

# **ACCESSORIES**

# MOUNTING BAR for use with Norbit 2 and 6I Series

# MB60

## DESCRIPTION

This is an aluminium bar of section  $12.7 \times 3.2\text{mm}$  and 1 metre long. Holes of  $\varnothing 2.9\text{mm}$  (for M2.5 or 6BA  $\times 25\text{mm}$  long screws) are provided on 12.7mm centres along its entire length.

The modules may be mounted on a single bar (fig. 1) or on several bars (fig. 2).

The washer securing the end of a row of modules can be bent over to provide more positive location.

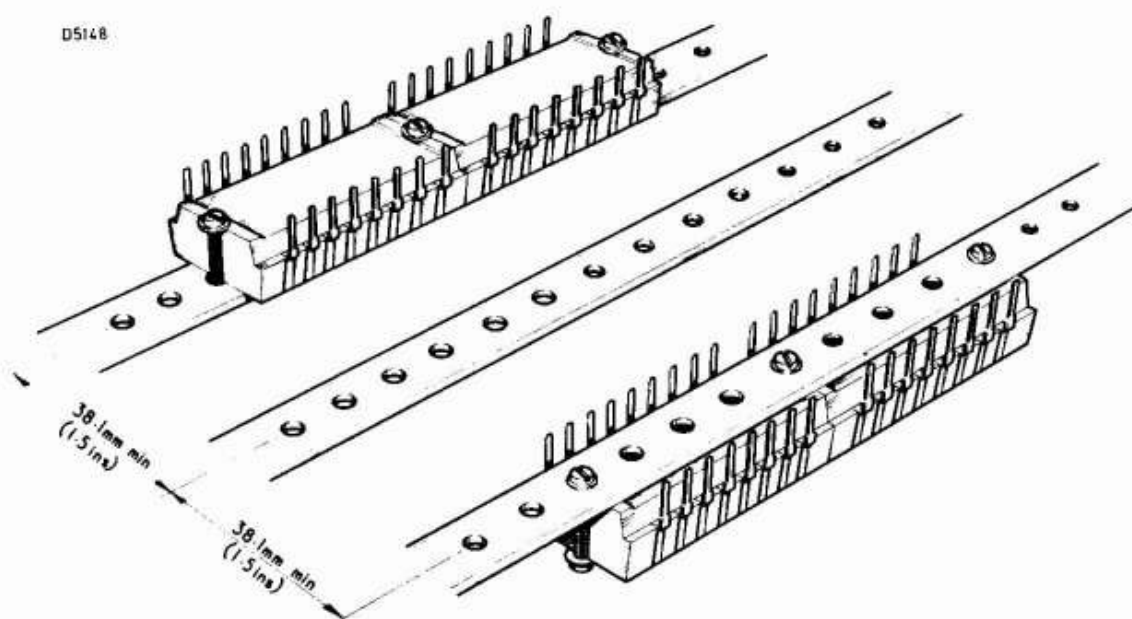


Fig. 1  
For Fig. 2 see page 2.

