



GENIE E28 Microcontroller



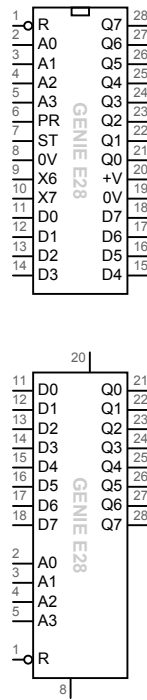
Capabilities

The following table outlines the capabilities of this GENIE device:

Type	ELITE
Version	1
Signals	
Pins	28
Analogue inputs	4
ADC resolution	8 bits
Digital inputs	8
Digital outputs	9
Features	
Parallel processing	Yes
Plug and play	Yes
Debug live	Yes
Device control	Yes
Sensor calibration	Yes
Mono RTTTL music	Yes
Stereo RTTTL music	Yes
16 channel MIDI music	No
Sound effects	Yes
PWM outputs	1
Servo motor control	8
Infra-red control	Yes
1-Wire® and I ² C	Yes
Ultrasonic sensing	Yes
Events and interrupts	Yes
1-second clock	Yes
Programming	
Memory	3.2 K bytes
Variables	10 (A-J)
EEPROM locations	16
Program start limit	4
Subroutine limit	No limit
Call stack limit	32
Electrical	
PICmicro® device	16F883
Power supply	2.1-5.5V
Pin current limit	25mA
Total current limit	200mA

Component

The GENIE E28 microcontroller has 28 legs (known as pins) and these are used as follows (a simplified view is also shown):



Pin	Description
1	Reset (when pin goes low)
2	Analogue input A0
3	Analogue input A1
4	Analogue input A2
5	Analogue input A3
6	Programming input (PR)
7	Status output (ST)
8	Ground (zero volt) supply voltage
9	Unused
10	Unused
11	Digital input D0
12	Digital input D1
13	Digital input D2
14	Digital input D3
15	Digital input D4
16	Digital input D5
17	Digital input D6
18	Digital input D7
19	Ground (zero volt) supply voltage
20	Power supply voltage (2.1-5.5V only)
21	Digital output Q0
22	Digital output Q1
23	Digital output Q2
24	Digital output Q3
25	Digital output Q4
26	Digital output Q5
27	Digital output Q6
28	Digital output Q7

The required circuit for a GENIE E28 is shown below. It includes a reset switch, download socket and three resistors.

