

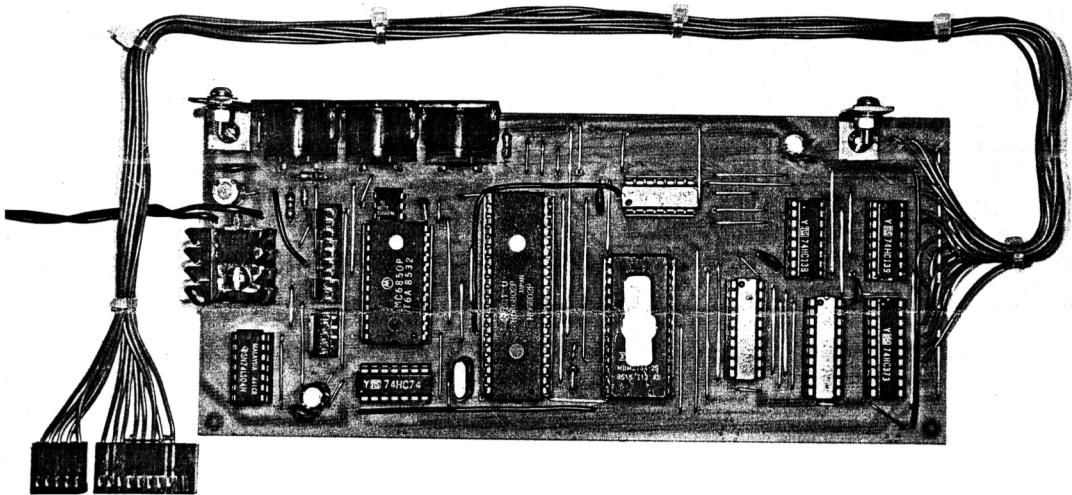
Technical: P SHIPSEY (BSc Hons) 0272 573261

