

TEES 2020 Model 2070E and 2070M

The TEES 2020 includes Erratas No. 1, 2, 3 and 4 which make changes to the Model 2070E on the Model 2070-1E CPU board. The changes on the Model 2070-1E CPU board are done to address cybersecurity requirements per Department of Homeland Security (DHS). The spec also creates a Model 2070M Controller.

1.0 Hardware

1.1 Intergraded Network Switch

The Model 2070-1E has an intergraded Stored-and-Forward 5-port Network Switch which allows the controller to work in a 100BaseT Network. The switch also guarantees half duplex network communications between CPU and the network switch and gives the controller the benefits of layer 3 network switching.

The Model 2070-1E provides two RJ-45 Jacks on the Faceplate and network communications access via the Model 2070 Backplane Motherboard.

1.2 Support for 3.3 Volt Datakeys

Model 2070-1E works with Off-the-Shelf 3.3 VDC keys from Datakey and reads all keys up to 32 Mbits in size.

1.3 C50J Jack in the Front Panel

Users can use Standard Cat 5 Patch Cords to communicate via the console port.

1.4 Serial Port 8 LED Indicators

Provides Serial Port 8 LED Indicators for Tx an Rx on the Model 2070-1E Face Plate. This LED will allow the user to see the traffic between the CPU and the 5-Port Network Switch.

1.5 Serial Port 3 LED Indicators

Provides Serial Port 3 and 5 LED Indicators for Tx an Rx on the Field I/O Face Plate.

1.6 DRAM, FLASH and SRAM Memory

The Model 2070-1E contains a minimum of 32 Mbytes of DRAM, 8 Mbytes of FLAH and 512 Bytes of SRAM memory.

2.1 Model 2070-1M CPU Board

TEES 2020 creates a Model 2070M controller consisting of a Model 2070-1M CPU Board meeting all the hardware requirements of the Model 2070-1C CPU. This Model 2070-1M CPU will be running OS-9 instead of Linux. The Model 2070-1M CPU Board will provide the mechanism for all current applications to easily migrate to a more

powerful and newer hardware.

2.0 **Software**

2.2 **Standardized Ver Module**

Provides a "ver" utility that consists of loadable module named "bootid". The "bootid" contains the controller identification including the TEES Version, Vendor Name and Image Built Date and can be read via the "ver" utility. The same information can be read programmable via a user program.

2.3 **Enhanced netcfg**

The Model 2070-1E contains an improved version of the original "netcfg" utility which allows a user to permanently set the network parameters at the command line and read and display the MAC Address.

Example:

```
netcfg -n -a 10.160.209.99 -m 255.255.255.0 -g 10.160.209.254
```

Sets the controller with the following permanent parameters:

```
IP Address: 10.160.209.99  
Netmask: 255.255.255.0  
Gateway: 10.160.209.254
```

Netcfg displays the MAC Address in addition to the above Network Parameters.

```
netcfg -r
```

```
IP Address: 10.160.209.99  
Netmask: 255.255.255.0  
Gateway: 10.160.209.254  
MAC Address: 00.50.C2.81.60.37
```

Note: The "netcfg" utility now works similarly to the Linux "ifconfig" command.

2.4 **Datakey Drivers**

The Datakey Drivers allows user to read up to 32 Mbits Datakeys.

2.5 **Standardized Serial Port Initial Parameters**

All serial ports initial parameters are set to default values.

2.6 **Multiple DRAM Drives and sizes**

The Model 2070-1E CPU allocates the following DRAM Drives:

2 Mbytes Drive (/r2), 4 Mbytes Drive (/r4) and an

8 Mbytes Drive (/r8).

2.7 **Encryption and utilities**

The Model 2070-1E contains encryption capabilities including SSL Version 1.1.1h libraries and the OpenSSH Suite.

2.8 **Includes SSH and SFTP**

The Telnet and FTP utilities have been completely removed from the controller and replaces with SSH and SFTP.

2.9 **OS-9 for PowerPC**

The Model 2070-1M CPU Board contains OS-9 Operating Systems for PowerPC including all the functionality of the 2070-1E and 1C including drivers for USB 2.0 and the standard SD Memory Card.