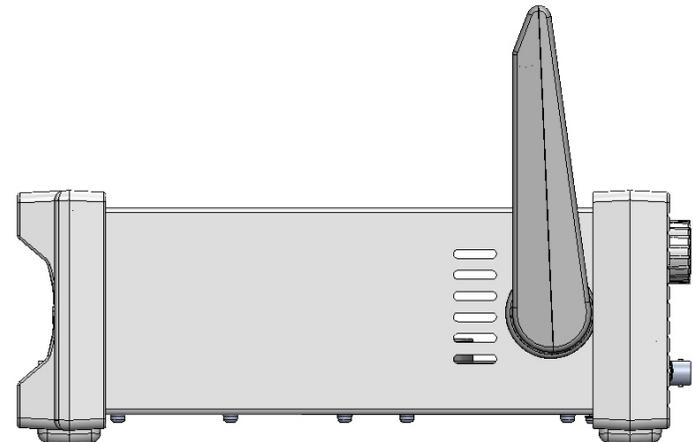
The RM200A rack mount kit is designed to accommodate any combination of two TG5011, TG2511 or TGR6000 instruments next to one another in a standard 19" wide rack. A blank panel is provided for fitting to the tray when only one instrument is fitted.

The figure below show two instruments fitted to the rack.



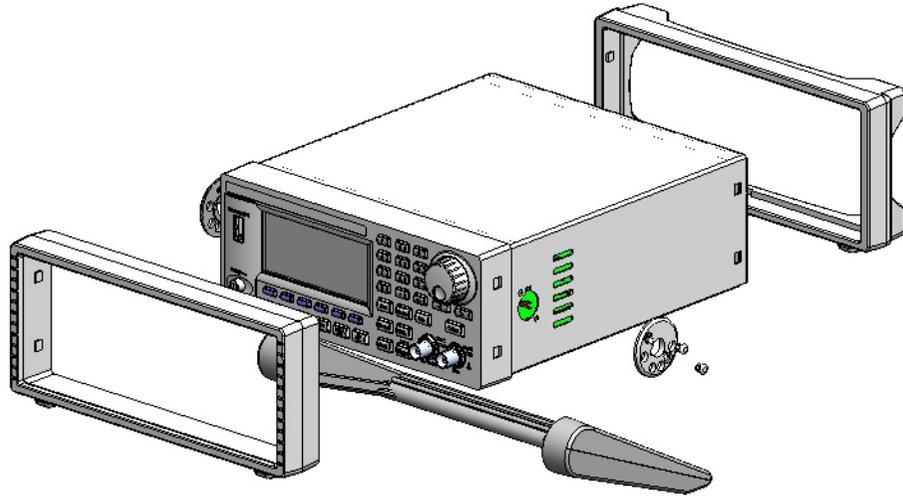
It is recommended that side supports, e.g. slides or angle supports, be used with the tray. The tray should be drilled and assembled with the side supports before the instrument is fitted to it.

For TG5011 & TG2511, pull out both sides of the instrument handle at the case pivot points, to free the position locking pegs, and rotate the handle from the stowed position to the position shown below. Then pull the sides of the handle outwards fully, one at a time, to remove the handle completely.



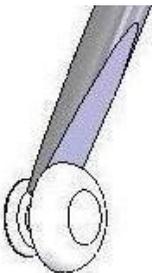
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Remove the protective front and rear bezels by gripping the sides of the bezel to pull them off. Remove the four snap-lock rivets* (two on each side) securing the handle collars to the instrument cover.

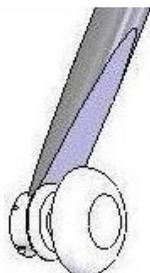


* The snap-lock rivets (TG5011/TG2511 only) are removed as follows:

First, ease out the head of the rivet using a fine screwdriver blade under the edge of the head (Fig.a). With the rivet head fully out, the body of the rivet can now be eased out with the screwdriver blade and removed completely (Fig.b). To re-assemble, fully re-insert the body of the rivet then push in the head to lock it.

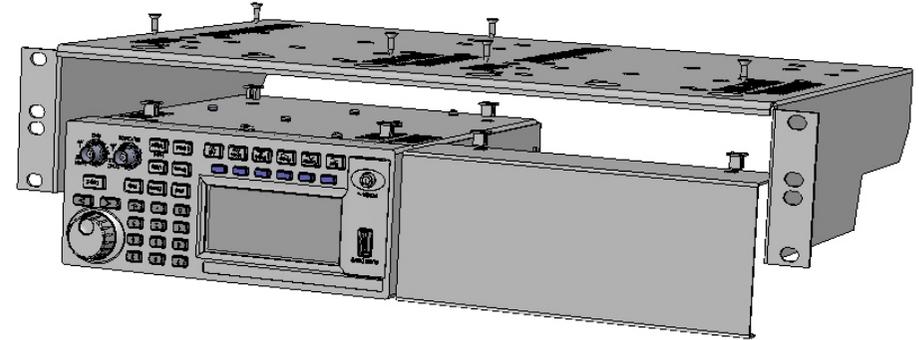


(Fig.a)



