

APPENDIX C

The NIC-80 RS232 B-channel

Many NIC-80s were shipped with only the A-channel RS232 link, used by the Teletype or other terminal, operative. However, it is usually very straightforward to get the B-channel running, as internal provision already exists for this in all cases that we have come across. All that is necessary is to complete the wiring in accordance with the schematics, which involves -

- (a) Add the extra UART and associated chips and small components to the RS232 PCB from slot 11 (assuming that they are not already fitted). It will be found that empty positions are ready waiting for them, and it is simply a matter of soldering them in.
- (b) Add the additional RS232 "D-socket" to the back of the NIC-80, a few inches above the existing A-channel socket.
- (c) Connect the socket to appropriate pins on the underside of slot 11, simply paralleling the wiring of the A-channel in accordance with the schematics.

APPENDIX D

Upgrade for the NIC-80 RS232 board

The information reproduced below was kindly provided at no cost by Nicolet. The upgrade described has been carried out on the six Lancaster NIC-80s with complete success. It is well worth implementing in view of the very substantial increase in speed and performance that is achieved: the maximum baud rate is thereby raised from its standard value of 2400 baud to 19200 baud, on both channels A and B.

A. Modify Oscillator

1. Replace 422.4 KHz crystal with 6.7584 MHz.
2. Replace T16, T17, T18 (2N3302) with 2N5224.
3. Replace 100K resistor with 22K.
4. Replace 22K resistor with 3.3K.
5. Replace 2.2K resistor with 4.7K (This resistor is connected to T18).
6. Replace 0.01micF capacitor with 500pF.
7. Replace 1000pF capacitor with 100pF.
8. Replace 47pF capacitor with 100pF.

B. Modification for 19.2K

1. Cut run between IC 18 pin 14 and IC 17 pin 3.
2. Piggy back new 7493 onto IC18, soldering pins 2, 3, 5, 10 of new chip to the same pins of IC 18. Leave other pins unconnected.
3. Jumper pins 1 and 12 of new chip.
4. Jumper IC 17 pin3 to pin 14 of new chip.
5. Jumper IC 18 pin 14 to pin 11 of new chip.
6. Jumper unconnected switch positions.
7. Connect new baud rates to switches.
 - a. Pin 1 of new chip has 19.2K.
 - b. Pin 9 of new chip has 9.6K.
 - c. Pin 8 of new chip has 4.8K.

C. Optional Modification for 110 baud

1. Cut run between IC 19 pin 14 and IC 16 pin 13.
2. Piggy back new 7493 onto IC 19, soldering pins 2, 3, 5, 10 of new chip to the same pins of IC 19. Leave other pins unconnected.
3. Jumper pins 1 and 12 of new chip.
4. Jumper IC 16 pin 13 to pin 14 of new chip.
5. Jumper IC 19 pin 14 to pin 11 of new chip.
6. If this modification is not made, the 110 switch position will no longer be correct.

Parts list for modification