Cromemco Software Update Service Note Z80 Cromix-8

Date: February 21, 1984

Product: Cromix-L and Cromix-S

Release: 9

Date production of this version began: Feb. 21, 1984 on 8"
Feb. 21, 1984 on 5"

First serial number with this version: 9-10000 on 8"
9-10000 on 5"

SUMMARY

Version 11.24 of the Z80 Cromix® Operating System is now available.

This SUDS note describes the following: 1) changes to the Cromix release-disk configuration (how the operating system is supplied on disk); 2) changes to the Cromix Operating System and utilities; and 3) the new Octart driver, which is now supplied with the Cromix system.

CROMIX RELEASE-DISK CONFIGURATION

Cromix-L (8") and Cromix-S (5-1/4") Disks

The Cromix release disks are no longer supplied with a version of the operating system to run with IOP/Quadart terminals (**cromix.iop.sys**). IOP/Quadart users who wish to boot their systems from the new release disks can use this procedure:

1. Attach a terminal to the 16FDC or 64FDC.
2. Update to primary storage media (for Cromix-S users, this is a new procedure, described in the next section).
3. Boot onto primary storage media (hard disk).
4. Run Crogen to generate a new, properly configured Cromix Operating System.
5. Reboot, with the system hardware in its original set-up.

The **/dev/iop** directory has been deleted from all Cromix release disks. The files from this directory have been renamed and moved to the **/etc** directory.

File Name in /dev/iop	File Name in /etc
ioprun.bin	**ioload.bin**
cromix.iop	**quadart.iop**

A new file, **octart.iop**, has been added to the **/etc** directory to support Octart system configurations.

Cromix-S (5-1/4") Disks

Release disk 2 (the second 5-1/4" disk) can no longer be used to boot the system. As a result, the procedure for updating the hard disk (or other primary storage media) has changed.

The Update command file on disk 2 has been removed. Disk 1 now contains two Update command files -- **update1.cmd** and **update2.cmd**. Update1 transfers the contents of disk 1 to the hard disk -- Update2 transfers the contents of disk 2 to the hard disk.

To transfer the contents of release disk 1 to the hard disk, boot the system from disk 1. Then log in as a privileged user, and enter the command:

```
# update1 [drive]
```

where **drive** is the destination drive (for example, **hd0**).

After transferring the files from disk 1, you will then use Update2 to transfer the files from release disk 2.

First, boot onto the updated disk, and insert disk 2 into a disk drive. Then, as a privileged user, enter the command:

```
# update2 [drive]
```

where **drive** is the source drive (**sfda**, **sfdb**, **sfdc**, or **sfdd**).

Note: As with previous versions of Update, the argument to Update1 is the destination drive. For Update2, it is the source drive (the floppy disk drive containing release disk 2).

CROMIX OPERATING SYSTEM AND UTILITIES

Cromix Operating System

Cromix has been upgraded to recognize version 01.01 of **iolib.rel**.

Cromix no longer begins executing the **startup.cmd** file before the **iostartup.cmd** file has finished executing.

A process waiting on pipe read can now be aborted, thus avoiding interlock problems.

CDOS Simulator

Mode handling in Sim (the CDOS simulator) has been reorganized to correct problems encountered with certain programs (for example, WordStar®).

C-Net

The command file that starts the network (**net.cmd**) must be changed to reflect the fact that file **ioprun.bin** has been renamed **ioload.bin** and moved to the **/etc** directory.

Cptree Utility

Device files are now displayed properly when copied by the Cptree utility.

Screen Program-Entry Editor

The Screen Program-Entry Editor now sets the Cromix error-return flag correctly.

Iolib

The file **iolib.rel** now includes an internal version number. This version number is used by the Cromix Operating System -- it cannot be displayed by the Version utility.

WordStar is a registered trademark of Micropro International Corporation.