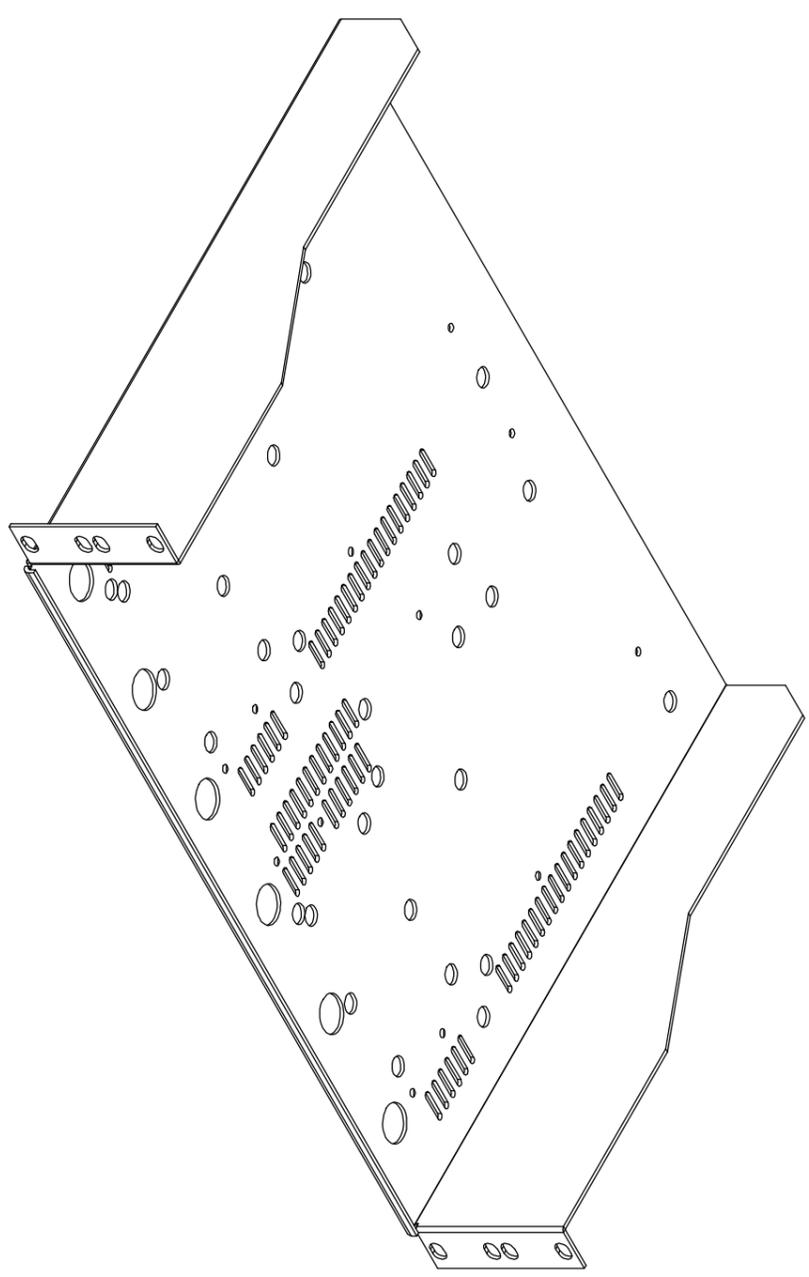
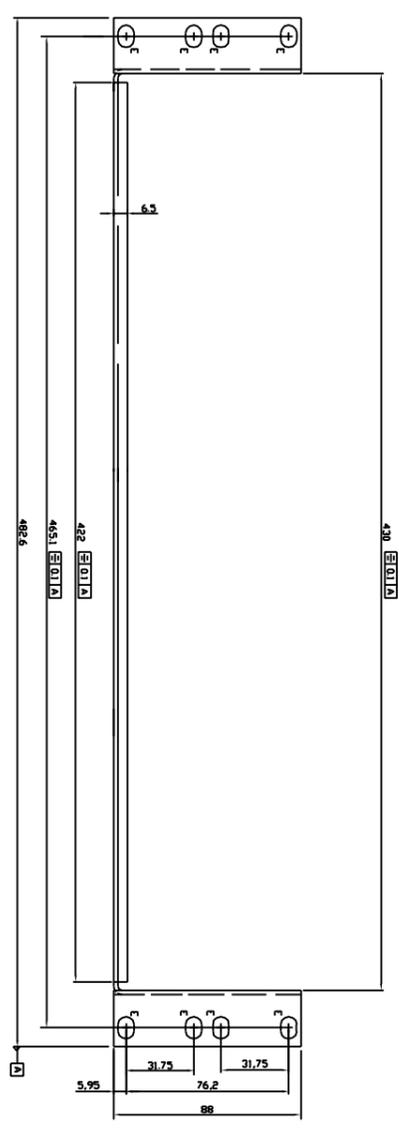
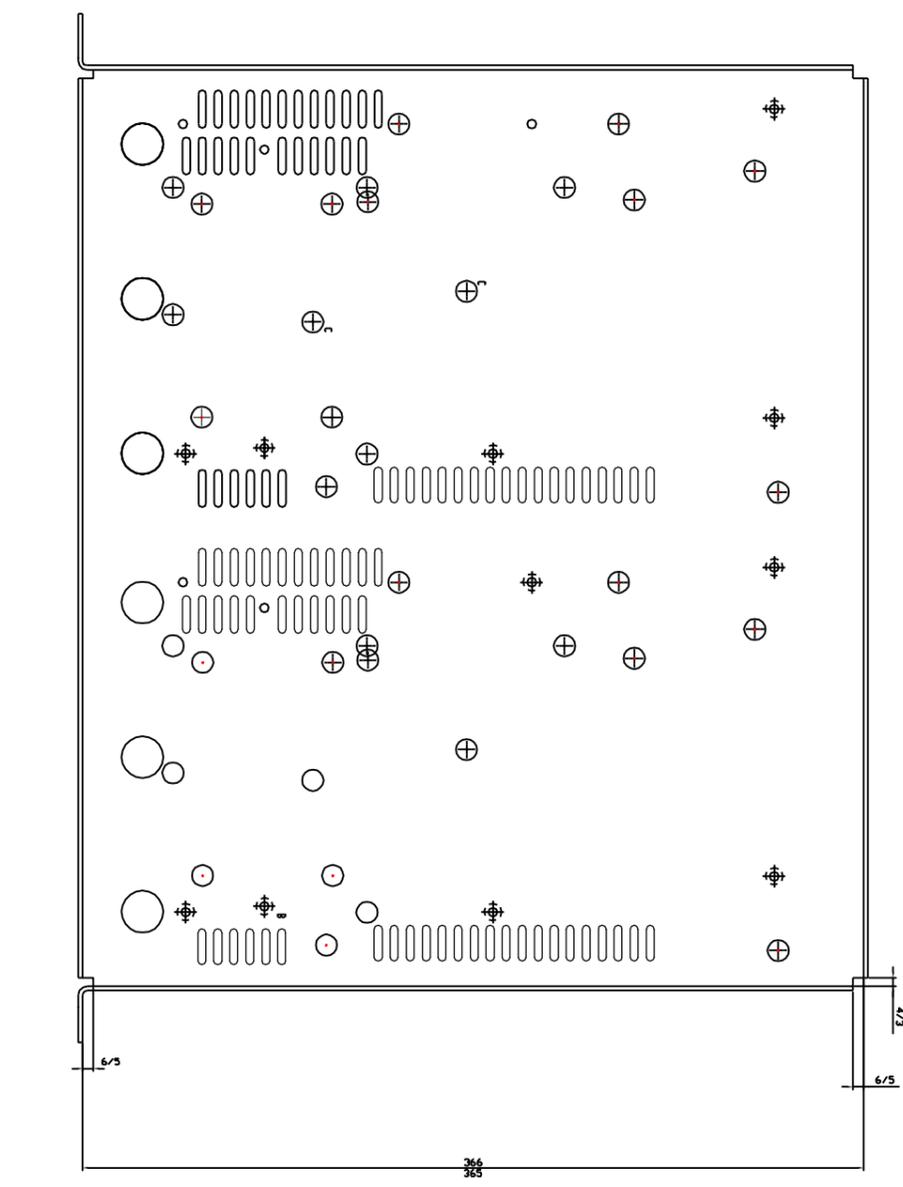
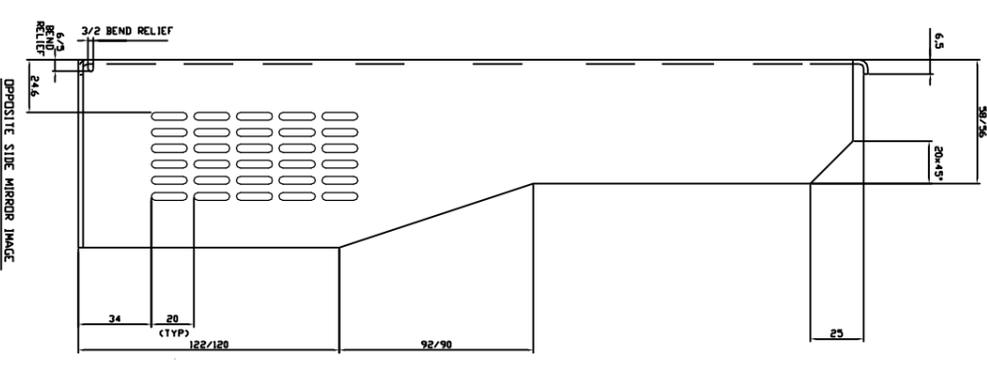
(Fig.b)

