SYSTEM CONFIGURATION INFORMATION

Thank you for purchasing a GIMIX 6809 microcomputer system. The following pages consist of a collection of notes on the installation, setup, and use of GIMIX 6809 systems. First-time users should read through this information carefully before setting up the system. Users who are already familiar with GIMIX systems should look through the sheets marked "*", in the list below, indicating new or revised information. If, after reading this and the other appropriate sections of the manual, you have questions concerning the setup and use of this system, please call us.

We welcome suggestions for additions or corrections to this and other sections of the manual. If you have any suggestions, please submit them in writing to: GIMIX Inc., Attn. Mike Magnus, 1337 W. 37th. Place, Chicago IL, 60609.

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********** IMPORTANT – PLEASE READ **********

UNPACKING YOUR GIMIX SYSTEM

   To protect your GIMIX 6809 system during shipping, packing material
has been placed INSIDE the system. YOU MUST REMOVE THE TOP COVER AND
ALL OF THE PACKING MATERIAL BEFORE APPLYING POWER TO THE SYSTEM. Remove
the packing carefully and be sure that all of the boards are fully
seated on the motherboard connectors. Check carefully for small parts
that may have been packed inside. In most systems the AC line cord and
keys are packed inside the cabinet. Small parts, such as cables, may
also be packed inside. You should also check the system carefully for
any damage that may have occurred during shipping.   If damage is
apparent, contact GIMIX and the carrier immediately.

   The system can be operated with the cover removed to facilitate
initial setup and testing; however, we recommend that the cover be kept
in place as much as possible during normal operation to insure proper
cooling. (This is especially important with hard disk systems.)

   We suggest that you retain the original box and packing material,
in case it is ever necessary to ship the system.

********** IMPORTANT – PLEASE READ **********

CONFIGURATION INFORMATION FOR THE GIMIX TWO PORT SERIAL I/O BOARD

    This notice outlines the recommended procedure for connecting
serial peripherals (terminals , printers, etc.) to the GIMIX Two Port
RS-232C serial interface board.   Failure to follow the recommended
procedure can result in random I/O errors caused by noise pickup on
unused handshake lines (CTS and/or DCD). The errors are most noticeable
on interrupt driven systems (OS-9 and UniFLEX) where noise can cause the
generation of interrupts that cannot be identified by the operating
system.

    As shipped, the jumpers on the Two Port serial boards are normally
configured as shown in figure "B" of the "JUMPER CONFIGURATIONS" drawing
included with the board. The following chart shows the DB-25 connector
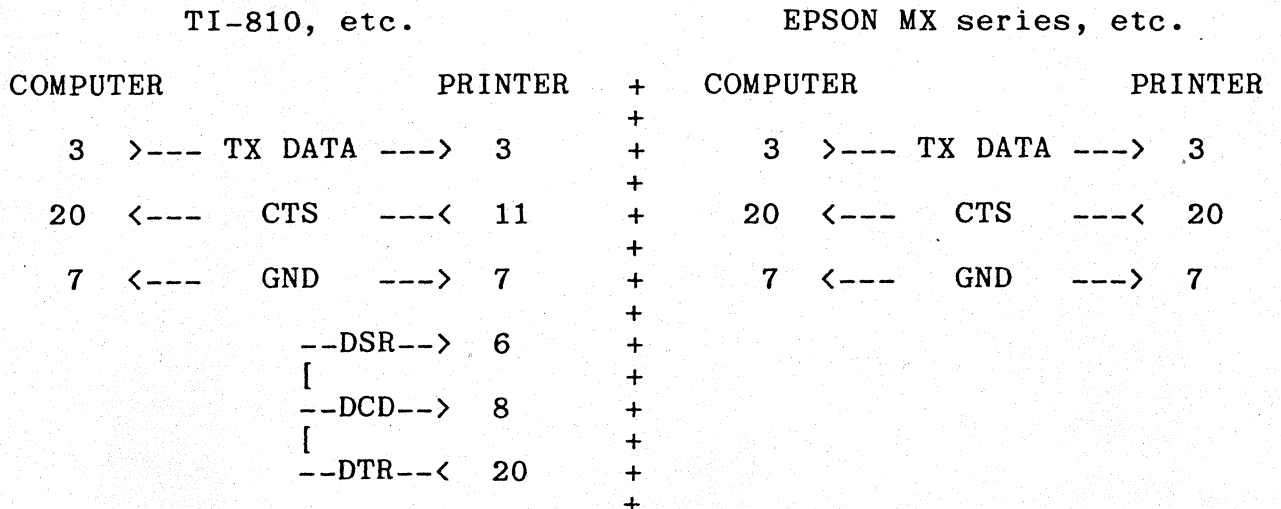pinouts for this configuration.