Production: N NAISH 0722 710650

TANGO-WOOD  
SOUTHAMPTON ROAD  
ALDERBURY  
NR SALISBURY  
WILTS  
SP5 3AG

PLEASE READ THIS PAMPHLET COMPLETELY  
BEFORE ATTEMPTING THE MODIFICATION

JUNO 6/60 MIDI INTERFACE

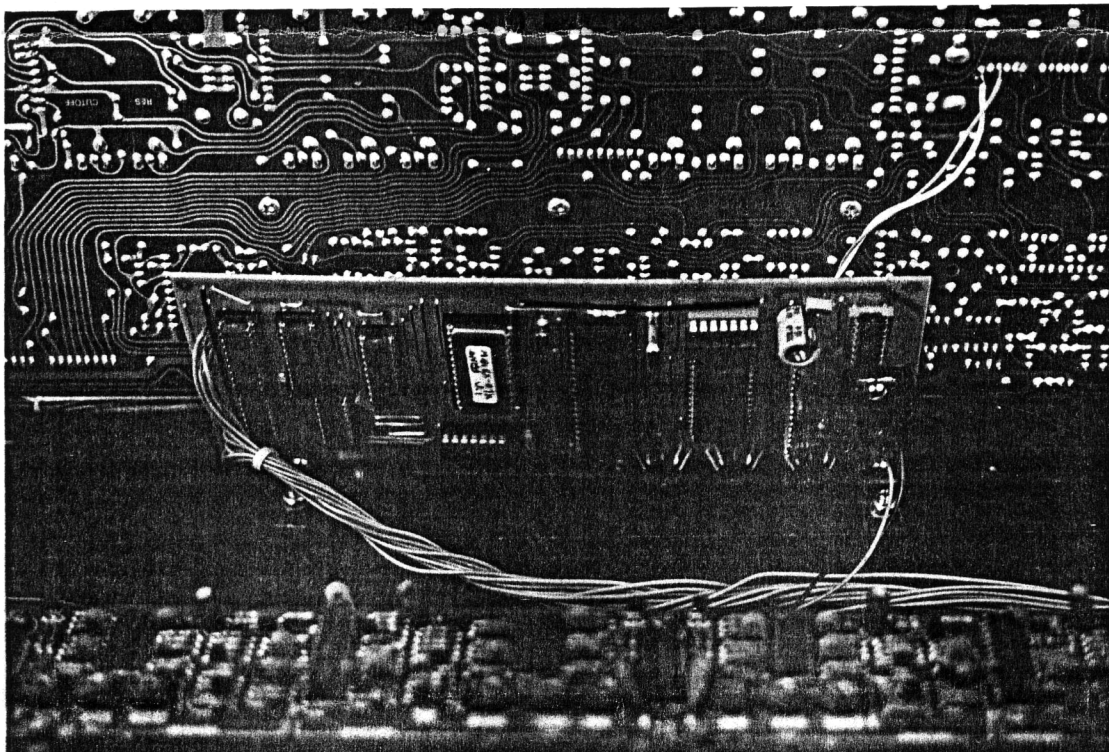


The PCB interface shown above will now allow the Juno 6/60 polyphonic synthesisers to be updated to fit any MIDI system. Before despatch the above board will have been fully tested by us to ensure correct operation. The following information lists the procedures required for installation, so please follow them as carefully as possible for reliable future operation.

PLEASE NOTE. Any internal/external modifications made may invalidate any guarantee that you may have on your instrument. We cannot be held responsible for any damage/loss caused in the process of this modification.

## INSTALLATION:

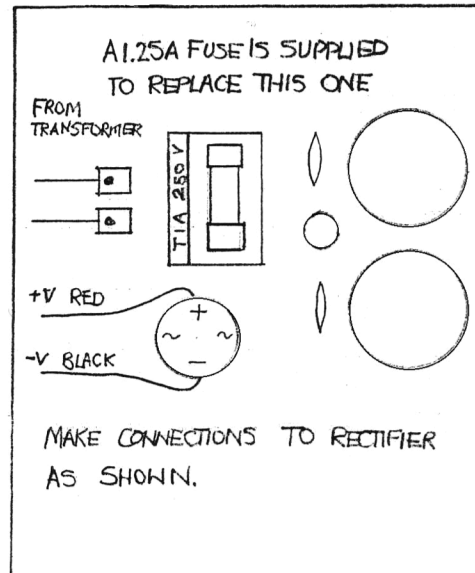
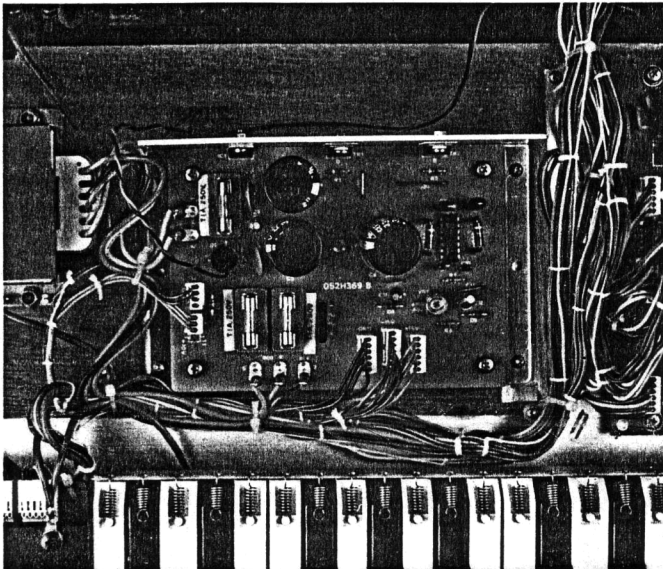
1. When removed from the packing do not touch any of the ICs on the board due to the CMOS content.
2. Disconnect Juno mains supply.
3. Remove the 4 screws that secure the front panel. There are 2 on each end cheek.
4. The first operation is to cut the 3 MIDI sockets in the rear panel of the Juno casing. The accompanying drawing shows all the measurements and dimensions required to mount the board in the Juno. However, space is very tight internally and these measurements should be followed as closely as possible. All marking can be done from the outside and preferably in pencil, and please pilot the MIDI sockets before cutting as this will show how accurately your sockets will line up as a result. The Q-max punch required is a 16 mm (5/8"), 16 SWG sheet metal punch (available from MAPLIN electronic supplies order no BR80B).
5. Next, drill 2 4BA holes to mount the board to the casing, using the brackets supplied. By placing tape on the inside of the casing you will prevent some of the swarf from dropping into the case. It is impossible to stop it all however, so when both holes have been drilled the insides of the Juno will have to be cleaned out to prevent shorts on the internal boards.
6. Once all the drilling is complete then the board should be mounted into the casing as in the photograph below.