Turn the instrument upside down so that it is laying on its top face. If two instruments are to be fitted in the rack, turn both the instruments upside down and place them side by side to one another. If only one instrument is to be fitted, then lay the blank panel next to the instrument as shown below.



Push the nylon grommets for the self-tap screws into the four square holes on the bottom of the instrument chassis and into the two square holes on the bottom of the blank panel (if used). Place the rack over the instrument with the front edge aligned with the outside of the front panel moulding. The holes in the grommets in the bottom of the instrument chassis and in the bottom of the blank panel should line up with the recessed holes in the rack. Secure the instrument and the blank panel to the rack using the No. 6 self-tap screws provided.

Turn over the tray, taking care appropriate to the weight of the assembly, and fit to the rack enclosure.



RACK - 33111-0310 - RM200A

TTi 19 INCH RACK KIT TYPE RM300A

The RM300A is designed to accommodate 1 or 2 half-rack 3U Thurlby Thandar Instruments. It is recommended that side supports, e.g. telescopic slides, are used with the rack, particularly with heavy instruments such as power supplies. The rack should be drilled and assembled with the side supports before the instruments are fitted to the rack.

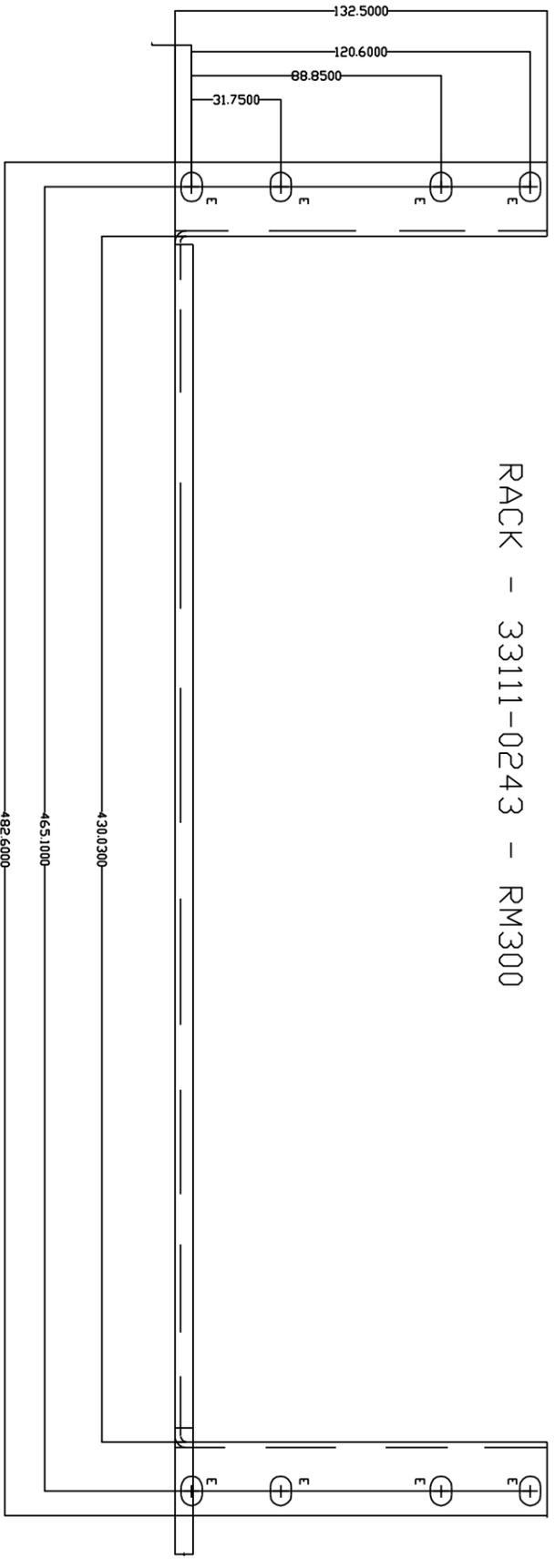
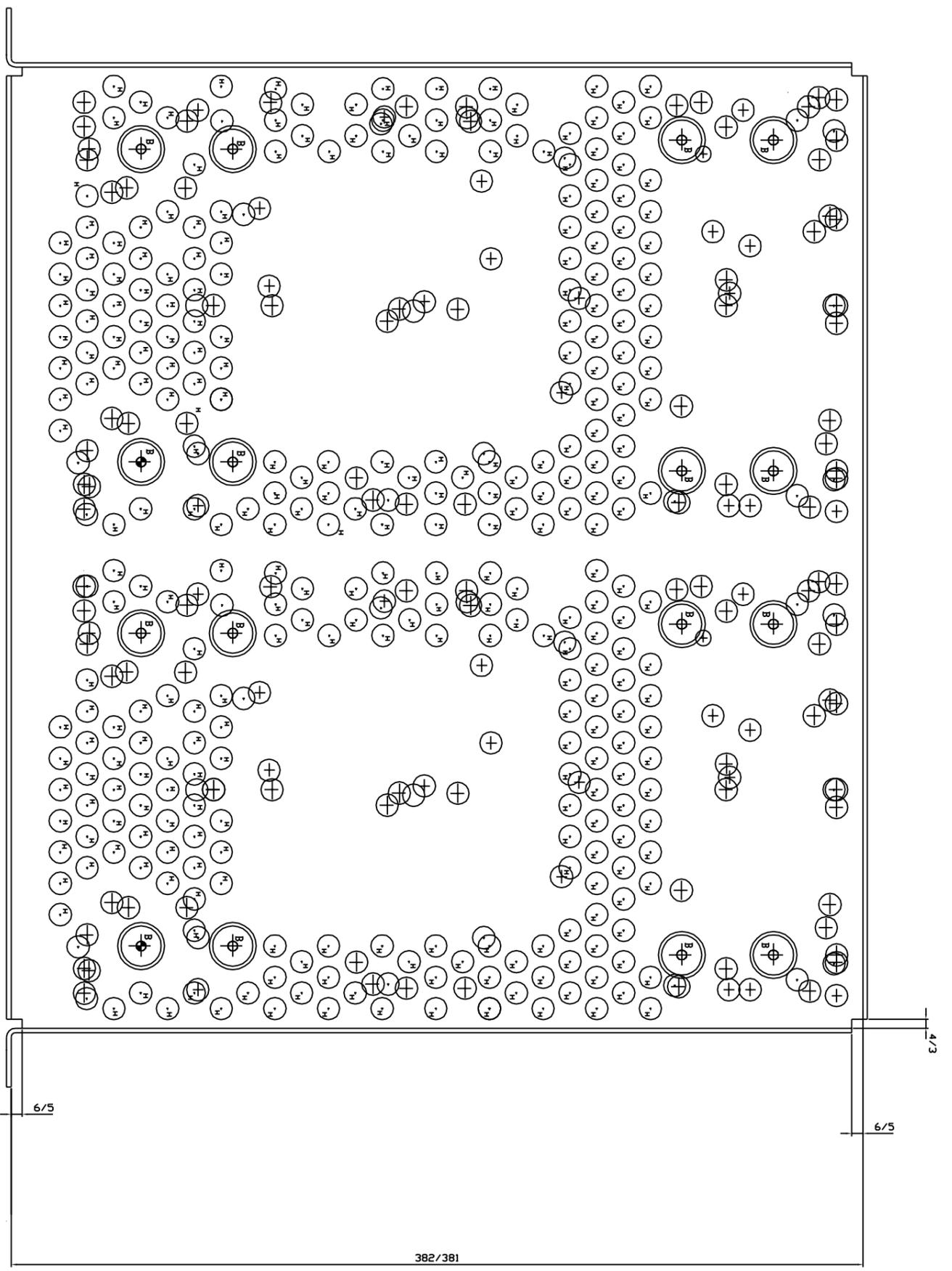
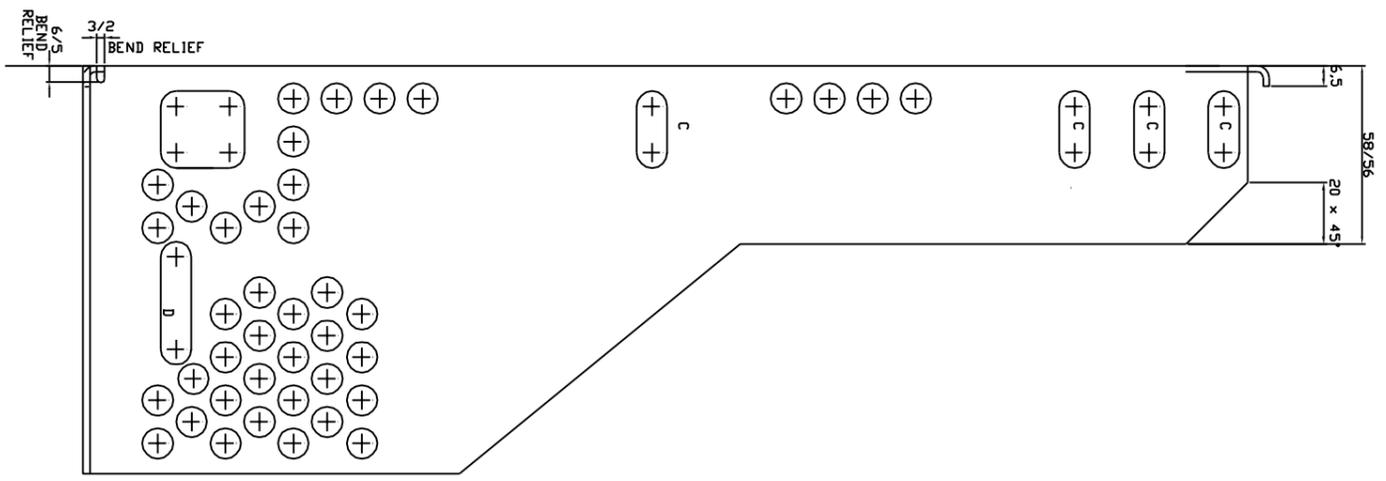
To fit the instruments to the rack turn them upside down so that they are laying on their top faces side by side. Remove the four M4 screws in each instrument which hold the feet; the screws retaining the tilting front feet are accessed by first prising out the self-adhesive rubber inserts in the moulded feet.