KNOWN PROBLEMS

If you are using a typewriter printer, reloading paper (after running out) does not restart the printer. To resume printing, enter the following command:

```
% mode device-name
```

THE OCTART DRIVER

Background

The Octart board reduces the overhead associated with character processing by utilizing distributed processing techniques. This reduces the burden on the central processing unit (Cromemco ZPU or DPU board), which, in turn, can increase processor throughput.

Connecting Terminals with the Octart

Terminals may be connected to a Cromemco computer running under the Cromix Operating System by using Octart boards. This section covers hardware installation of the Octart boards.

Hardware Set-up

The Cromix Operating System will accommodate up to four Octarts. Eight terminals can be connected to each Octart, for a theoretical total of 32 terminals.

Octarts and IOP/Quadarts can be installed in the same machine. (One Octart is equivalent to one IOP and two Quadarts.)

To simplify installation, each Octart has been assigned a number (Octart 1 through 4). These numbers are used to refer to the corresponding Octart for each qtty terminal.

Octart Switch Settings

Switch 7 (address selection switch) on the Octart should be set as follows:

IOP Number	Base Address	Terminals Supported
Octart(1)	CEh	qtty1 - qtty8
Octart(2)	BEh	qtty17 - qtty24
Octart(3)	AEh	qtty33 - qtty40
Octart(4)	9Eh	qtty49 - qtty56

Note: If you're using IOP/Quadarts and Octarts in the same system, the base addresses of the IOP/Quadarts and Octarts must be distinct.

Refer to the section "Device Definitions" for major and minor device numbers.

Octart Priority

Each Octart must be connected in the priority interrupt chain. It is suggested that the Octarts be connected after the 16FDC/64FDC and before the PRI (16FDC or 64FDC priority out connected to priority in on Octart, Octart priority out connected to priority in on PRI).

Software

/etc/quadart.iop Formerly **cromix.iop**. This program is loaded into the IOP/Quadart I/O processor. It is responsible for controlling up to four Quadarts (16 channels).

/etc/octart.iop This program is loaded into the Octart I/O processor. It contains the drivers for Octart's eight serial channels. It is responsible for communication between Cromix and those channels.

/etc/ioload.bin This program loads the software (**octart.iop** or **quadart.iop**) into the appropriate I/O processor.

/etc/oct_reset.bin This program resets the Octart, preparing it for reloading.

Examples

```
/etc/ioload octart.iop io1
/etc/ioload quadart.iop io2
```

The first command loads the **octart.iop** program into the Octart I/O processor addressed at port CEh. The second command loads the **quadart.iop** program into the IOP/Quadart I/O processor addressed at port BEh.

Device Definitions

Device Name	Octart	Base Port	Device Number Major : Minor
qtty1	Octart(1)	CEh	2:0
qtty2	Octart(1)	CEh	2:1
qtty3	Octart(1)	CEh	2:2
qtty4	Octart(1)	CEh	2:3
qtty5	Octart(1)	CEh	2:4
qtt61	Octart(1)	CEh	2:5
qtty7	Octart(1)	CEh	2:6
qtty8	Octart(1)	CEh	2:7
qtty17	Octart(2)	BEh	2:16
qtty18	Octart(2)	BEh	2:17
qtty19	Octart(2)	BEh	2:18
qtty20	Octart(2)	BEh	2:19
qtty21	Octart(2)	BEh	2:20
qtty22	Octart(2)	BEh	2:21
qtty23	Octart(2)	BEh	2:22
qtty24	Octart(2)	BEh	2:23
qtty33	Octart(3)	AEh	2:32
qtty34	Octart(3)	AEh	2:33
qtty35	Octart(3)	AEh	2:34
qtty36	Octart(3)	AEh	2:35
qtty37	Octart(3)	AEh	2:36
qtty38	Octart(3)	AEh	2:37
qtty39	Octart(3)	AEh	2:38
qtty40	Octart(3)	AEh	2:39
qtty49	Octart(4)	9Eh	2:48
qtty50	Octart(4)	9Eh	2:49
qtty51	Octart(4)	9Eh	2:50
qtty52	Octart(4)	9Eh	2:51
qtty53	Octart(4)	9Eh	2:52
qtty54	Octart(4)	9Eh	2:53
qtty55	Octart(4)	9Eh	2:54
qtty56	Octart(4)	9Eh	2:55

