Programming: Inputs and Outputs

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The many functions of the main RS-232 port:

```
ECHO            'Echo back all received characters
SADDR#    'Set address (0 to 120)
SILENT    'Suppress print messages
TALK            'Re-activate print message
SLEEP     'Ignore all commands except "WAKE"
WAKE      'Consider all following commands
BAUD19200       'Set baud rate to 19200 bps
OCHN(RS2,0,N,38400,1,8,D)       'Open - No parity, 38.4k bps, 1 stop, 8 data, as Data
OCHN(RS4,0,N,38400,1,8,C)       'Open as RS-485 port (with adapter) as Control
IF LEN>0  'Check to see if any (or how much) data is in the 16 byte input buffer, Data mode
c=GETCHR  'Get byte from buffer into variable "c" for Data mode
PRINT("Char Rcd:",c,#13)        'Print text, data and ASCII code for carriage return
```

The many functions of the "G" port:

```
UGI       'Redefine as general input
UGO             'Redefine as general output (Open collector, pulled to 5V)
UG        'Return pin to default start function, when low motor starts motion
UG=0            'Set A Low (UG=a to set to variable "a")
UG=1            'Set A High (Open collector, weakly pulled to 5V internally)
a=UGI           'Set variable "a" to digital input
a=UGA     'Set "a" to analog input, 0 to 1024 = 0 to 5V
```

The many functions of the Limit ports:

```
UCI       'Redefine Right Limit as general input (UDI for Left Limit)
UCO             'Redefine Right Limit as general output (UDO for Left Limit)
UCP             'Return pin to limit function (UDM for Left Limit)
UC=0            'Set Right Limit Low (UD=0 for Left, or UD=a to set to variable "a")
UC=1            'Set Right Limit High (UD=1 for Left Limit)
a=UCI           'Set variable "a" to digital input (UDI for Left Limit)
a=UCA     'Set "a" to analog input, 0 to 1024 = 0 to 5V (UDA for Left Limit)
```

Counter functions of ports A and B:

```
MF4             'Set Mode Follow with full quadrature
MFR             'Set Mode Follow with ratio for gearing
MS        'Mode Step & Direction
MC        'Mode Cam
MF0             'Set follow mode to increment counter only
MS0             'Set counter mode to increment counter only
a=CTR     'Set variable "a" to counter value
```

General I/O functions of ports A and B:

```
UAI       'Set port A to input (UBI for port B)
UAO             'Set port A to output (UBO for port B)
UA=0            'Set port A Low (UB=0 for port B, or UB=a to set to variable "a")
UA=1            'Set port A High (UB=1 for port B)
```

```
a=UAI                ‘Set variable “a” to digital input (UBI for port B)
a=UAA        ‘Set “a” to analog input, 0 to 1024 = 0 to 5V (UBA for port B)
```