DATA SHEET

IMACS CPU Redundancy

Features

- NVRAM and Clock Daughter card
- Contains system clock
- Contains active system configuration in NVRAM
- Clock and NVRAM data constantly synchronizes with the redundant unit to allow for very fast switchovers
- Support of CPU redundancy
- Provides a less-than 250 microsecond active to redundant CPU switchover times
- Must be used with 893x series Interface cards

Overview

The 880770 CPU is designed to provide faster active to redundant CPU switch over times on the IMACS controller shelf. This capability has been achieved by a major redesign of the existing CPU and Interface (IF) card hardware. The primary design goal is to provide a more stable environment for public safety services and mission-critical networks by significantly reducing or eliminating service interruption during the CPU switch over process. The previous CPU hardware platform (880370) has typical switch over and recovery time of approximately 12 seconds from the time of the switch to when data is recovered. The new 880770 CPU hardware is designed to reduce CPU switch over and recovery time to less than 250 micro seconds; essentially less than two T1 frames.

In order to provide this capability, the IMACS required changes to the Interface (IF) card and CPU card hardware designs, as well as rudimentary software design changes. These changes focused the Interface card's system clocking and the NVRAM storage of the system configuration database. Change requirements can be abbreviated into three major components:

Improve IF card robustness by removing all active system controller functions (system clock and system image NVRAM storage) from the IF card and providing a replaceable OAM controller sub-unit half height card to main IF card frame which maintains copper connectivity to the T1/E1 WAN bus.
Mirror system controller functions (system clock and system image NVRAM storage) on both active/standby CPU cards facilitating hot standby redundancy.
Provide fully serviceable NVRAM and clock interface by using a sub-unit module on the main CPU board that can be replaced on the inactive CPU card.

The 880770 CPU is compliant with the European Union's Reduction of Hazardous Substances (RoHS) directive currently with the lead waiver. The 880770 CPU will support all of the features of the 880370 cards and features in the v6.x.y Host Code versions. Initially, only certain WAN, Server and User cards have been enabled to switch traffic from one CPU to the other in less then 250 micro seconds.

Specifications

WEIGHT & DIMENSIONS

- 8" x 7.5" (20.32 cm x 19.05 cm)
- .75 lbs (.34 kg)

POWER

- CPU-7 3.6 Watts, 12.28 BTU
- 893 x .44 Watts to .94 Watts, 1.48 to 3.19 BTU/hr

INTERFACES

- CPU-7: One RJ45 management port
- IF: One RJ21 craft (50-pin) connection supporting up to eight T1/E1 connections
  - One RJ45 NODE port
  - One Rj45 TERM port
  - One or two COM port(s)
  - One SYNC port (883470 only)

STANDARDS SUPPORT

- ANSI 310-D
- Bellcore GR-63-core (NEBS 3), GR-1089-core
- Bellcore TR-TSY-000008
- IEC 297-1
- ITU-G703
- ITU-G.704
- ITU-G.732
- ITU-G.735
- ITU-G.736
- ITU-G.823
- ITU-G.824
- Analog voice (FXS, FXO, E&M)
- Voice compression (ADPCM)

ENVIRONMENTAL

- Operating Temperature: 32°F to 149°F (0°C to 65°C)
- Storage temperature: 32°F to 158°F (0°C to 70°C)
- Humidity: 0 to 85% (non-condensing)
- Altitude: -200ft to 16,500ft (-60m to 5,000m)

Ordering Information

MODEL	DESCRIPTION
PRM-880770	CPU-7, IMACS,CPU,XCON,7.X.Y HOST CODE, REDUNDANT CAPABLE
8000-CPU	IMACS 8000, IMACS,CPU,XCON,7.X.Y HOST CODE, REDUNDANT CAPABLE
PRM-893270	IMACS, RDNT, I/F, EXT SYNC, 8P, NO MODEM
PRM-883370	IMACS, RDNT, I/F, 8P, MODEM
PRM-883470	IMACS, RDNT, I/F, W/O MODEM
8000-IF	IMACS 8000, RDNT, I/F, W/O MODEM
8000-IF+MODEM	IMACS 8000, RDNT, I/F, 8P, MODEM
8000-IF+EXT	IMACS 8000, RDNT, I/F, EXT SYNC, 8P, NO MODEM