7. We can now move on to the electrical connections, which starts by taking the red and black power cables attached to our board, and soldering then to the bridge rectifier on the PSU board on the left of the Juno (looking down). The bridge is marked with a + and - and should be connected:

Red = +V  
Black = -V

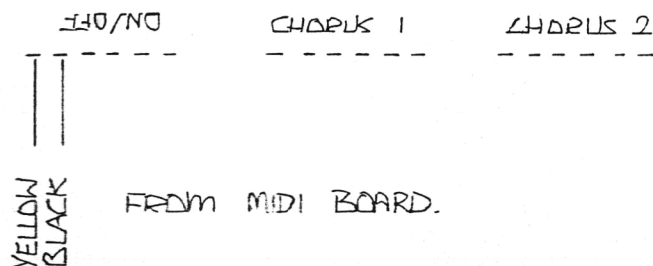
This can be seen in the photograph below:



A small piece of 2 way choc block could be used to make the fitting less permanent, however, this is not essential.

8. Next, solder the yellow and black wires from the bottom of our board to the chorus off switch, as shown below:

PLEASE NOTE : THIS CONNECTION FOR JUNO 6 ONLY.  
FOR JUNO 6A SEE AMMENDMENTS

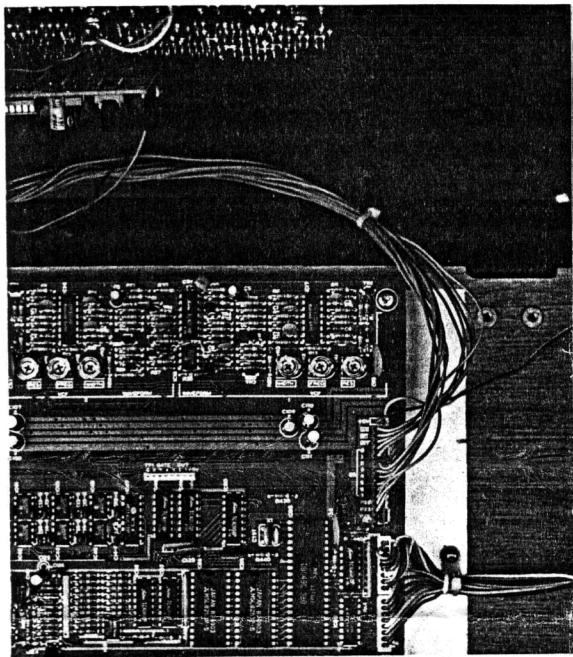


VIEW LOOKING AT PCB.



This switch is in the far right hand corner directly below the switch cover. Please do not hold the soldering iron onto the solder joint for too long, and beware of solder splashes.

9. With this complete, all that remains to be done is connect the 10 and 5 way mini-con terminals to their respective position on the Juno CPU board, as in the photograph below:



Some early Juno 6s do not have the mini-con terminal on the CPU. If you find this is the case then please contact us, stating Juno serial number.

10. This completes installation.

Please note that stages 4 and 9 are slightly different for the Juno 60.

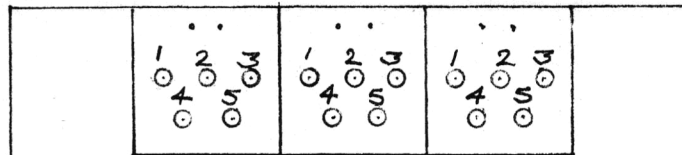
Juno 60 stage 4. Two alternatives are available here which are necessary due to lack of space on the rear panel. If you do not mind cutting through the printing on the top fold of the rear panel, the stages 1-10 are as above. If however you do not wish to damage the printing, then the three MIDI sockets on our board will have to be removed and flying leads fitted. The two mounting holes can be drilled along the rear in the spaces of letters and then the socket holes punched in the lower fold so that the sockets can be put into place on their flying leads, in the most convenient position. Please ensure that on removal of the PCB sockets, there are no solder splashes, and that the right pins on the new socket go to the right holes on the board. See accompanying drawings.

Stage 9 also required modification for the 60. As the Juno 60 has a DCB interface on board, the mini-con latch on the far right of the OPU board will have a connecting socket attached. This socket has to be removed, and, by removing the cable ties that hold the cable in position, the socket has to reach to the mini-con latch that is on our board. When this is attached then the socket on our board (with all the grey cables) has to reach over (and replace the socket just removed) onto the CPU board.