D5149

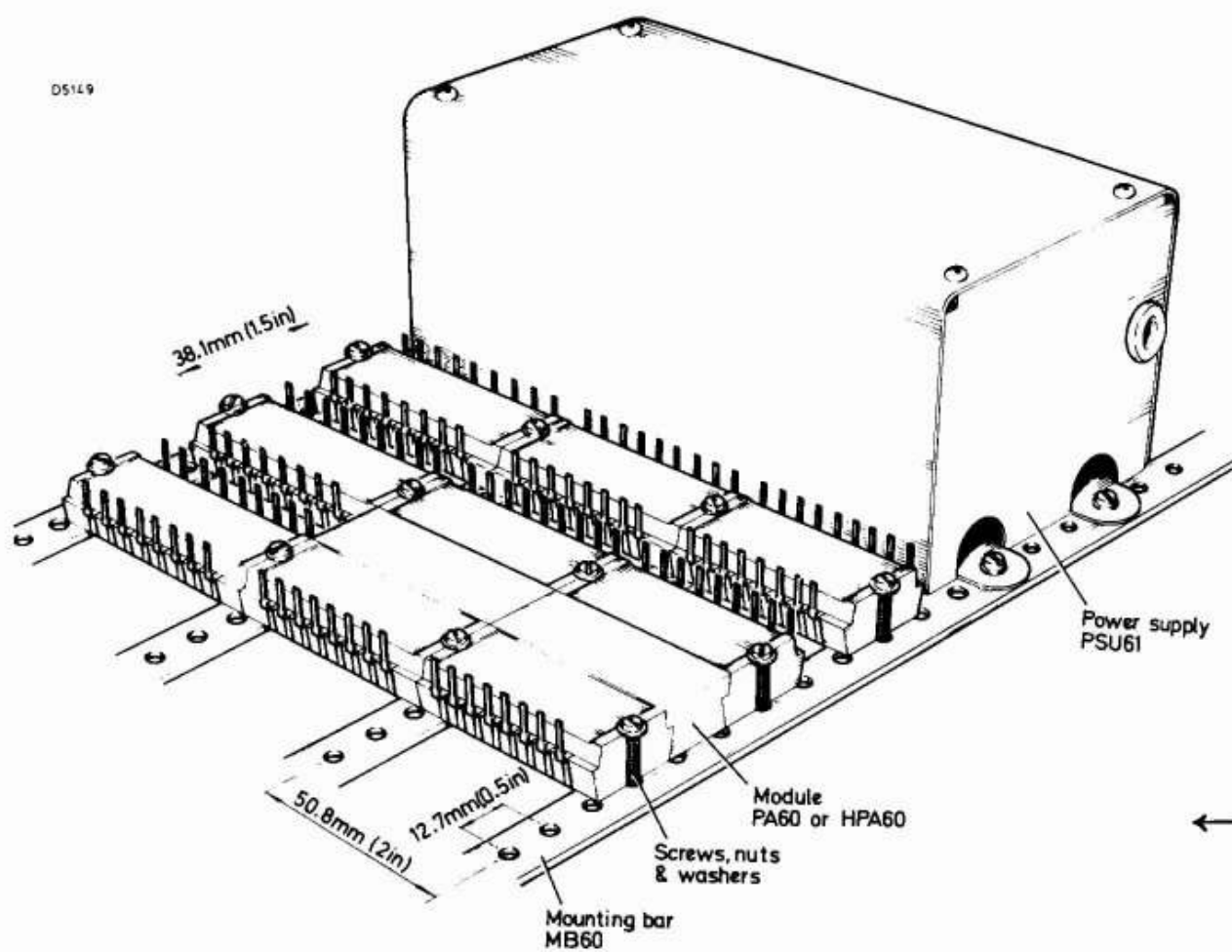
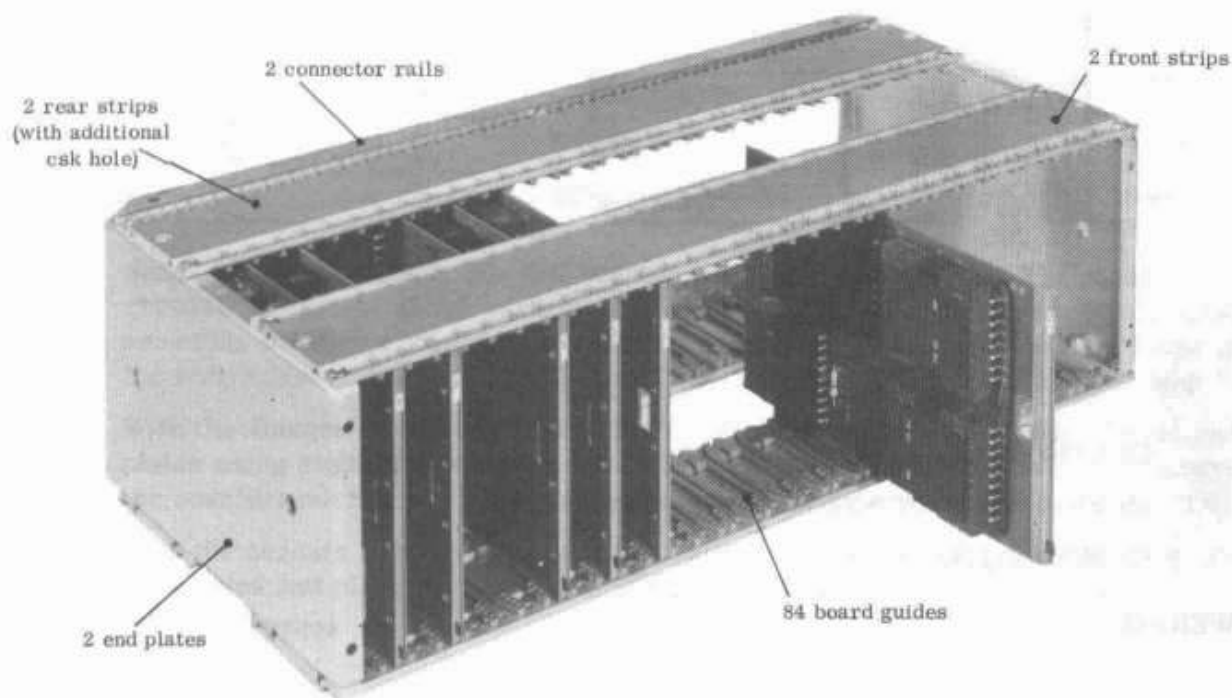