Without removing the case covers, lay the rack over the instruments, with the front edge aligned with the outside of the moulded instrument bezel. The screw-holes for the feet should line up with the appropriate holes in the rack; secure the instruments to the rack with the countersunk M4 x 8mm screws supplied.

Fit the RM350 blanking plate, if required, using the M4 x 12mm screws, nuts and washers supplied.

Turn over the rack and fit the 'T'-shaped spacers between the two instruments to maintain spacing (one near the front, one near the rear). Fit the rack to the enclosure.

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RACK - 33111-0243 - RM300

TTi 19 INCH RACK KIT TYPE RM410

The RM410 is designed to accommodate 1, 2 or 3 single QL power supplies or a triple and a single unit; a blanking piece (RM415) is also available for unused positions in the rack. It is recommended that side supports, e.g. telescopic slides, are used with the rack as the power supplies are heavy. The rack should be drilled and assembled with the side supports before the instruments are fitted to the rack.

To fit the power supplies to the rack turn them upside down so that they are laying on their top faces side by side. Remove the four M4 screws in each power supply which hold the feet; the screws which retain the front tilting feet are accessed by first prising out the self-adhesive rubber insert in the moulded foot.

Without removing the case covers, lay the rack over the power supplies with the front edge aligned with the outside of the front panel moulding. The screw holes for the feet should line up with the recessed holes in the rack; secure the power supplies to the rack using the M4 screws that held the feet.

Fit the RM415 blanking piece, if required, using the M4 screws supplied. Turn over the rack, taking care appropriate to the weight of the assembly, and fit to the rack.

Ensure that there is adequate forced cooling in the rack close to the power supplies.

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Instruction Leaflet No. 48511-0580 – Issue 1

Spacer should be placed both above and below the RM460. Where the RM460 is being placed at the bottom of a rack, ventilated air space may be provided naturally by the design of the rack, and it may be possible to omit the lower 1U space. An equivalent situation could exist at the top of a rack.

The exact ventilation requirements for a particular situation will depend upon ambient temperatures within the rack (Note 2).

Note 1 - Heat Generation and Output Current – PL Series.

New PL Series power supplies are linear regulated with a pre-regulator that ensures that power dissipation (and therefore heat generation) is almost independent of output voltage. Heat generation can be regarded as approximately proportional to output current, so that a PL155 operating at 2 Amps will generate around 40% of the heat of one operating at 5 Amps.

Maximum power dissipation at nominal mains is approximately as follows: PL155/PL155-P = 65 Watts at 5A; PL303/PL303-P = 50 Watts at 3A; PL601/PL601-P = 35 Watts at 1.5A

Note 2 - Ambient Temperatures – PL Series

New PL Series power supplies are designed to operate to full current at ambient temperatures up to 40°C. In a rack environment, this means that the air directly surrounding the power supplies must not exceed 40°C if the maximum output current is required. Where the ambient temperature is above this, the maximum output current must be derated linearly to zero at 70°C.

INSTRUCTIONS FOR TTI 19 INCH RACK KIT TYPE RM460

The RM460 rack is designed to accommodate any combination of up to four ¼-rack PL or CPX400S singles and/or up to two ½-rack PL or CPX400D dual power supplies; alternatively it can be used for a single QPX1200 or QPX600D. Because of the weight of the supplies it is strongly recommended that side supports are used with the rack. The simplest scheme is to fit fixed side rails to the enclosure; the rack kit is supplied with adjustable side support brackets designed to rest on the side rails. Alternatively, if telescopic slide supports are used, the rack should be drilled and assembled with the side supports before the instruments are fitted to the rack.

To fit the instruments to the rack turn them upside down so that they are lying on their top faces side by side, spaced from the bench-top by at least 25mm, see Fig 1. Remove the four screws in each instrument which secure the feet and discard the feet. Fit the nylon captive nuts in the square holes in the base of each power supply (3 positions for all single PSUs, 6 for a dual PL, 4 for all other models) and to the narrow lower edge of any blanking plates to be used.

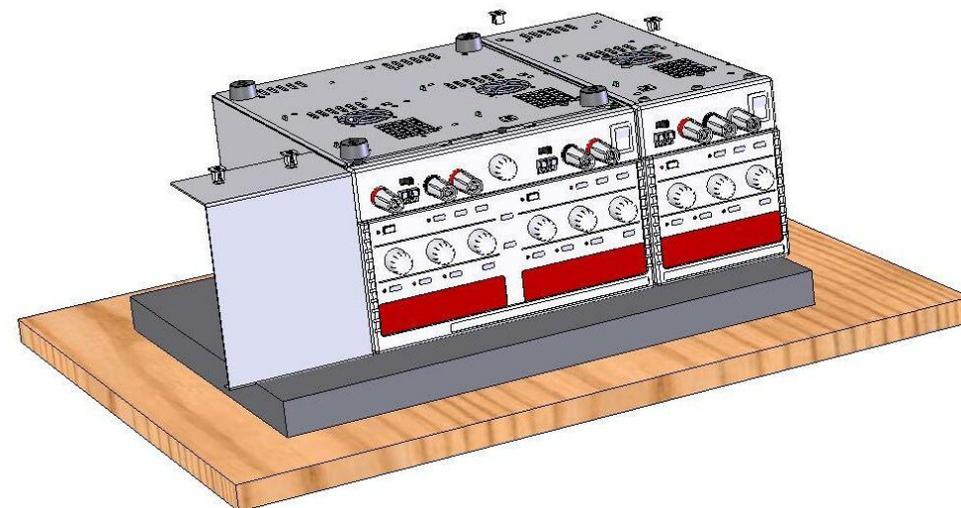


Fig. 1



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Fit the two side support brackets to the rack using the M4 countersunk screws and nuts, see Fig 2. Try the empty rack in the enclosure and adjust the positions of the support brackets such that they each rest on the support rail in the enclosure as near to the vertical side of the rail as possible. Remove the rack from the enclosure.

If the rack is being used for QPX1200 or QPX600D, fit the two narrow vented blanking pieces to the sides of the rack first using the M4 countersunk screws.

Without removing the case covers, lay the rack over the instruments with the front edge aligned with the outside of the moulded instrument bezel. The captive nuts should line up with the appropriate holes in the rack; secure the instruments to the rack with the self-tapping screws supplied, see Fig 2.

