Pair Bluetooth Controllers - manual setup

You need to establish a **SSH connection** or a terminal window with keyboard to accomplish this further. You can connect your Bluetooth controller manually by doing some commands step by step.

Get started by typing `bluetoothctl`

Now you are in the Bluetooth control unit. Type following commands and confirm every single one with `Enter`

```
agent on
default-agent
power on
scan on
```

**Important: Now set the controller in Pairing mode!** This strongly depends from your controller type and we can’t write an instruction set for every single controller, how to do this.

So you are in Pairing Mode and you likely see text messages like this.

```
[bluetooth]# scan on
Discovery started
[CHG] Controller 43:45:C0:00:1F:AC Discovering: yes
[NEW] Device E4:17:D8:C2:0B:0E 8BitDo M30 Modkit
```

Now we want to connect to our controller. So we type following commands to connect to discovered controller with MAC address E4:17:D8:C2:0B:0E properly. We need to wait a few seconds after entering each command to setup the controller correctly.

```
pair E4:17:D8:C2:0B:0E
connect E4:17:D8:C2:0B:0E
trust E4:17:D8:C2:0B:0E
```

So we see for example a process text like this.

```
[bluetooth]# pair E4:17:D8:C2:0B:0E
Attempting to pair with E4:17:D8:C2:0B:0E
[CHG] Device E4:17:D8:C2:0B:0E Connected: yes
[CHG] Device E4:17:D8:C2:0B:0E Modalias: usb:v2DC8p5101d0100
[CHG] Device E4:17:D8:C2:0B:0E UUIDs: 00001124-0000-1000-8000-00805f9b34fb
[CHG] Device E4:17:D8:C2:0B:0E UUIDs: 00001200-0000-1000-8000-00805f9b34fb
[CHG] Device E4:17:D8:C2:0B:0E ServicesResolved: yes
[CHG] Device E4:17:D8:C2:0B:0E Paired: yes
Pairing successful

[bluetooth]# connect E4:17:D8:C2:0B:0E
Attempting to connect to E4:17:D8:C2:0B:0E
Failed to connect: org.bluez.Error.Failed
[CHG] Device E4:17:D8:C2:0B:0E Connected: yes
Authorize service (yes/no): yes
```
Authorize service 00001124-0000-1000-8000-00805f9b34fb
[8BitDo M30 Modkit]# trust E4:17:D8:C2:0B:0E
[CHG] Device E4:17:D8:C2:0B:0E Trusted: yes
Changing E4:17:D8:C2:0B:0E trust succeeded

Type devices to see a list of devices configured in your BT setup.
Type remove MAC-ADDRESS to remove single devices
Type yes if you are asked for authorization progress or enter PIN

If you have multiple Bluetooth adapters on your machine and you want to tell which one is used, you can use the command `hcitool dev` to list them all. On my setup, hci0 is the internal BT on my Pi4, and hci1 is an additional USB BT module:

```
# hcitool dev
Devices:
    hci1  90:80:62:00:88:00
    hci0  DC:A6:32:04:10:7F
# bluetoothctl
Agent registered
[bluetooth]# scan on
Discovery started
[CHG] Controller 90:80:62:00:88:00 Discovering: yes
```