Fig. 2

## QUICK REFERENCE DATA

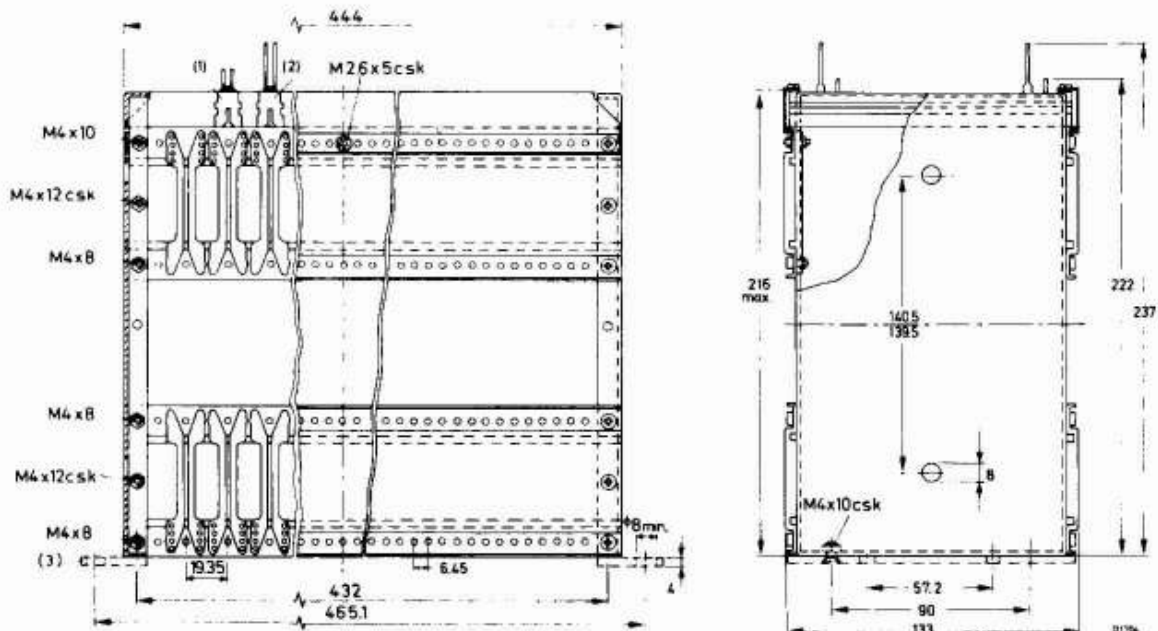
Dimensions	133 × 216 × 444	mm
Capacity	max. 21 boards	
Printed wiring board	121.8 × 204.2 × 1.6	mm
Connector	Mullard F045 Series (23 way)	
Mounting	in standard 19 inch rack	
Material	anodised aluminium	



## DESCRIPTION

The chassis will accommodate a maximum of 21 printed wiring boards, such as PCB60, on a 19.35mm pitch. This pitch may be increased in multiples of 6.45mm to accommodate boards carrying large components or the NORBIT PA60 or HPA60. ←  
The chassis is supplied as a kit of parts, complete with plastic board runners and fixings.

## DIMENSIONS (millimetres)



- (1) F045 connector with solder lugs
- (2) F045 connector with wirewrap terminations
- (3) Mounting flange

WEIGHT

approx. 3

kg

## ASSEMBLY INSTRUCTIONS

Tools required:-

Aligning kit, type number MC60 38440

Screwdriver for 'Posidrive' screw heads M4 and M2.6

7mm spanner

1. Attach a connector rail to each rear strip by means of an M2.6  $\times$  5mm counter-sunk screw, washer and nut, through the centre hole (see fig. 1).  
(Only two strips possess this countersunk hole.)

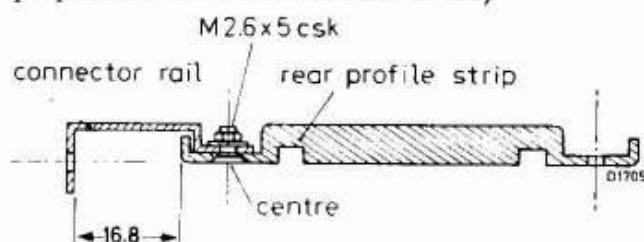


Fig. 1

2. Snap the board guides into the desired position on each strip. The guides have recessed holes for colour coding, if required; the holes must face outwards (see assembly drawing). To obtain a symmetrical layout, do not use the first holes in the strips. Never use the centre holes. This procedure can be delayed until step 7.
3. With the flanges of the end plates facing inwards, fix the four strips to the end plates using eight M4  $\times$  8mm screws and nuts; do not tighten the screws. Leave the countersunk holes empty to allow for entry of aligning pins in steps 4 and 6.
4. With the chassis in horizontal position, insert the aligning pins into the counter-sunk holes and place the aligning plate over the aligning pins (see fig. 2).