Secure blanking plates to any unused positions, using the self-tapping screws supplied, see Figs 1 & 2.

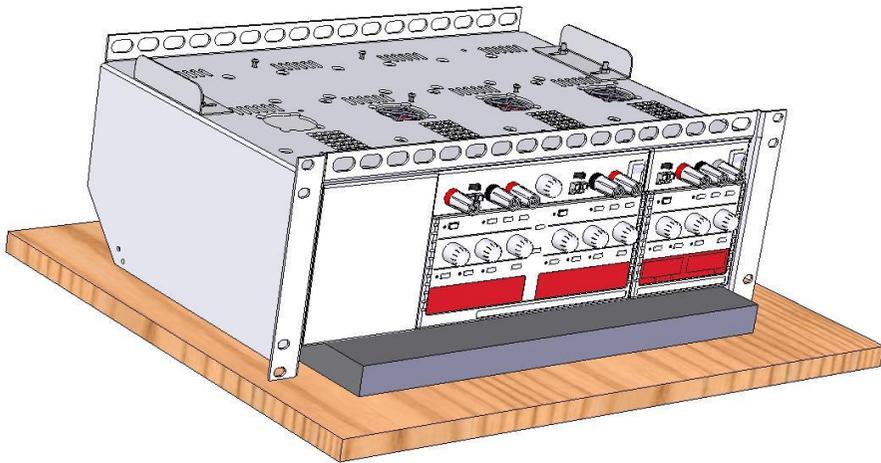


Fig. 2

Turn over the rack and fit the two top support brackets using the M4 countersunk screws supplied, making sure that the venting holes are in the vertical face, see Fig 3.