Apart from these two things, the other procedures are identical, and although there is some initial work the improved specification of the Juno is well worthwhile.

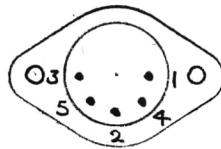
## AMMENDMENTS:

PLEASE NOTE : FOR FLYING LEAD ATTACHMENT, PLEASE ENSURE REPLACEMENT OF LEADS IS AS FOLLOWS.



PCB MOUNT DIN SOCKETS  
VIEWED LOOKING DOWN ON BOARD.

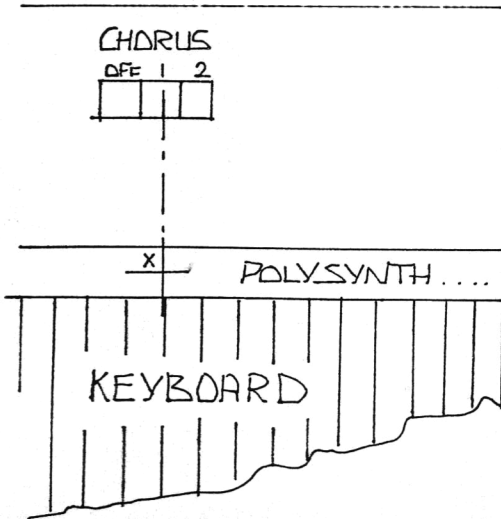
DIN SOCKETS 5 PIN 180°  
AVAILABLE FROM MAPLIN  
(ORDER No. HH34M)



VIEW LOOKING INTO SOCKET

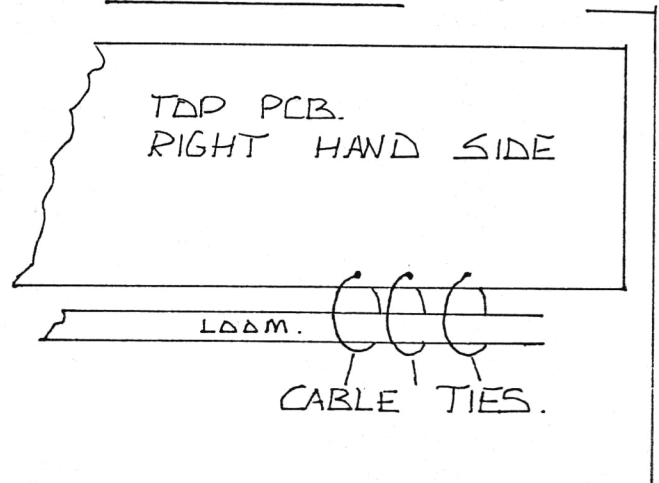
## JUNO 60 INFORMATION.