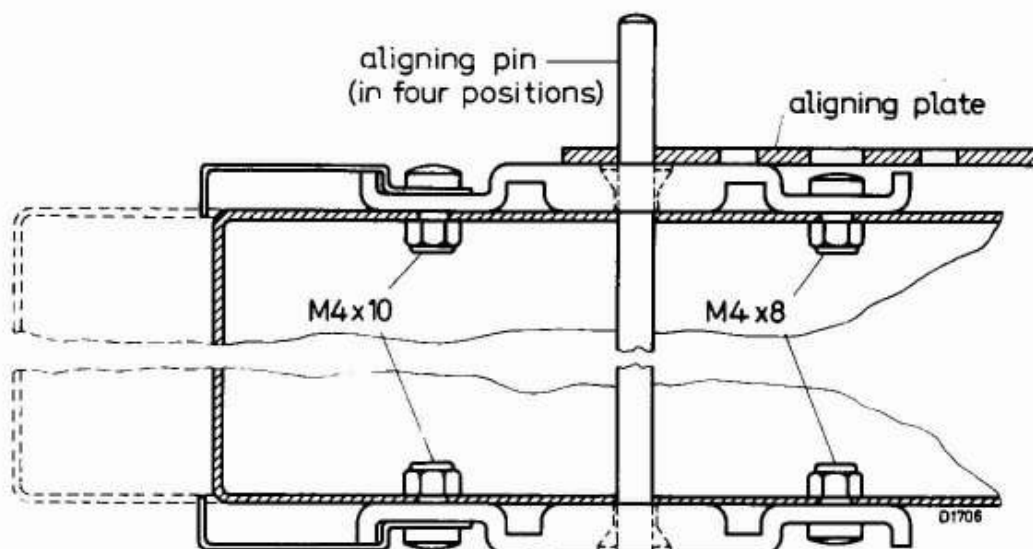


Fig. 2

## ASSEMBLY INSTRUCTIONS (contd.)

5. Tighten the eight screws and nuts at the side of the aligning plate. Remove the aligning plate and the aligning pins.
6. Invert the chassis and repeat steps 4 and 5.
7. Insert and tighten the eight  $M4 \times 12\text{mm}$  countersunk screws.
8. Insert the dummy printed wiring board in three or four places to check that it slides properly.
9. If dummy printed wiring board from the aligning kit is to be used, insert one polarising key in each printed wiring connector, between contacts 11 and 12.
10. Place the chassis in a vertical position and stack eight connectors in the slots between the connector rails. These connectors are to be fixed last.
11. Partially insert the dummy printed wiring board at one end. Bring another connector in line with the dummy board and push the dummy board into the connector.
12. Fix the connector to the connector rails with two  $M2.5 \times 6\text{mm}$  screws and washers, and tighten the screws.
13. Repeat steps 11 and 12 for the next lower position, until all connectors are fixed.
14. Remove the polarising keys.
15. If required, 19 inch rack mounting flanges can be attached to the end plates by  $M4 \times 12\text{mm}$  countersunk head screws and nuts.