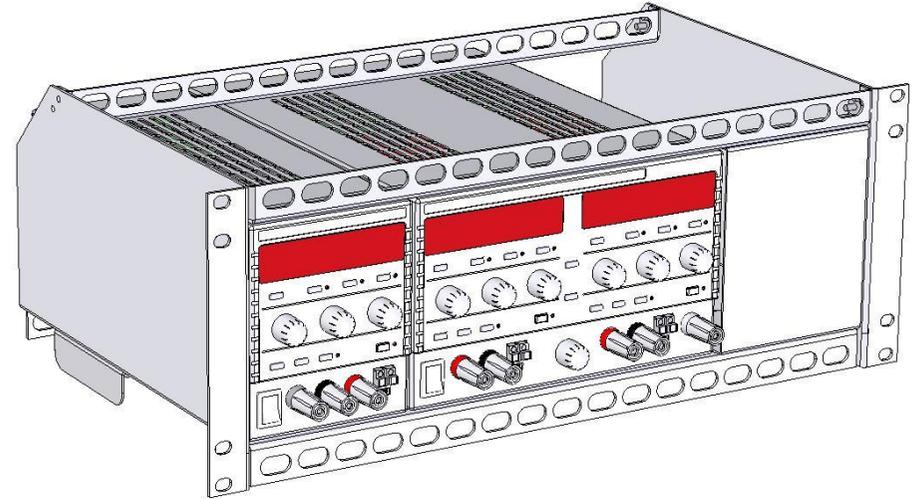
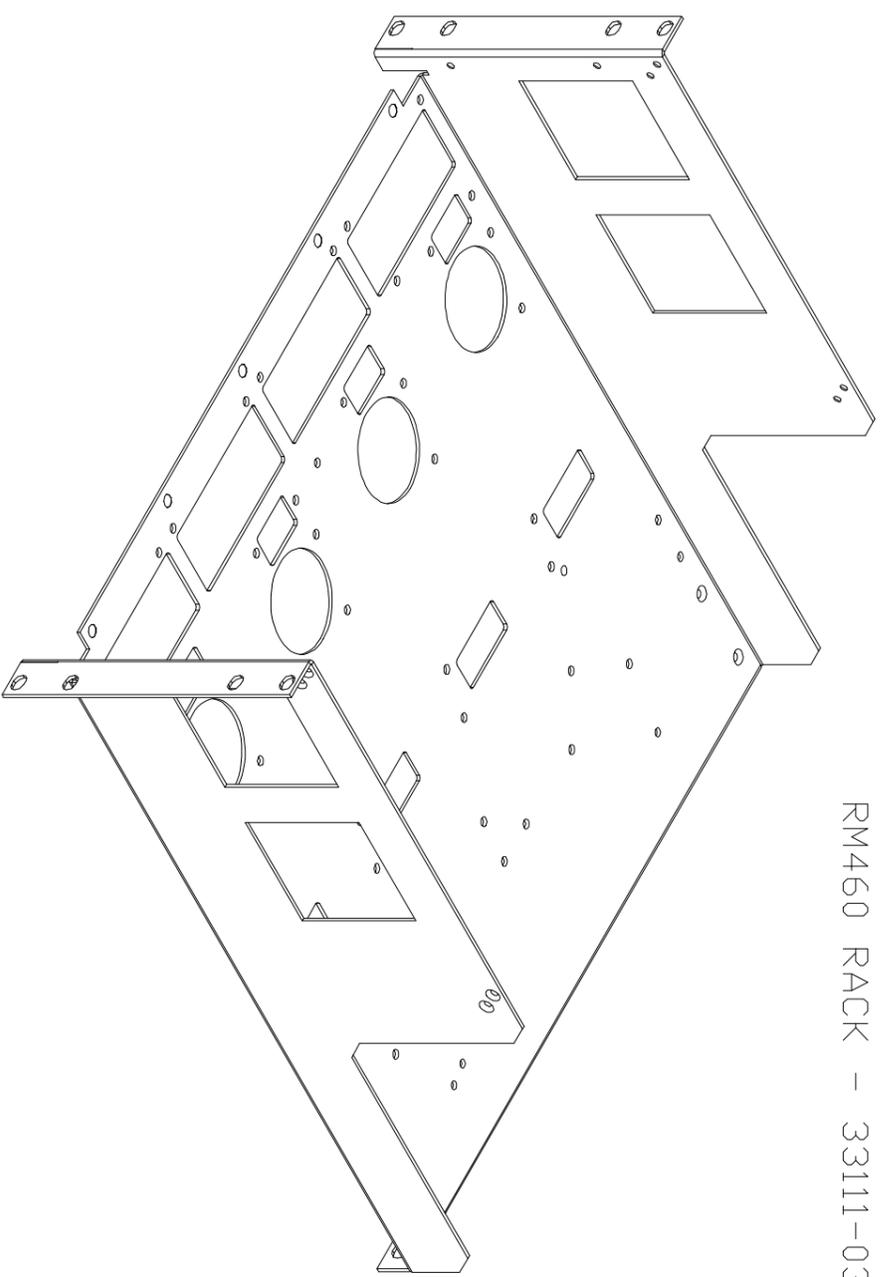
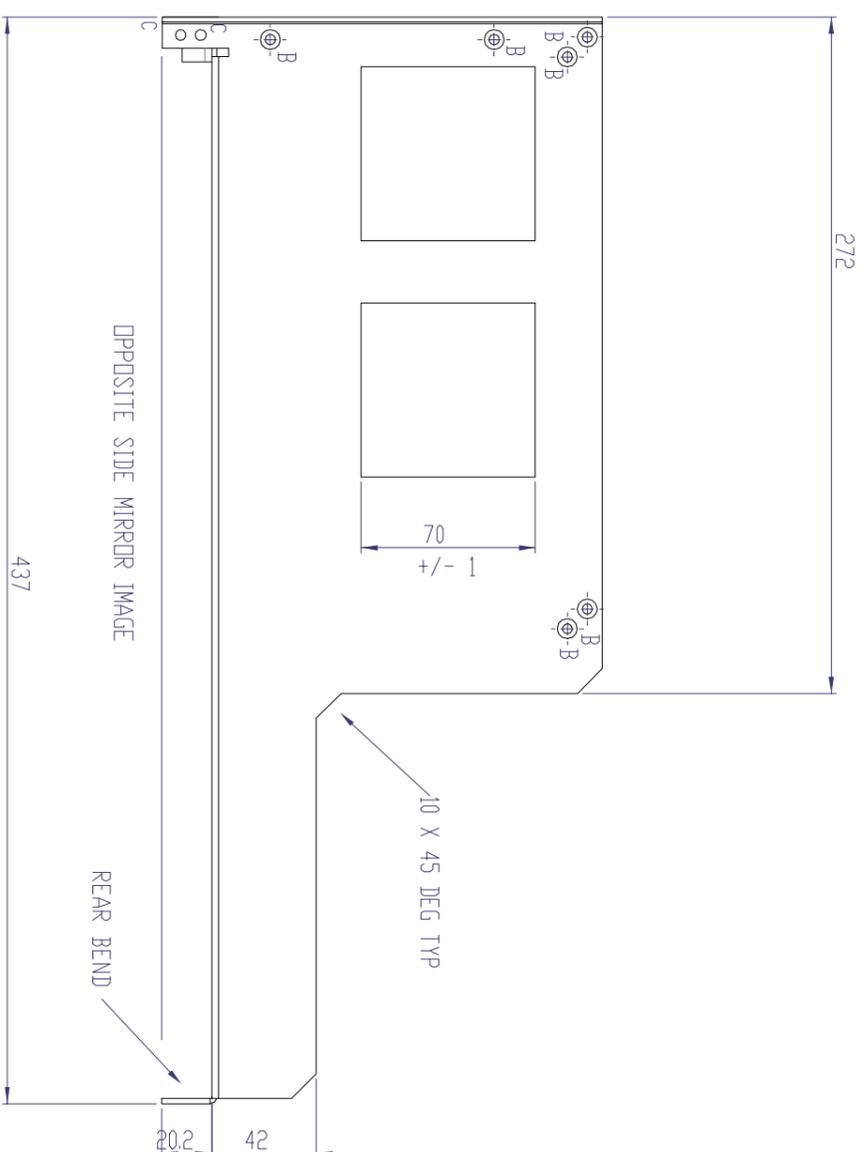