### SWITCH MOUNTING



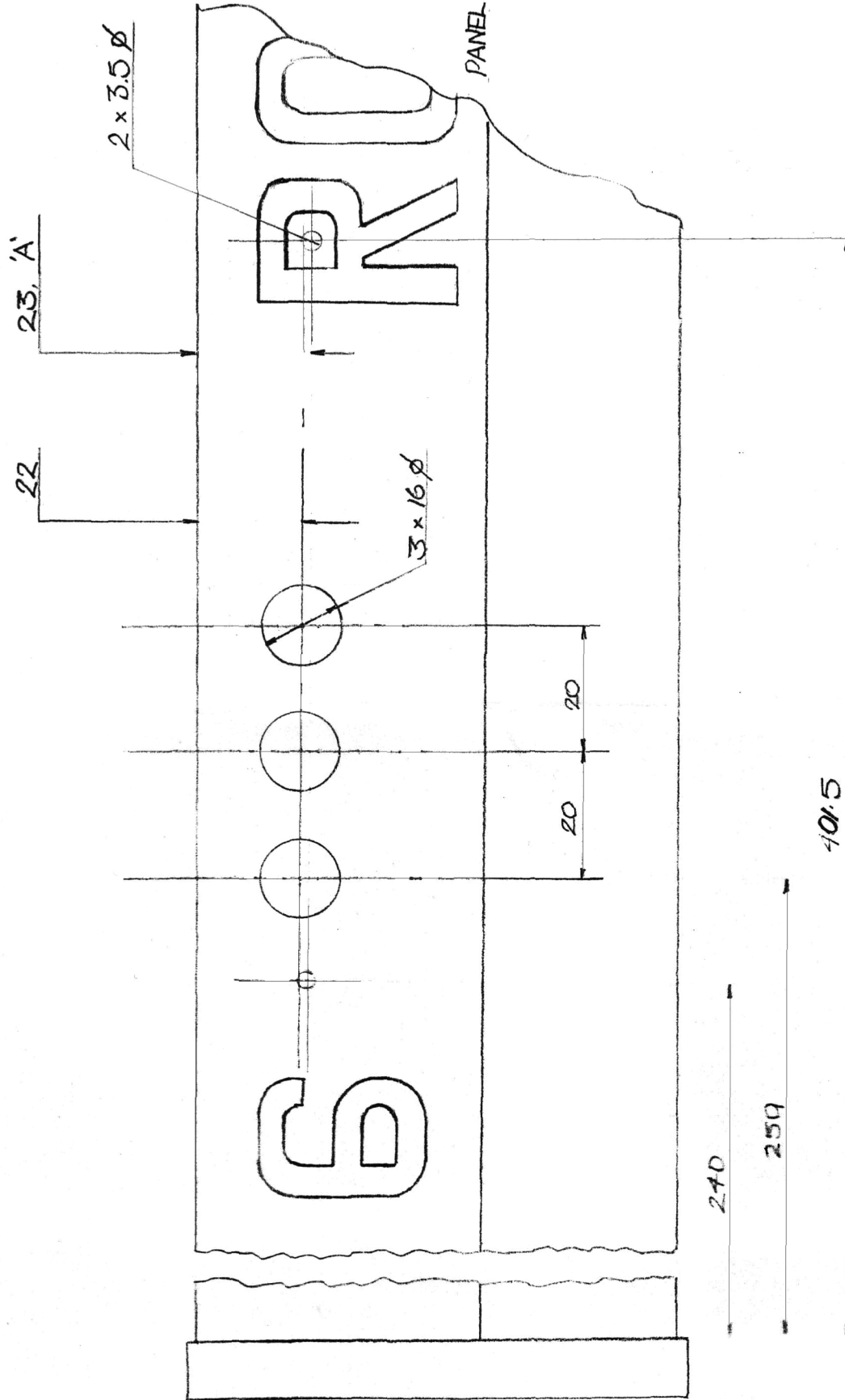
x : 1/4" HOLE DRILLED HERE  
CARE MUST BE EXERCISED  
WHEN DRILLING THIS HOLE  
TO PREVENT DAMAGE TO  
TOP PCB. BENEATH  
FRONT PANEL.

### PCB MOUNTING



CABLE TIES CONNECTING THE LDM  
TO THE TOP BOARD SHOULD BE  
CUT AND THE LDM PUSHED UP  
BEHIND THE PCB TO ALLOW  
ENOUGH ROOM FOR MOUNTING  
OF INTERFACE.

