

Dial Land Line Modem Operation

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Introduction

This application note describes how you can use a dialed land line modem with your ICON. It can be used for two separate functions. The first function allows the modem to answer an incoming call from a remotely located computer for remote ICON operation. The second function allows the ICON to dial out if an alarm occurs.

Configuring a Technologic Systems TS-MODEM2

Set the power to 3.3V. Use a Multi-Tech MT5600SMI-X-L-34.R2 or MT5656SMI-34-V modem module.

Use a TS-MODEM2 without real-time clock for use in a TS-5300 X86 board. Place a jumper on JP5 only to select COM4 IRQ7.

Use a TS-MODEM2 with real-time clock for use with a TS-7200 ARM board. Place a jumper on JP4 only to select COM4 IRQ6.

Dial-in Operations

First select "Modem COM4" for "Connection Type" under "Internet Connections" under "System Parameter Config". Don't forget to save your program with this new change. Then you must reboot the ICON by selecting "General/Password" from the "System Parameter Config" drop down list. Then select "Reset System" under "Watchdog" and click OK.

This operation will log you off so wait about 60 seconds. Then you can reconnect locally using ethernet or dial in.

To dial in, set up a dial Internet connection as appropriate for your machine. Use a user name and password of "icon". Once connected, use iconhmi.jar to operate your ICON just as you would with your ethernet connection.

Under Windows Vista go to the control panel and click "Network and sharing center". Then click the task "Setup a connection or network" and follow the instructions. When done you may right click your new connection and click "Create shortcut" to create a shortcut on your desktop. It will ask you to create the shortcut on the desktop so answer yes.

After connection is made to the ICON use IP address 72.16.1.1 to access over the dialed network.

Alarm Operations

First select the COM port for the modem with the drop down list for "Connection Type" under "Internet Connections" under "System Parameter Config". Pick "Modem COM4".

To get a system to dial out alarms you need to select "Land Line" for "Modem Alarm" under "Internet Connections" under "System Parameter Config". Then click the "Table" button and enter one or more phone numbers in a contiguous section of unused entries in the table. Enter the start index of your phone number(s) in "Alarm phone 1". Enter the end index of your phone number(s) in "Alarm phone 2".

Once this is done, writing to !System[255] will cause alarms to be dialed out. Set bit 0 for alarm 1, bit 1 for alarm 2, bit 2 for alarm 3 and bit 3 for alarm 4. The alarms are dialed out only if you are not connected to the ICON over the ethernet port. This is because the ICON system assumes that if you are connected over the ethernet port you will be paying attention to alarm generation over that port or that you are doing testing and do not want the alarms dialed out.

If any combination of bits 0-3 of variable !System[255] are set and you are not connected to the ICON over ethernet, the ICON will call the configured phone numbers. When you answer the phone you will hear 1, 2, 3 or 4 beeps which indicates which alarm is active. Multiple alarms are listed with a pause between. For example, if alarms 1-4 are active, then bits 0-3 are set to a 1 in !System[255] (value 15) and you will hear a beep, followed by a pause, then two beeps, pause, 3 beeps, pause and then 4 beeps.

The best way to create the value in !System[255] is to use an expression instruction with the following formula: $\text{alarm}[0] + (2 * \text{alarm}[1]) + (4 * \text{alarm}[2]) + (8 * \text{alarm}[3])$ where alarm[0]-alarm[3] vary between 0 and 1 for each of the four alarms.