Functional Description

(20) Status LEDs
VGA LEDs (active-high)
2 red, 2 green, 2 blue, 2 yellow (H & V sync)
XBee LEDs (active-low)
Active low: red (DI) and blue (DO)

(18) 2x10 Socket Access—J5 Header
Signal + LED connections:
VGA R1, R0, G1, G0, B1, B0, H, V
XBee DO, DI
Signal only
XBee /RTS, ASOC, /CTS, /DTR, /SSI, /RST
Propeller XI, /RST
Serial over USB flow control (/CTS, /RTS)

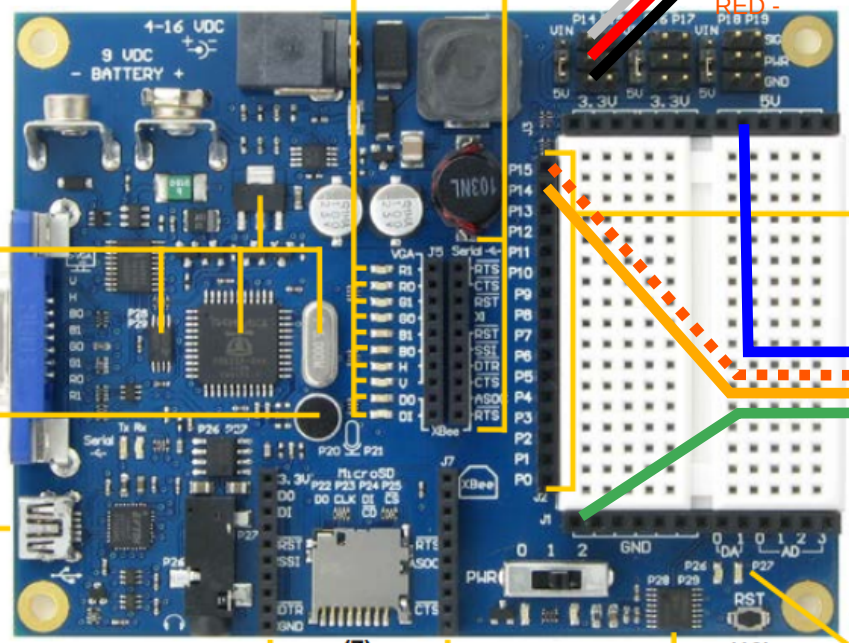
(19) Switching Regulator
In: 4-16 VDC
Out: 5V, 3A

(17) Servo Port
6 ports (I/O pins P14..P19)
Jumper shunt of each pair sets supply voltage to 5 V or Vin

SIGNAL
PWR VDD
GND VSS
TO HB-25 CONTROLLER

(1) External Power Inputs
9 V battery clip
2.1 mm center-positive jack

(2) Multicore Propeller Microcontroller System
- Non volatile 64 KB EEPROM
- Propeller Microcontroller
- 3.3 V, 460 mA regulator
- 5.00 MHz crystal oscillator



(16) + Supply Sockets
3.3 V and 5 V

(15) Propeller I/O P0..P15
Socket access to P0..P15

(14) Breadboard
34 rows of 5 sockets in 2 columns

ENC-VDD
ENC-B
ENC-A
ENC-VSS
TO M1 ENCODER

(3) VGA Video output port

(4) Electret Microphone
Sampled by Propeller using sigma-delta analog to digital conversion

(5) USB Port
- Load programs
- Serial over USB communication
- Debugging
- Power supply input (USB 2.0) 5 V, up to 450 mA

(13) GND, DA, AD Sockets
GND Sockets
Digital to Analog DA0, DA1
Analog to Digital AD0..AD3

(6) Stereo Output Jack, 1/8"

(7) MicroSD Socket

(9) Power Switch
with green LED indicator lights for settings 1 & 2
0 – Off
1 – System on
2 – System + servo on

(10) Reset Button

(12) Digital to Analog Lights
Yellow LEDs vary in brightness with duty modulated digital to analog output voltage

(8) XBee
Digital RF Module Socket

(11) Analog to Digital Converter
10 bit I2C analog to digital converter