## TESTS

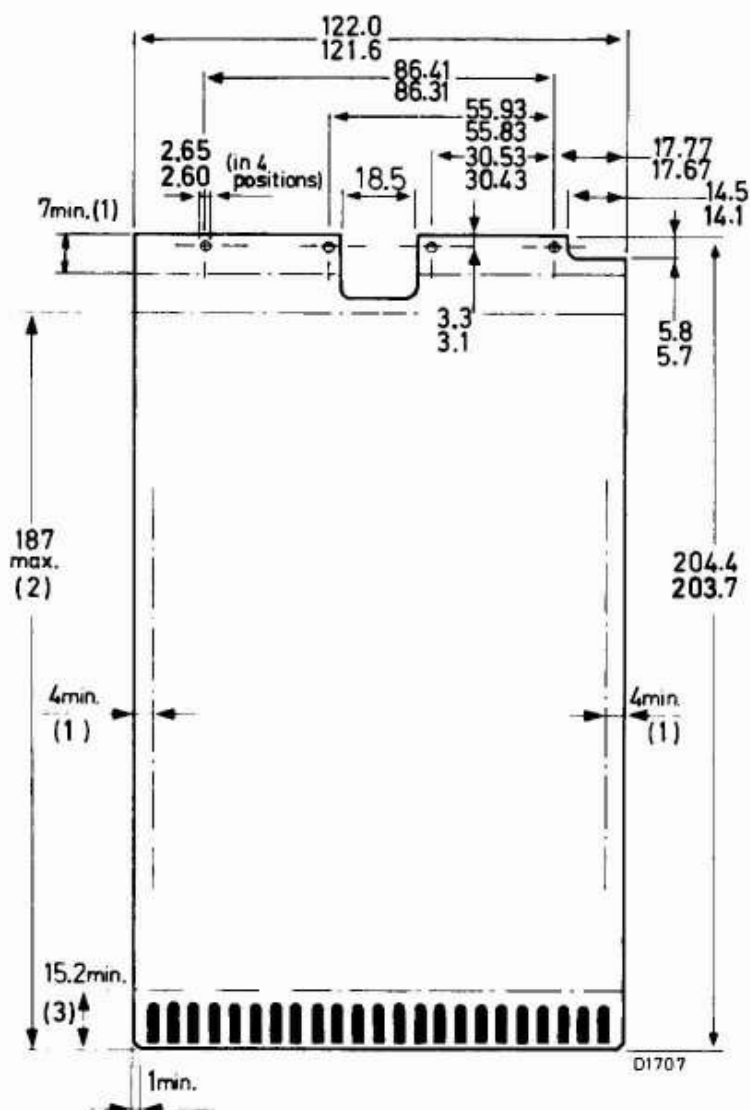
The chassis is designed to meet the following tests:-

- (a) Vibration: Frequency 20Hz; amplitude  $0.5\mu\text{m}$  in three perpendicular directions. Chassis filled with 21 printed wiring boards, loaded with 400 grams.
- (b) Humidity: Conforming to IEC 68, test C, 21 days at  $40^{\circ}\text{C}$  and a relative humidity of 90 to 95%.

## PRINTED WIRING BOARD REQUIREMENTS

Board thickness: 1.8/1.4mm

Contacts: 23 or  $2 \times 23$ , 5.08mm (0.2in) pitch to suit connector F045 Series

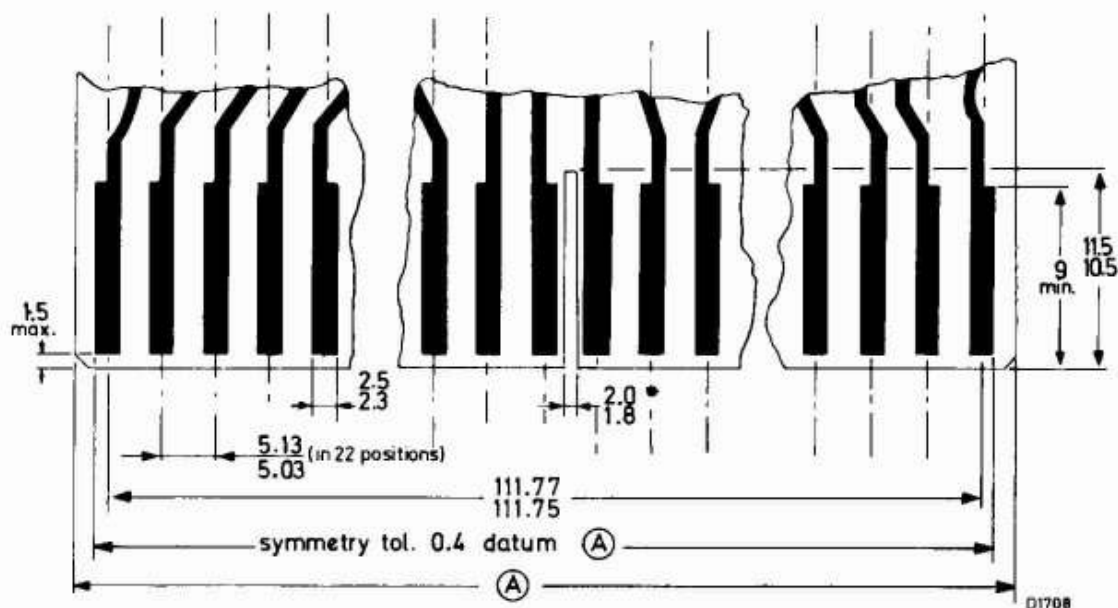


## NOTES

1. Keep clear of copper
2. No components outside this area
3. Keep clear of components



## PRINTED WIRING BOARD REQUIREMENTS (contd.)



\*Slot for polarising key (optional)

### ASSOCIATED PARTS

#### 1. Printed wiring connectors (23 way)

Single sided with solder lugs	F045 020 52592
Double sided with solder lugs	F045 020 52591
Single sided with wire wrap pins	F045 035 52592
Double sided with wire wrap pins	F045 035 52591
Polarising key	4322 026 04741

