Top view diagram of TCS3 control computer

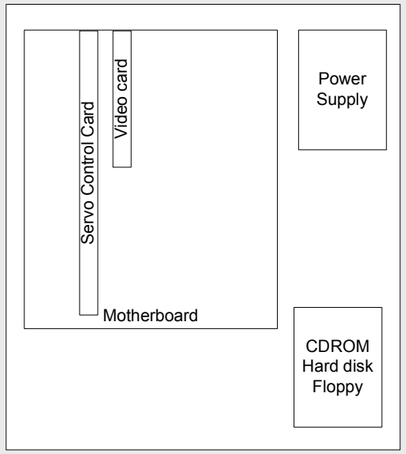
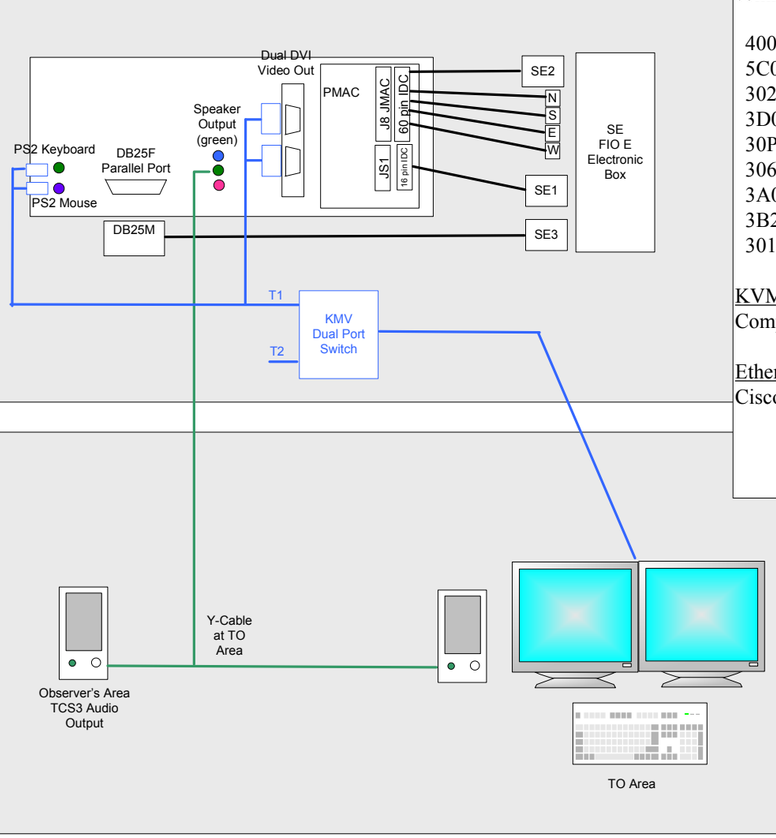


Diagram of back to computers



Description of TCS Computers: t1, t2, t3

Three identical computers are configured for the TCS3 Control System:

- T1 is the summit TCS3 computer system.
- T2 is the spare system for T1, to be located at the summit
- T1hilo is the tcs3 development/Hilo lab computer.

Computer Configuration:

C5CHASSIS (www.chassisplans.com), 4U 19" Rackmount chassis.
AUSU P4S800 SSI 648FX Motherboard.
P4/2.8C Ghz 800 FSB CPU
Geforce FX56000 AGP Video Card
1024 MB PC-3200 DDRAM
80 GB IDE Harddisk
Centos OS 4.x operating system.
Floppy drive, DVD-ROM drive.
420 Watt ATX power supply.

Servo Controller Card

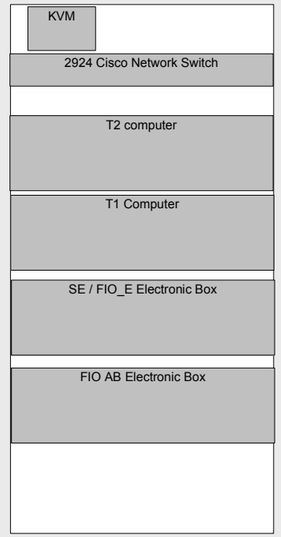
The PMAC from Delta Tau Data System will perform the servo PID loop. This is a commercial PCI-based servo controller board. The PMAC configuration is:

