

## AN-011 CHARON-VAX Halt enable and Power up mode emulation

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The boot process on the KA630-AA CPU is controlled by a console switch, which determines the way the system boots. CHARON-VAX releases issued after November 1, 2000 implement some of the switch functionality by means of SET parameters in the CHARON-VAX configuration file.

### 1. The Halt Enable switch

The state of Halt Enable switch is emulated with the parameter `halt_enable` (default=yes).

If set to "yes", the system enters the console I/O mode on power-up or restart after completing the start-up diagnostics. In console I/O mode, the console emulation program (which is a part of the KA630-AA CPU firmware) lets the user control the system through the console terminal. The console I/O mode prompt is ">>>".

If set to "no" on power-up or restart, the system tries to load software from one of the detected devices after completing the startup diagnostics. For example (The hobbyist version of CHARON-VAX does not use the LOAD command):

```
load VAXCPU CPU
set CPU halt_enable=no
```

### 2. Power-up mode

The power-up mode is emulated with the parameter `power_up_mode`, which is assigned a string value. Values are "normal\_run" (default), "language\_inquiry" and "loopback\_test". This parameter emulates the state of the MicroVAX 3-position rotary Power-Up Mode switch.

If set to "normal\_run", and if the console terminal supports DEC Multinational Character Set (MCS), the system prompts the user for the console language only if there is no saved NVRAM file. All start-up diagnostics are run.

If set to "language\_inquiry", and if the console terminal supports DEC Multinational Character Set (MCS), the system prompts the user for the console language on every power-up or restart. All start-up diagnostics are run.

If set to "loopback\_test", the firmware runs the console serial line unit (SLU) wraparound tests; this requires a loopback connector. This mode is only supported for console serial lines mapped to physical serial lines.

For example:

```
load VAXCPU CPU
set CPU power_up_mode="language_inquiry"
```

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