FOOD PREPARATION AND STORAGE

GALLEY/FOOD STORAGE UNITS: The galley is located on the lower floor between the laboratory and the glide tube. It was designed for ease of usage once the occupants reached the new world and contains a two years' supply of bulk food including meats, vegetables, grains, and dairy products. In addition, an eight year supply of concentrated food pills and pastes insures that the colonists will survive if hydroponic farm crop failure occurs.

The center table comfortably seats six and contains controls for dispensing beverages, food pills, and pastes along a built-in conveyer belt. Bulk foods may be prepared in the microwave and convection ovens located behind the galley area and accessed through the hallway between the galley and laboratory.

Nutrient pills and pastes are stored on the wall near the glide tube in humidity controlled canisters. Blanched and freeze-dried fruits and vegetables are also stored in canisters. Two upright freezer units, located behind the galley area, house perishable goods. Other goods, such as nonfat dried milk and canned hams, are stored on shelves and miscellaneous cupboards located in and about the area of the ovens and freezers.

All freezer, oven, food purification, humidity stabilization, and mechanical dispensers are computer controlled. Read-outs and manual overrides are located on the back and left side walls. Once landed, these systems are priority one for backup power supply in the event of a primary power supply failure.

OFF - CAMPSITE FOOD PREPARATION: Conventional pots and pans may be used with a four burner electric stove if encampment away from the spacecraft is required. The stove apparatus also contains a high intensity overhead heat lamp for additional warming. All apparatus can be stored in a special suitcase and may be operated from a portable fuel cell power supply or directly from the Chariot's power supply. Special thermal chests can keep food frozen for up to 7 days. A portable sonic dishwasher cleans and sanitizes all utensils.

HYDROPONIC FARMING: A variety of seeds, including peas, squash, corn, tomatoes, onions, carrots, and potatoes, were provided for growing on fiberglass mats immersed in a nutrient rich liquid medium. The nutrient medium contains all 17 chemical ingredients necessary for high-yield plant growth. Four hydroponic stations are provided in case native soil conditions are not hospitable to terrestrial plant life. On board waste recyclers provide replenishment of nutrient supplies.

PLANETARY EXPLORATION AND SURVIVAL GEAR

A variety of sophisticated equipment was deemed necessary for successful execution of the first mission to an unexplored planet. Placed on board were a small limited-range spacecraft (Space Pod), roving land/sea vehicle (Chariot), individual flying backpack (Jetpack), environmental control robot, and other equipment whose descriptions follow:

SPACE POD: The Space Pod is designed for surface to orbit missions only. It is completely self-contained and is powered by a ten megawatt anti-gravity drive system. Manual flight control is via two hand-operated squeeze-trigger "joy sticks". Eight conventional liquid oxygen/liquid hydrogen rockets are employed for lateral movement and control of yaw and pitch.

The entire vehicle measures 11' 6" in height and weighs 7,700 pounds. The craft is has a two-man stand-up operation with no suspended animation chamber, airlock, galley facilities, or weapons. All other basic electronic and mechanical subsystems for navigation, communications, climate control, and computers are scaled down versions of those found on the Jupiter 2. The Space Pod has no interplanetary deutronium annihilation drive. Three fixed landing struts are provided and one central hatch is used for ingress/egress.

CHARIOT ALL-TERRAIN VEHICLE: The Chariot is an all-terrain land and sea vehicle intended to provide the Jupiter 2 crew with mobility to explore the planet's surface. One of the Robinson's major objectives was to map out the region surrounding their spacecraft to determine if favorable topographical, geological, soil, and water conditions prevailed for future colonization missions.

Weighing 6,200 pounds, the Chariot is 16' 6" feet in length, 8' in tread width, and 7' 7" in height (disregarding the solar collector and other roof-mounted instruments). Interior seating is for six, with ample underseat storage for survival gear. The environmental control robot rides in the rear, upright, with tread section removed. For secured transport, the robot may be disassembled further and stowed. The polythermal glass windows provide shielding from ultraviolet light and impacting particulate matter.

The tractor drive engine is powered by compressed hyperatomic fuel, which can explode upon contact with air. Selectable gearing diverts power to twin propellers for traversing aquatic environments. Manual control is again via hand-held lever controls. An on-board microprocessor coordinates vehicle functioning under all environmental conditions, but cannot autopilot the Chariot. On-board equipment includes climate control (heating/air conditioning), radar scanner, x and z band communications, solar collector, driving and search lights, an infra-red gradient mapper, and neutron gun weapons for protection.

INDIVIDUALLY-MANNED FLYING JETPACK: Designed under contract with AT&T Bell Laboratories, the Jetpack provides limited range air-transport. It is powered by the small hyperatomic fuel utilized in the Chariot. Its range is 3 miles between refueling stops in calm air at a height of 17 feet in Earth's gravity. A locked-in carriage seat may be used for an additional passenger or extra equipment. It was designed primarily for observation of geologic features and to identify critical natural resources.

ENVIRONMENTAL CONTROL ROBOT: The model B-9 environmental control robot's primary function was to provide a definitive analysis of the physical environment of the planet to be colonized. The B-9 was by far the most sophisticated piece of equipment on board the Jupiter 2. One hundred and ten uniquely designed computer microprocessors enabled the robot to perform many specialized functions. Some of these include:

- the ability to "learn" from experience and to modify future behavior (true artificial intelligence - technical details are top secret).
- data gathering from auditory, visual, x-ray, and infra-red sensors.
- soil and atmosphere chemical and radiation analysis.
- ease of interface and maximum utility to human users be cause of an extremely complete knowledge base - programming ranges from literature and the arts through ad vanced calculus.
- communications in three formats: through advanced speech synthesis, vidicom tape, and laser printing in read-out tape.
- control of over 43 precision motors for almost human-like movement of arms claws, sensor dome, chest, and feet.
- vertical lift of 50,000 pounds.
- application of 50 tons of pressure, when appropriatdyaced.
- electroforce beam of up to 100,000 volts to aid in breaking apart rock samples and for defense.
- fail-safe protection against harming humans.

Both soil and rock samples are internalized through a small receptacle in the right tread section. Inside, a miniaturized laboratory provides basic chemical analysis and measures radiation levels. Atmospheric analysis is also performed, breaking down the ambient gas into its constituent components.

The environmental control robot stands 7 feet tall (power on, sensor dome raised) and weighs 550 pounds. When in flight or otherwise not in use, the robot is stored in a magnetic lock at the center of the lower level. Disassembly for storage and transportation in the Chariot is relatively straightforward due to the robot's modular design.

WATER CONVERSION UNIT: An evaporation water conversion unit was supplied for water supply management during droughts. The unit contains four fuel cells, each capable of producing one fluid minim every 20 seconds even under low relative humidity conditions. A fifty gallon storage tank is included to collect and store water.

LASER DRILLING RIG: A 25 megawatt laser drill head and stand assembly was designed mainly for accessing underground water supplies and for geological surveys. Usage also permits mining for atomic ores that may be refined into deutronium fuel. Included with the drilling equipment is a supply of high-powered explosive pellets for blasting to facilitate the bringing up of core samples. One objective of the Jupiter 2 mission was to identify key industrial raw materials on the planet. Subsequent missions during the second