## 'A' IS A CRITICAL DIMENSION AND SHOULD



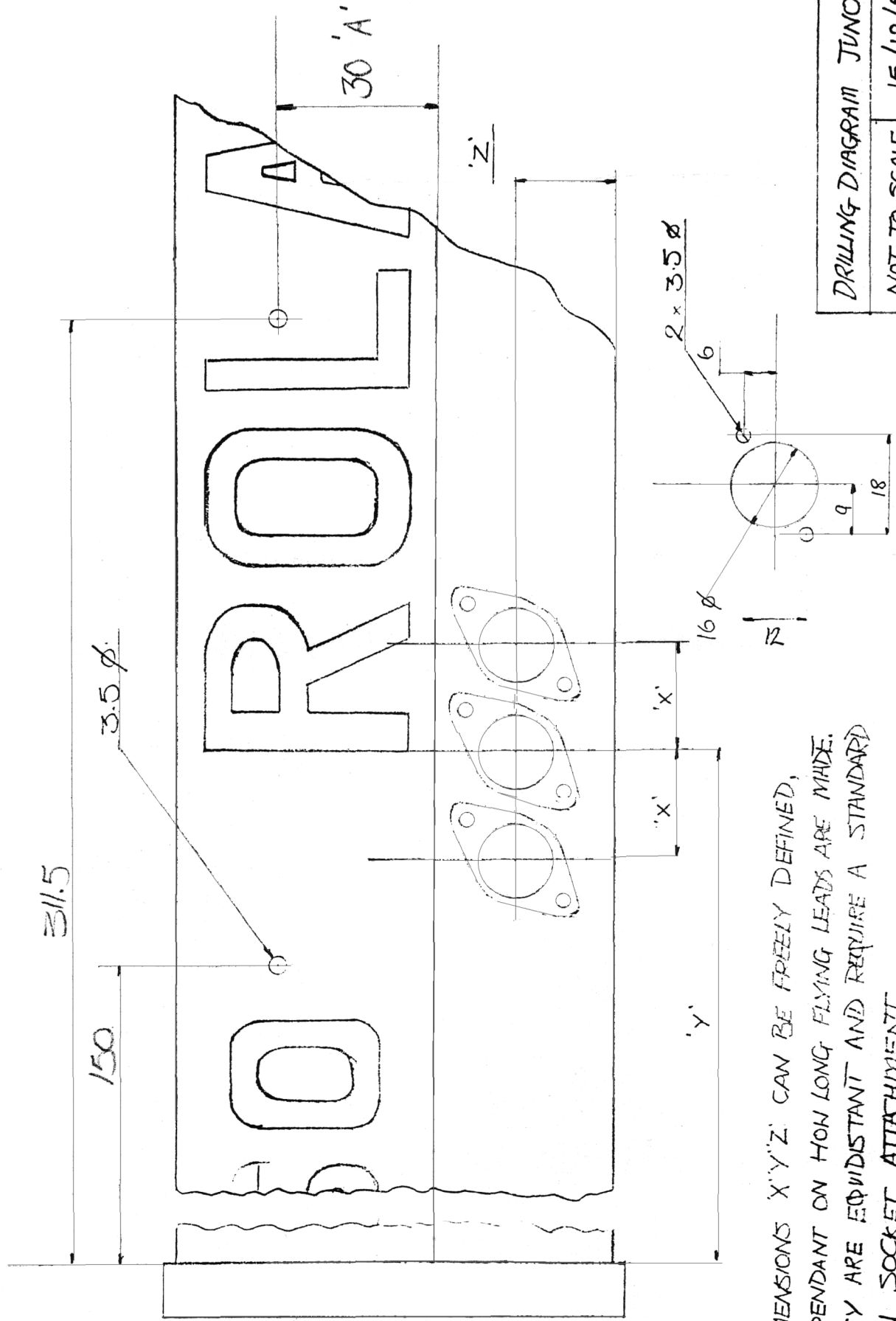
ALL DIMENSIONS IN MM

## DRILLING DIAGRAM

NOT TO SCALE

ALL DIMENSIONS IN MM

'A' IS A CRITICAL DIMENSION AND SHOULD  
BE REPRODUCED AS ACCURATELY AS POSSIBLE



DIMENSIONS 'X' 'Y' 'Z' CAN BE FREELY DEFINED,  
DEPENDANT ON HOW LONG FLYING LEADS ARE MADE.  
THEY ARE EQUIDISTANT AND REQUIRE A STANDARD  
DIN SOCKET ATTACHMENT

DRILLING DIAGRAM JUNO-60

NOT TO SCALE 15/12/85.

## OPERATION OF THE INTERFACE

### INTRODUCTION

The Juno will operate in one of 3 modes:

1. SLAVE MODE (Power up condition)

This is the MIDI receive mode in which the Juno will respond to incoming MIDI data.

2. MASTER MODE

This is the MIDI transmit mode, in this mode the key board becomes the mother keyboard. A split point may be assigned and keyboard upper and lower MIDI channels assigned. Any DCB information received will be transmitted on the channel assigned to the DCB.

3. DCB MODE

In this mode the Juno reverts to normal DCB conditions. No MIDI information is received or transmitted. This mode is only available to Juno 60 owners.

In any mode, the following functions may be performed:

- a. OMNI ON/OFF may be set/reset.
- b. The DCB MIDI channel may be assigned.
- c. The keyboard lower MIDI channel may be assigned.
- d. The keyboard upper MIDI channel may be assigned.
- e. The keyboard receive channel may be assigned.
- f. The transpose value may be set (+ or - 1 octave).
- g. The split point can be assigned.
- h. The voice change command may be transmitted over the MIDI.
- i. All notes off is achieved by simply pressing the chorus off switch.