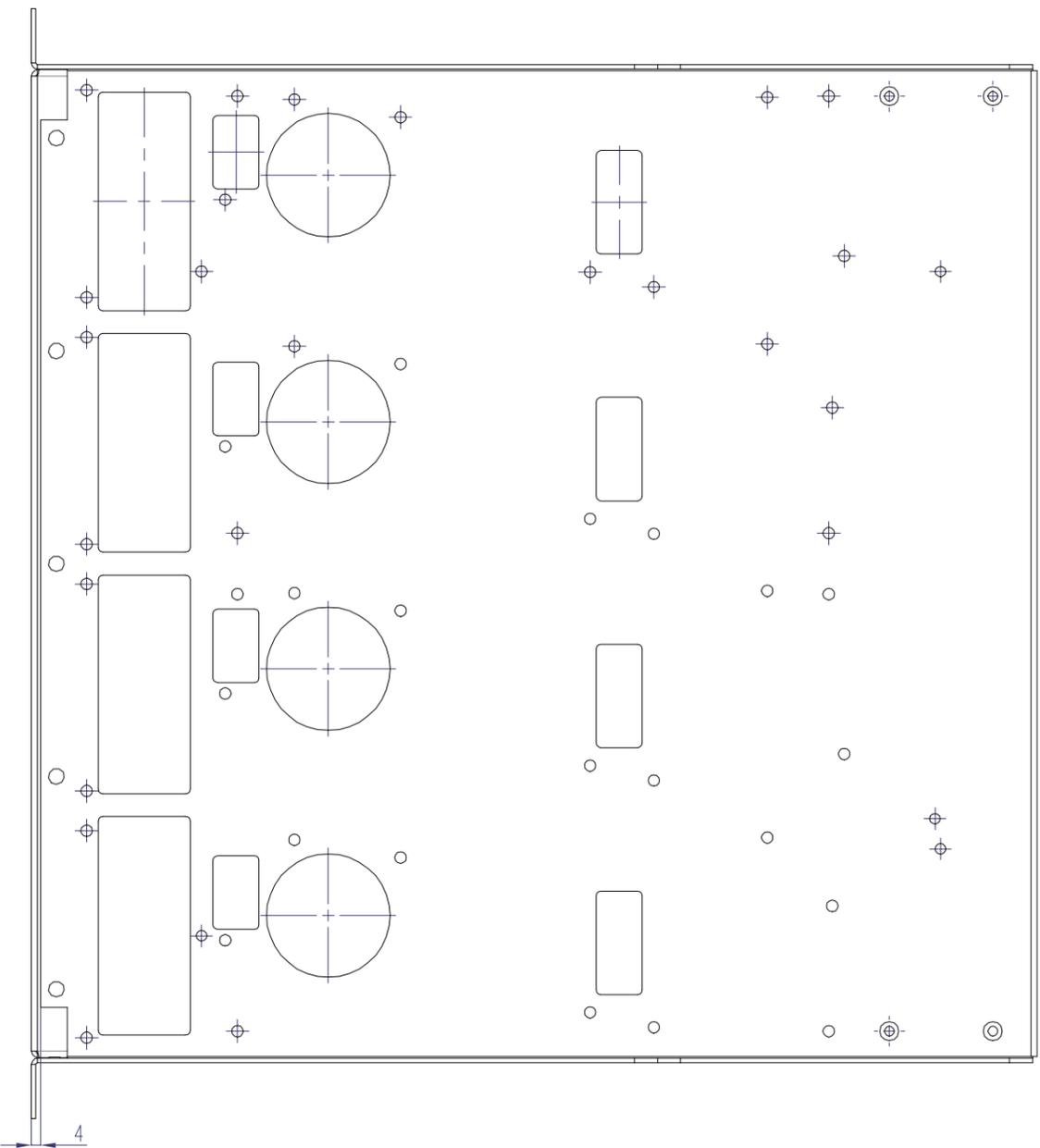
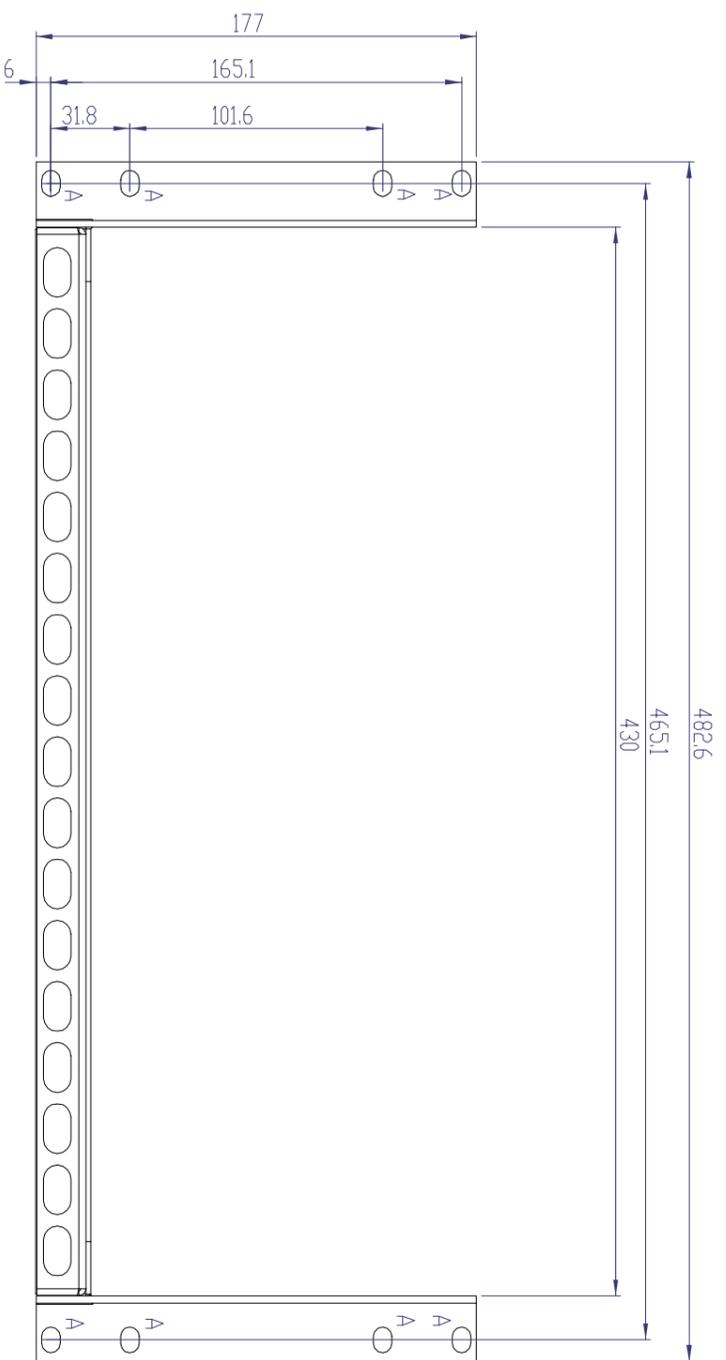