#### 2. Handle and locking catch

For use with printed wiring boards, supplied complete with rivets and spring. Packed in quantities of 25

MC60 38401

#### 3. Number strips

Set of 10 blank number strips and holders

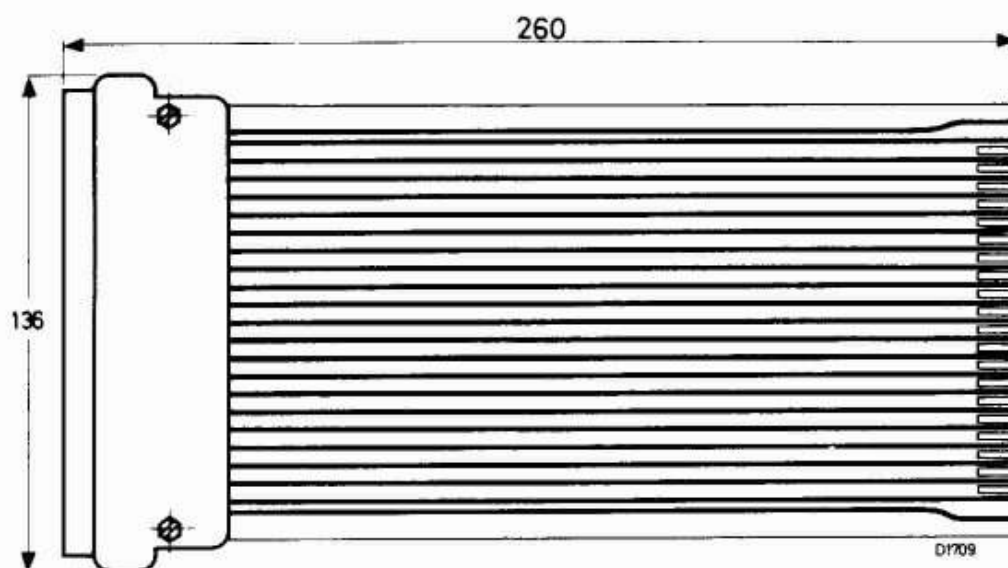
for one chassis MC60 38410

for between two chassis MC60 38420

#### 4. Extender board

This board enables testing of printed wiring assemblies functioning outside the chassis. It is provided with an F045 Series connector. 2 x 23 gold plated contacts, 5.08mm (0.2in) pitch

MC60 03910



## 5. Aligning kit

Use of the kit is preferable, but not essential, if only one chassis is to be assembled. If 2 or more chassis are to be assembled in stack formation, use of the aligning kit is essential.

The kit includes:

- 4 aligning pins
- 1 aligning plate
- 1 dummy printed wiring board

kit MC60 38440

## 6. Mounting flanges

Set of two lacquered mounting flanges,  
4 countersunk M4 × 10mm screws and nuts,  
for mounting one chassis on a 19 inch rack

MC60 38450

(A set of mounting flanges is provided with each MC60 kit)

## ORDERING PROCEDURE

This chassis should be ordered under type number MC60 38240.

