Benduino Dome AIO v2
v1.2 - 02/2024
www.printed-droid.com

The latest diagrams and files can always be found here:
http://www.printed-droid.com/files/

The Benduino Dome AIO PCB is pretty straight forward.
It combines the Dome Master, Dome Slave & the Flthy Holoboard on one PCB.
The Design is made to offer best comfort with less wiring and a full integration into
the Astrocomms System.

Outputs:
2x12 Servos (You'll need 12 panel servos and 6 Holo Servos)
1x Signal to Teeces
1x Signal to MP3 Trigger (not needed if you use Astrocomms Ultra+)
I2C from Dome Master to other devices

Inputs:
Labeled „Astrocomms connection" (Flthy/Master)
Flthy receives serial commands for the Flthy Holos
Master is receiving serial commands for the DomeMaster

You can connect for control:
Astrocomms or XBEE/Body Mega2560 running ShadowMD (selectable with dip switch)

Other features:
All relevant connections are available as terminal screws

How is everything connected? Basically it's the „original" Marcduino Master/Slave & Flthy wiring but with no flying wires and everything's on one pcb.

There are 3 power in terminals. Left for the Arduinos (input 7-12V) 2x right for the servos (5-6V).
If you don't want to use the right terminal you can use the power bridge jumper to feed the 6V/3A or D24V50F5 Buck converter via the 7-12V input and the step down will power the servos - depending on your servos i suggest a stable 5V-6V input for each servo rail independent!

The Master Benduino runs the regular Betterduino/Marcduino Master Firmware
The Slave Benduino runs the regular Betterduino/Marcduino Slave Firmware
The Flthy Arduino runs the regular Flthy Holo Firmware for Astrocomms (on the wiki!)
Via the Dip Switches you select if the Flthy is controlled via the Astrocomms or the Benduino (if no Astrocomms connected)

For flashing the Master/Client use the ISP pins on the Nanos. For configuration and flashing the Flthy use the usb ports!
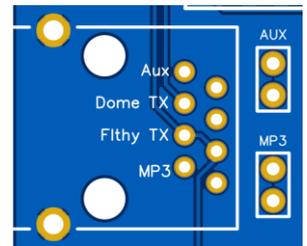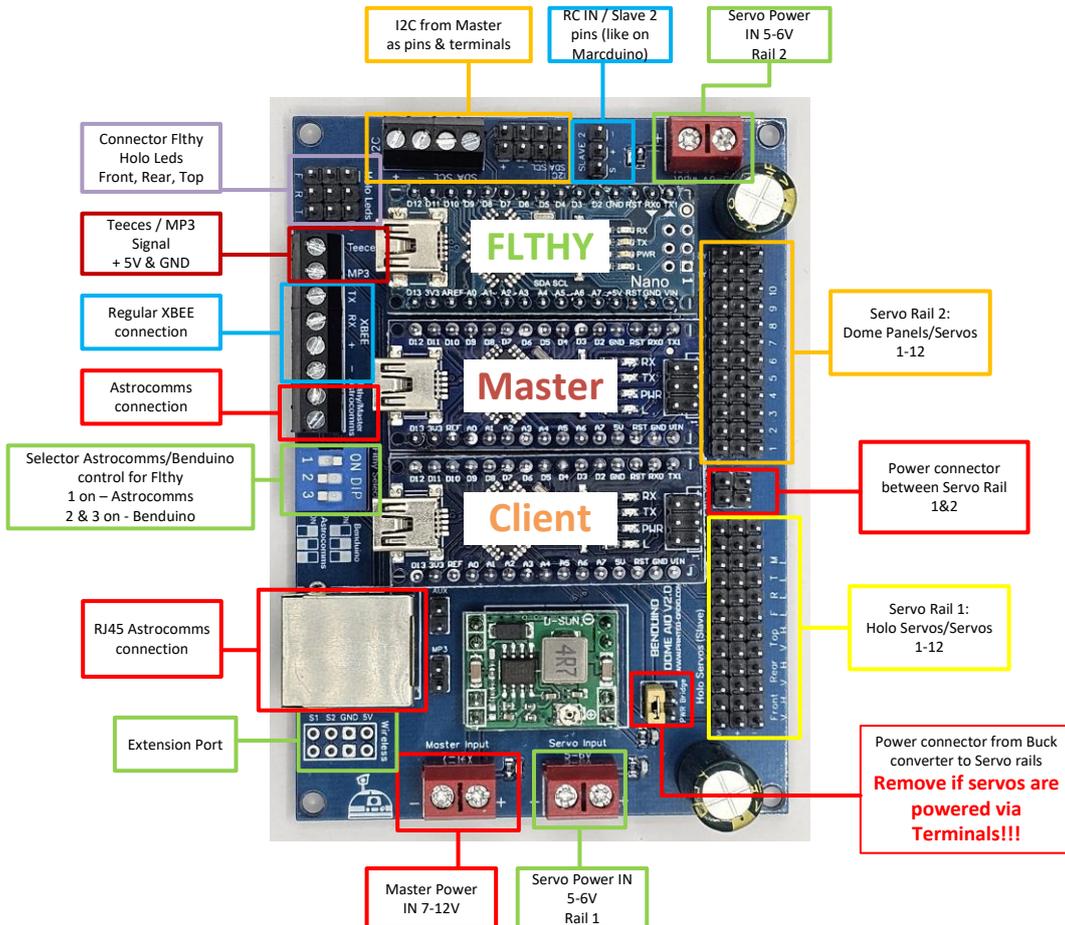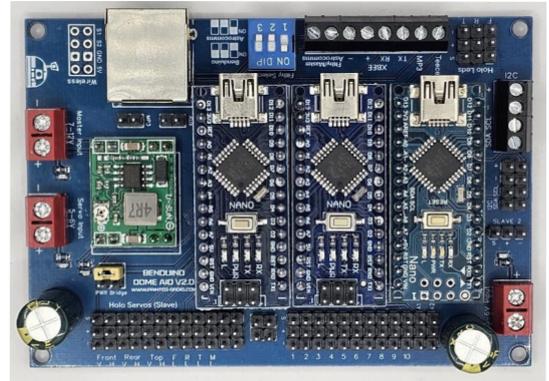
This is the pin assignment of the RJ45 socket.
The pins are always assigned twice.

The Aux pin is intended for individual data transfer and can be accessed on the AIO via the 2 AUX pins (top right).

The 2 pins "MP3" must be jumpered if you want to send MP3 commands to the body. However, this is not necessary with the Astrocomms Ultra+. (On the regular screw terminal, the MP3 signal is always available and is not affected by the jumper)