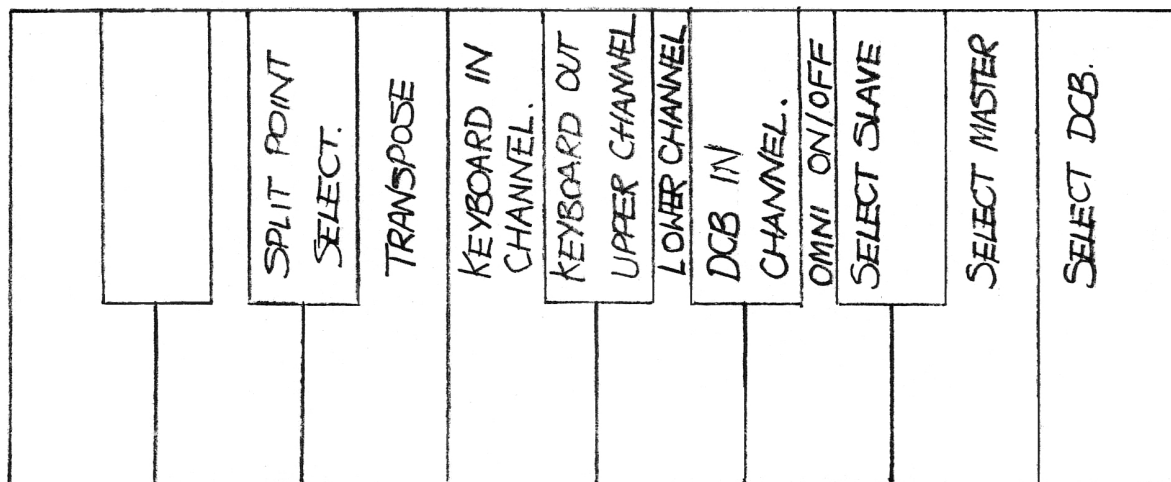
On every power up, the MIDI interface adopts the following values:

1. Split point middle C.
2. All MIDI channels assigned to 1.
3. OMNI off.

## OPERATION

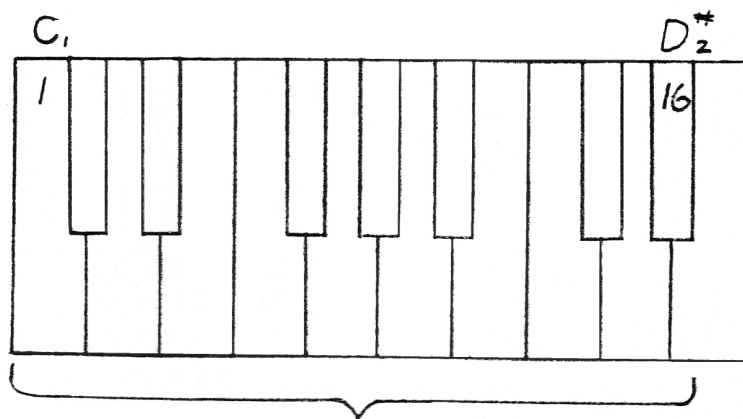
### CHANGING MODES

To select a mode or function, hold down the chorus OFF button. Whilst holding it down, press the relevant key in the top octave as detailed in the diagram below:



For OMNI ON/OFF, or select Slave/Master/DCB mode, this is all that is necessary, and on releasing the chorus OFF switch, the new mode will be assigned. However, for the other functions it is also necessary to select a value.

For MIDI channels, a value in the range 1-16 is required. This is achieved by pressing a key with the range of bottom C to D<sup>#</sup> in the 2nd octave.



For Transpose, press a key up or down an octave from middle C, and MIDI data transmitted will be transposed to this key. The Juno keyboard itself is transposed in the normal fashion.

For Split point selection, press any key over the key board and this key and all above will be the upper channel.

-----

Voice change is achieved by pressing the chorus OFF switch and any key except those in the top octave (ie the bottom four octaves). This enables the selection of voices 1-48.

Please Note The Following:

The chorus OFF switch must be held down all the time that mode change is being performed, or when parameters are being set.

If whilst performing a mode change the wrong mode/function is selected, the chorus OFF switch must be released before reselection.