# PRINTED WIRING BOARD

for use with  
mounting chassis MC60  
and printed wiring connector F045

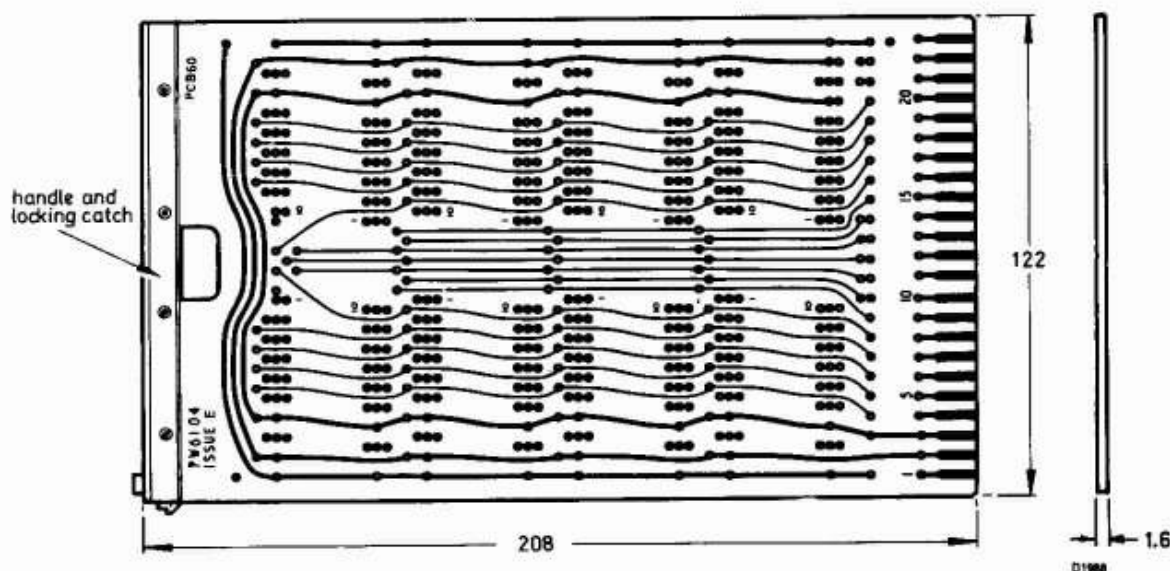
# PCB60

## DESCRIPTION

This board is designed for use with the NORBIT 2 Series of modules. It is supplied complete with handle and locking catch and will accommodate a maximum of eight modules (four PA60's or HPA60's).

Power supply and 'bus' rails are provided to reduce the extra wiring, and each terminal point has two additional drilled pads for further connections. The modules should be inserted from the plain side of the board, using the centre hole in each pad.

## DIMENSIONS (millimetres)



## MATERIAL

Phenolic resin bonded paper

## HOLES

Ø1.3mm

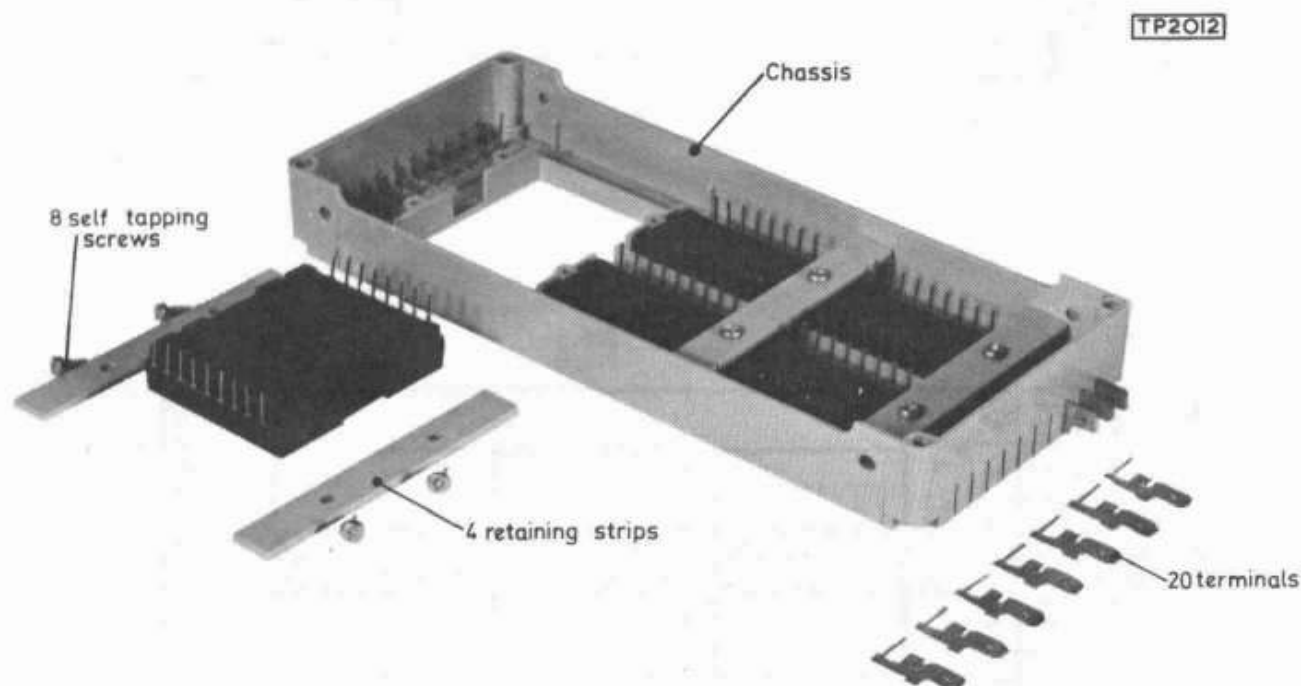
## CONTACTS

1 row of 23, gold finish, on 5.08mm (0.2 in) pitch

# Mullard

# UNIVERSAL MOUNTING CHASSIS for use with Norbit 2 and 6I Series

# UMC60



## DESCRIPTION

This chassis is supplied as a kit of parts as shown above. It may be used for mounting up to six modules (three PA60's or HPA60's). To mount the PA60 or HPA60, the ← intervening cross-members must be removed (see drawing on page 2).