400-603657-TRX - Turbo PMAC PCI Lite
5C0-0TURBO-OPT, Turbo CPU option-5C, default CPU-speed/memory config.
302-603657-OPT - On-board 8Kx16 Dual Ported RAM for PCI or USB.
3D0-602205-10x - ACC-8D, PMAC(1) 4-channel breakout board
30P-0ACC8D-OPT - OPT-P, 40 cm (16 inch) cable with 60-pin IDC connector
306-0ACC8D-OPT - OPT-6, Quad 3-channel encoder isolate board
3A0-602678-10x - ACC-28B, 2-channel A/D converter board
3B2-00028B-OPT - OPT-2B, 12-pin input terminal block
301-00028B-OPT - OPT-1, Additional on board 2-channels A/D converter

KVM Switch (at summit)
CompuCAble Dual Monitor 2-Port USB/PS2 KVM (KVM-201DUO-USB)

Ethernet switch in TCS3 Equipment Rack
Cisco 2924M-XL 24 Port 10/100 Network Switch

Diagram of TCS3 Equipment Rack in TCS Room



Notes on switching between T1 and T2 computer.

The t2 computer is a spare to the T1 computers. The OS is kept a the same revision as t1. It has a PMAC control and cable enable it to be connect to the SE/FIO_E Electronic box. To switch over, follow these steps.

Power Down SE/FIO_E, and the T1,T2 Computers.
Disconnect the cable from T1 to FIO_E (SE1, SE2, SE3, N,S,E,W Vel).
Connect the cable from T2 to FIOE. (SE1, SE2, SE3, N,S,E,W Vel).
Swap the speaker canble from t1 to t2.

Insure the /home/to directory contains the latest TCS3 software (contact the TCS3 software person). Note that T1 has a daily cron job to rsync /home/to to irtfnas1:/home/to. Otherwise you can rebuilt the TCS3 software from source.

Rename the host T2 to T1. This insures network communications to the TCS will not break using to the change in computers. File to change went rename a centos 4 system:
vi /etc/sysconfig/network (change hostname)
vi /etc/sysconfig/network-scripts/ifcfg-eth0 (change ip, etc)
vi /etc/hosts (check naming)

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IRTF Network

IRTF Layer 0 Network Switch

TO Area

TCS Room

In the Dome

DEC APE embedded CPU
Hostname is t3apedec

HA APE embedded CPU
Hostname is t3apeha

2924 Cisco Network Switch

FIO CD Electronic Box
Opto22 FIOC hostname is t3fioc
Opto22 FIOD hostname is t3fiod

T2 computer
Hostname is T2

T1 Computer
Hostname is T1

SE / FIO_E Electronic Box
Opto22 FIOE hostname is t3fioe

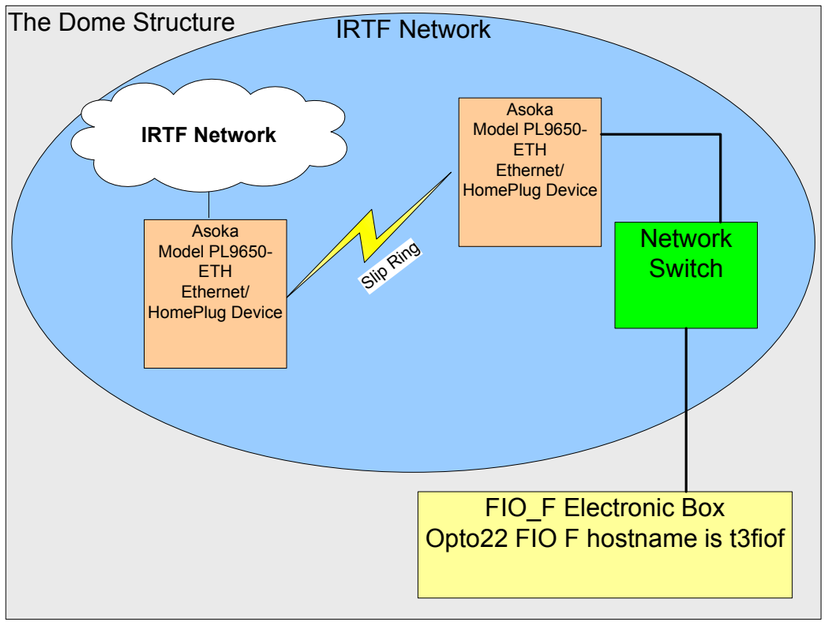
FIO AB Electronic Box
Opto22 FIOA hostname is t3fioa
Opto22 FIOB hostname is t3fiob

Spare APE
normally kept
off-line

Spare APE embedded CPU
Hostname is t3apespare

TCS3 Network Topology

The Dome Structure



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