GENIE C20 Microcontroller

Capabilities

The following table outlines the capabilities of this GENIE device:

Type	CORE
Version	1
Signals	
Pins	20
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	No
PWM outputs	1
Servo motor control	0
Infra-red control	Yes
1-Wire® and I^{2}C	No
Ultrasonic sensing	No
Events and interrupts	Yes
1-second clock	Yes
Programming	
Memory	256 bytes
Variables	10 (A-J)
EEPROM locations	16
Program start limit	2
Subroutine limit	No limit
Call stack limit	16
Electrical	
PICmicro® device	16F677
Power supply	2.1-5.5V
Pin current limit	25mA
Total current limit	90mA

Component

Note: This is a older (v1) GENIE microcontroller, which has been replaced the the more powerful v2 GENIE 20 device.

The GENIE C20 microcontroller has 20 legs (known as pins) and these are used as follows (a simplified view is also shown):
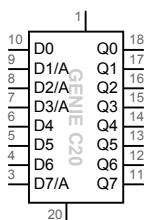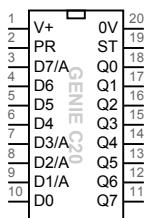
Pin	Description
1	Power supply voltage (2.1-5.5V only)
2	Programming input (PR)
3	Analogue input A7 or digital input D7
4	Digital input D6
5	Digital input D5
6	Digital input D4
7	Analogue input A3 or digital input D3
8	Analogue input A2 or digital input D2
9	Analogue input A1 or digital input D1
10	Digital input D0
11	Digital output Q7
12	Digital output Q6
13	Digital output Q5
14	Digital output Q4
15	Digital output Q3
16	Digital output Q2
17	Digital output Q1
18	Digital output Q0
19	Status output (ST)
20	Ground (zero volt) supply voltage

The required circuit for a GENIE C20 is shown below. It includes a download socket and two resistors.