



# Manipulators

Sophonts need to manipulate their environment; most do so with hands or hand-like manipulators. The common forms of manipulators are hands, paws, tentacles, gripper, graspers, and sockets.

# Sophont-13 Manipulators



**Hands**

The termination of a limb consisting of two opposed groups of one or more moderately flexible digits, capable of holding an object.



**Paws**

The termination of a limb consisting of several unopposed moderately flexible digits which can grasp and hold an object.



**Tentacles**

The termination of a limb capable of entwining or coiling. The termination may be one tentacle, or it may be more than one working together.



**Graspers**

The termination of a limb consisting of three or more mutually opposed flaps or digits capable of clamping an object between them.



**Grippers**

The termination of a limb consisting of two opposed groups of relatively inflexible flaps or digits capable of clamping an object between them.



**Sockets**

The termination of a limb consisting of a hollow rimmed with muscle capable of holding an object within it. It may have an internal tentacle-like manipulator.

## USING MANIPULATORS

Manipulators determine precisely how a sophont handles objects and operates mechanisms.

**Grip.** Grip is the strength which a manipulator adds (or doesn't add) when holding an object. Grip is a mod for tasks using Strength and involving manipulators.

## USING CONTROLS WITH MANIPULATORS

Controls are the interface between a sophont and an object. They range from simple handles to keypad inputs.

## CONTROLS

	Grip	Preferred	Optimized	Alien	Touch
<b>Hand</b>	0	0	0	-1	0
<b>Paw</b>	-2	0	-1	-3	-1
<b>Tentacle</b>	+1	0	0	-1	0
<b>Grasper</b>	0	0	0	-2	-2
<b>Gripper</b>	+2	0	-1	-3	-1
<b>Socket</b>	-1	0	0	-2	-3

The Mod shown applies when using the manipulator with the control type shown.

Touch Mod is used with the Touch Sense Action

## Typical Controls

- The grip or handle and trigger mechanism on a weapon.
- The adjusting knobs on a communicator.
- The operating levers and mechanism on a vehicle.
- The input devices on computers and equipment.

**Preferred Controls.** Controls adapted to a specific manipulator (for example, Paw Controls, Tentacle Controls). Properly used Preferred Controls have no mods.

**Optimized Controls.** Controls specifically designed to be used by all possible manipulators. Optimized Controls have fewer disadvantageous mods. Many vehicles have Optimized Controls.

**Alien Controls.** Non-optimized controls not adapted for the manipulator being used (for example Paw controls being used by Hands). Alien Controls are subject to disadvantageous mods.

## Configurable Controls

Controls capable of being adjusted to Preferred Controls. Configuration time varies, as does the actual effectiveness of the configured format.