

# HUMUSOFT AD512

**Synopsis:**

```
rtload('ad512',addr,opt)
```

**Parameter Description:**

*It is highly recommended to use the driver GUI together with `rtscript` to select correct driver parameters. Otherwise a mistake can easily be made.*

`addr` specifies I/O address of the board. Its value must be given as decimal, not hexadecimal, number.

`opt` is a vector of hardware specific options.

`opt(1)` specifies digital I/O options. It is bit-oriented and therefore shows as a sum of numbers corresponding to individual bit weights. These numbers are summarized in the table below.

<i>Parameter</i>	<i>Option</i>	<i>Value</i>
digital input mode	bit	0
	byte	1
digital output mode	bit	0
	byte	2

`opt(2)` to `opt(9)` specify analog input ranges for channels 1 to 8. The input ranges are coded by numbers listed in the table below.

<i>Range</i>	<i>Code</i>
0...5V	0
±5V	1
0...10V	2
±10V	3

When using GUI to specify channel gains, the columns correspond to channels and the rows correspond to gain values. Select a gain for a

single channel by clicking the radio button at the appropriate position. Select a gain for all the channels at once by clicking the push button labeled by the gain value, left to the corresponding row of the radio button array.

Both `addr` and `opt` are optional. The defaults are:

`addr: 768`

`opt ( 1 ): [0]`.

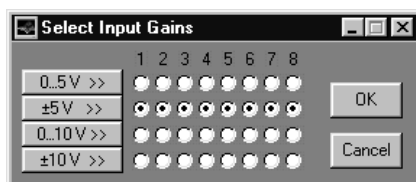
Also the channel gains are optional and default are 1 (range  $\pm 5V$ ).

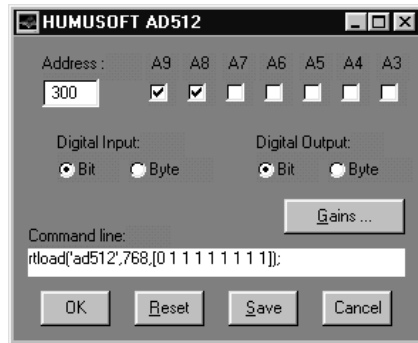
### Channel Assignment:

Both input and output hardware channels are assigned to channel numbers starting with analog channels, then following with digital channels. This is summarized in the table below.

<i>HUMUSOFT AD 512</i>	<i>Real Time Toolbox</i>
AD0 .. AD7	Inputs 1 . . 8
DA0 .. DA1	Outputs 1 . . 2
DIN0 .. DIN7	Inputs 9 . . 16 in bit mode Input 9 in byte mode
DOUT0 .. DOUT7	Outputs 3 . . 10 in bit mode Output 3 in byte mode

### GUI Window:



**Input Scan:**

Input scan is not supported for any input channel.

**Output Waveform:**

Waveform generation is not supported for any output channel.

**Switch and Jumper Settings:****Base Address (switch SW1):**

The selected address must match the **Address** field of the GUI.

**Analog Output Range (jumper JP1):**

Any setting. The driver maps the selected voltage range into the range -1 to 1.