## COLOUR

Grey

## MATERIAL

Polycarbonate

## TEMPERATURE

-40 to +85 °C

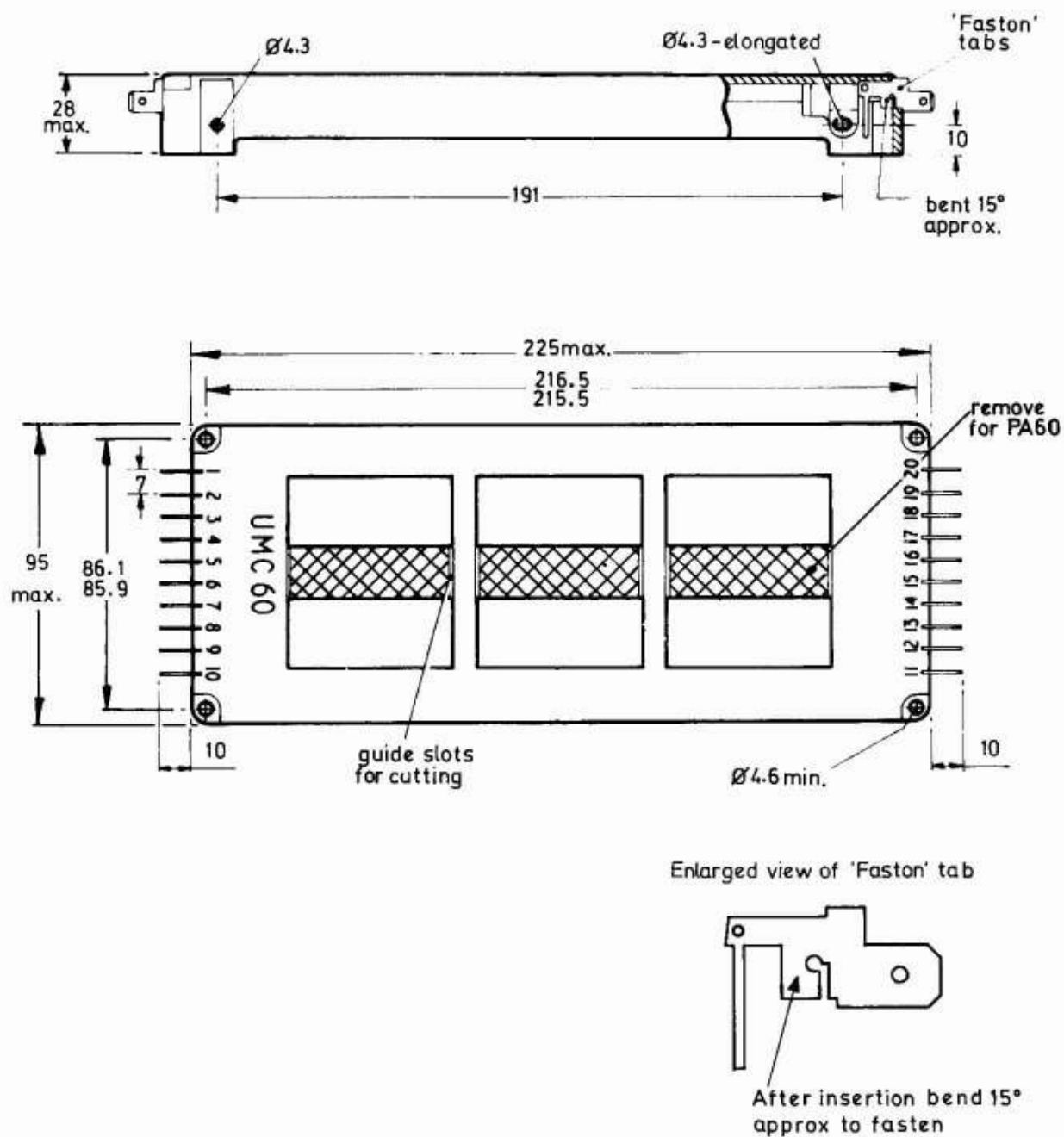
## TERMINATIONS

Up to 10 terminals at each end may be fitted into the slots provided. These are designed to allow all electrical connections to be made to the chassis via 0.25 inch 'FASTON' tabs. The other end of each terminal is constructed in the same way as a NORBIT pin so that connections, within the chassis, may be made by either wire wrapping or by soldering. The numbers for terminals 1 to 10 and 11 to 20 are moulded in the body of the chassis.

For dimensions see page 2.

# Mullard

DIMENSIONS (millimetres)



D1985

WEIGHT

approx. 150 g

**Mullard**