

RIOWIO Instruction Card

The LEX file RIOWIO allows you to directly read and write to the HP-IL IC in the HP-75. By directly reading and writing to the registers in the HP-IL IC, you can have greater control of the HP-IL operations, you can simulate an arbitrary device, or you can practice writing the assembler code to the HP-IL IC without worrying about all the details of driving a processor. This card provides the two commands described below. The first command allows you to read an arbitrary register, and the second allows you to write to an arbitrary register.

For information on the structure of the IC's registers and the effect of writing to the IC's registers, refer to the "The HP-IL Integrated Circuit User's Manual" (part number 82166-90016). For information on HP-IL protocol, refer to "The HP-IL Interface Specification" (part number 82166-90017).

The RIO function allows you to read one of the eight registers on the HP-IL IC. This function's syntax is as follows:

| | |
|---------------------|-------------|
| Keyboard Execution: | RIO(n) |
| Program Step: | 10 A=RIO(n) |

The n stands for an integer from 0 to 7 and specifies the register to be read. This function returns a numeric value between 0 and 255.

The WIO statement allows you to write data to one of the eight registers in the HP-IL IC. This statement's syntax is as follows:

| | |
|---------------------|------------|
| Keyboard Execution: | WIO n,x |
| Program Step: | 10 WIO n,x |

The n stands for an integer from 0 to 7 and specifies the register to write to. The x stands for an integer from 0 to 255 and specifies the value to write into the register. If x is larger than 255, then $\text{MOD}(x,255)$ is used as the value for x.

The STANDBY ON command is useful when doing direct IC register reads and writes. STANDBY ON turns on the HP-IL IC oscillator and keeps it on. You should be aware of the limitations that STANDBY ON sets on the HP-75 system's HP-IL operations. These limitations are described in section 9 of the HP-75 owner's manual. STANDBY ON is a global command and remains in effect until the STANDBY OFF command is executed. If STANDBY ON is in effect when the HP-75 is turned off, then it will still be in effect when the HP-75 is turned on again.

If STANDBY OFF is in effect then the HP-IL IC oscillator may not be on. Additionally, if the HP-75 is waiting for an HP-IL message and the oscillator is off, then the IC will not be able to receive it—the message will be lost.