Fig. 3

Fit the rack to the enclosure, ensuring that cooling requirements discussed in the following section have been fully considered and implemented.

Cooling Considerations

The RM460 rack mount kit provides limited ventilation space ($\frac{1}{2}$ -U) above and below the supplies which will generally be adequate for the CPX400 & QPX series, and for PL supplies being used at low currents only. However, where PL power supplies (which use a vertical cooling system) are being used towards the higher end of their current range (Note 1), this will not be sufficient. Generally, to ensure adequate air-flow for PL supplies, an additional ventilated 1U



RM460 RACK - 33111-0340

TTi 19 INCH RACK KIT – TGA1244/TGA1242

The TGA1244/1242 rack mount kit is designed to accommodate one instrument centrally in a standard 19" wide rack. Two blank panels are provided for fitting to the tray either side of the instrument.

It is recommended that side supports, e.g. slides or angle supports, are used with the tray; the tray should be drilled and assembled with the side supports before the instrument is fitted to it.

Turn the instrument upside down so that it is laying on its top face and remove the 4 screws which hold the rubber feet and tilt-bail; the screws retaining the tilt-bail are accessed by first prising out the self-adhesive rubber insert in the tilt-bail moulding.

Having first fitted the blank panels to the sides of the tray using 4 of the M4 countersunk screws provided, lay the tray over the instrument with the front edge aligned with the moulded bezel of the instrument.

The screw-holes for the rear feet and 2 screw-holes near the front should line up with the appropriate holes in the tray; secure the instrument to the tray with 4 of the M4 countersunk screws provided.

Turn over the tray and fit to the rack enclosure.

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