

Hard Light IRI Beam Drive System

A practical application of [hard-light](#) technology and the Lazarus [Iridescence-Resonance-Inference Hard-light projector](#), beam-drive weaves strings and cables of hard-light materials over and under structures to achieve a number of useful properties.

Beam-Wire

Used specifically to drive joints, beam-wire acts as a string-like prehensile programmable tendon which can move joints without the need for large, heavy and fragile motors – working exactly the same way tendons in the arm drive the fingers. It works by placing the wire at strategic locations, hooking into the body.

By varying the length, hardness, flexibility, elasticity and so on, the hooked elements of the structure can mimic muscle action in very fluid and powerful ways provided the source projector (often somewhere deep inside a unit) remains operational.

Aesthetically, beam-wire resembles a criss-cross of (normally invisible) wire over the body which move through spherical nodes (often laid inside a structural substrate as points of force-application). While hard to spot beneath the surface most of the time, these lines when stressed glow a visceral red and become much thicker. It has been described as “resembling shibari or kinbaku” - differing styles of a [highly stylized form of Yamataian rope-bondage](#) famed for its criss-crossing lines which accent the shape of the bound and knots which bite into the wearer's erogenous zones when the rope is stressed.

Interestingly, other objects can also be driven by beam-wire: for example, placing a projector against a battered power-armor and then faking motion and movement with it.

Beam-Rebar

Another property of beam-drive, beam-rebar strings hard-light through hollow conduits inside hard structural components like exo or endoskeletons or armor plating (not critical systems). The goal is to remove thermal differentials and absorb kinetic shocks and compression which would ordinarily crack, splinter or shatter a material, especially in regards to hard kinetic impacts.

Doubly so, beam-rebar can hold together cracked elements of hull, spill into gaps to plug them and even leak into cracks and chemically link and seal fragments together making them appear like a single object with glowing cracks. Its application is inspired specifically by Lorath [Orianu](#) clay preservation techniques.

It is not unusual when shutting down a machine to see hard armored panels using beam-rebar to fall away like fractured bone or an ice-shelf once the extra support of beam-rebar has eventually failed. Left

unpowered for extended periods of time, the hardlight rebar (a tarry viscous substance which hardens when struck and ablates easily) slowly melts like wax – meaning prior to panelling falling away, a machine can appear to be “leaking a sparkling polychromic blood” which is known to glow in the dark as it decays.

Photon Armature

Similar to beam-rebar, a photon-armature is a guiding surface when using structol to create a new form or object, such as armor plating or a replacement limb. It uses hardlight in a mesh-like grid, similar to the way in which chicken-wire is used to guide clay as a base.

It can also be used to guide components into a layout, similar to a snap-together model kit: For example, laying an engine with solenoid connections to a main body into place, then covering and casing the engine up on a movable joint with the photon-armature providing the molding surface.

In this way, parts can be added to the unit using both the beam drive and structol between sorties without a deck-crew, provided energy, cooling and computational demands of the new parts are met and the structol is given enough time and raw material (water and carbon-dioxide rich atmosphere, coal or another source of carbon).

In some cases, a photon armature may replace a hard-point or mounting pylon, either with or without matter.

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