            Signal   Pin#   Direction
                                            Computer   Peripheral

             RX   2   <----------<
             TX   3   >---------->
                             4   ----->
                                                  [
                             5   ----->
            GND   7   <---------->
            RTS   8   >---------->
            DCD   12   <----------<
            CTS   .20   <----------<

    High-speed terminals normally require a simple three wire cable,
without handshake, connecting pins 2,3, and 7 of the I/O board to the
corresponding pins on the terminal. THE UNUSED HANDSHAKE INPUTS (DCD
and CTS) MUST BE PROPERLY TERMINATED TO PREVENT NOISE PICKUP.   It is
especially important to terminate these inputs if a 25 conductor cable
is used.

    There are two recommended methods for terminating DCD and CTS. The
first is to REMOVE (from JA-1 and/or JA-2) the jumpers that connect DCD
and CTS to the I/O cable. These jumpers MUST BE REMOVED even if the
corresponding pins on the I/O connector are unconnected since even the
length of cable from the board to the back-panel connector is sufficient
to pick up noise from the system. Pull-up resistors on the board force
the inputs to the required active level for proper operation of the
board. This method should be sufficient in most cases. .

-1-   Rev. A

The second method connects the RTS output from the board to the DCD and CTS inputs. Using the output driver (RTS) to hold the handshake inputs at the proper level. Caution: This method will only work if the software initializes the RTS output of the ACIA to the active level. Operating systems supplied by GIMIX (FLEX, OS-9, and UniFLEX) initialize the ACIA properly. Software from other sources, that directly accesses the ACIA, should be checked for proper initialization. There are two ways to implement this method, depending on the type of cable used to connect the board and the peripheral. If a discrete-wired cable is used, jumpers can be installed in the connector at the computer end of the cable, to connect RTS, CTS, and DCD together. (In the case of the jumper configuration shown above, pins 8, 12, and 20 would be connected together) If a mass-terminated or ribbon type cable is used, the jumpers for RTS, DCD, and CTS can be removed from JA-1/JA-2 and wire-wrap techniques used to connect RTS, DCD, and CTS together at the jumper strips.

Printer interfaces normally require handshake to prevent the computer from outputting data faster than the printer can accept it. Software provided by GIMIX uses the CTS input to the serial board for printer handshaking. The CTS input must be connected to an output from the printer that is high (positive level) when the printer is ready to accept data and low (negative level) when it is not ready. The DCD input is not used in this application and should be terminated as described in the preceding section. If printer handshake is not required (if, for example, the baud rate will be set slow enough to prevent printer over-run) the CTS input should also be terminated as described above. Note: Some serial printers require that their handshake inputs (DSR/DCD) be placed in an active state before they will accept data. This can usually be accomplished by connecting an unused output from the printer (DTR) to its handshake inputs, at the printer end of the cable. See the example diagrams below and the printer documentation.


```
             TI-810, etc.                     EPSON MX series, etc.

    COMPUTER                PRINTER  +     COMPUTER               PRINTER
                                     +
                                     +
     3   >--- TX DATA --->  3        +      3   >--- TX DATA --->  3
                                     +
    20   <---   CTS    ---< 11       +     20   <---   CTS    ---< 20
                                     +
     7   <---   GND    --->  7       +      7   <---   GND    --->  7
                                     +
                     --DSR-->  6     +
                     [               +
                     --DCD-->  8     +
                     [               +
                     --DTR--< 20     +
                                     +
```

            NOTE: The above diagrams assume that the 2-port serial
                  board is jumpered as shown in figure "B" of the
                  hardware documentation.

GIMIX PIA-30 to CENTRONICS TYPE PRINTER INTERFACE

GIMIX PIA BOARD   "CENTRONICS"
DB-25 CONNECTOR   36-PIN CONNECTOR

    PIN   SIGNAL   PIN

```
 1 >------------------- DATA 0 -------------------> 2

 2 >------------------- DATA 1 -------------------> 3

 3 >------------------- DATA 2 -------------------> 4

 4 >------------------- DATA 3 -------------------> 5

 5 >------------------- DATA 4 -------------------> 6

 6 >------------------- DATA 5 -------------------> 7

 7 >------------------- DATA 6 -------------------> 8

 8 >------------------- DATA 7 -------------------> 9

 9 <------------------- ACKNOWLEDGE -------------------< 10

10 >------------------- STROBE -------------------> 1
```

```
   14                                                         19
THROUGH <------------------- SIGNAL GROUND ----------------> THROUGH
   25                                                         28
```

NOTE: When using ribbon cable, alternate signal and ground
      lines for better isolation. When using standard multi-
      conductor cable, twisted-pairs are preferred, with each
      signal line paired with its associated ground.
      Cable length should be kept to a minimum, with 10 feet
      being the maximum recommended length.
      Shielded cable may be required if radio interference is
      a problem.