VERSION SUMMARY

Cromix-L (8") Disks

Files in /		
cromix.sys	11.24	-new-
Files in /bin		
access.bin	00.06	
backup.bin	00.08	
blink.bin	00.14	
boot.bin	00.02	
ccall.bin	00.07	
cdoscopy.bin	00.15	
cdosfix.bin	00.01	
chowner.bin	00.06	
cmpasc.bin	00.05	
compare.bin	00.07	
copy.bin	00.11	
cptree.bin	00.09	-new-
day.bin	01.02	
dcheck.bin	00.12	
ddump.bin	02.02	
deltree.bin	00.03	
dump.bin	00.10	
echo.bin	00.05	
ed.bin	01.46	
find.bin	00.07	
flush.bin	00.01	
free.bin	00.09	
group.bin	00.01	
h.bin	00.04	
help.bin	00.04	
icheck.bin	00.15	
idump.bin	00.06	
init.com	02.82	
input.bin	01.00	
l.bin	00.11	
ls.bin	00.01	
mail.bin	02.02	
makdev.bin	00.07	
makfs.bin	00.13	
maklink.bin	00.04	
match.bin	00.03	
mode.bin	01.15	
mount.bin	00.14	
move.bin	00.10	
msg.bin	00.08	
ncheck.bin	00.09	
passwd.bin	00.09	
patch.bin	00.03	
priv.bin	00.07	
restore.bin	00.05	
rfile.bin	00.07	

root.bin	00.02	
screen.bin	01.46	-new-
sfile.bin	00.07	
sim.bin	02.67	-new-
sort.bin	00.06	
spool.bin	00.12	
tee.bin	01.03	
testinp.bin	01.01	
time.bin	00.07	
unmount.bin	00.11	
usage.bin	00.06	
version.bin	00.10	
wboot.bin	00.09	
who.bin	00.06	

Files in **/etc**

fdboot	00.11	
hdboot	00.05	
ioload.bin	03.01	
login.bin	00.02	
octart.iop	11.18	-new-
oct_reset.bin	01.00	-new-
quadart.iop	11.21	
sfdboot	00.11	

Files in **/gen**

crogen.bin	00.23	-new-
crolib.rel		
default.bin	00.02	
iolib.rel		-new-

Cromix-S (5-1/4") DISK

Disk 1:

Files in /

cromix.sys	11.24	-new-

Files in **/bin**

access.bin	00.06	
backup.bin	00.08	
blink.bin	00.14	
boot.bin	00.02	
ccall.bin	00.07	
cdoscopy.bin	00.15	
chowner.bin	00.06	
cmpasc.bin	00.05	
compare.bin	00.07	
copy.bin	00.11	
cptree.bin	00.09	-new-
day.bin	01.02	
dcheck.bin	00.12	
ddump.bin	02.02	

deltree.bin	00.03	
dump.bin	00.10	
echo.bin	00.05	
ed.bin	01.46	-new-
find.bin	00.07	
flush.bin	00.01	
free.bin	00.09	
group.bin	00.01	
h.bin	00.04	
help.bin	00.04	
icheck.bin	00.15	
idump.bin	00.06	
init.com	02.82	
input.bin	01.00	
l.bin	00.11	
mail.bin	02.02	
makdev.bin	00.07	
makfs.bin	00.14	
maklink.bin	00.04	
match.bin	00.03	
mode.bin	01.15	
mount.bin	00.14	
move.bin	00.10	
msg.bin	00.08	
ncheck.bin	00.09	
passwd.bin	00.09	
patch.bin	00.03	
priv.bin	00.07	
restore.bin	00.05	
rfile.bin	00.07	
root.bin	00.02	
screen.bin	01.46	-new-
sim.bin	02.67	-new-
sort.bin	00.06	
spool.bin	00.12	
tee.bin	01.03	
testinp.bin	01.01	
time.bin	00.07	
unmount.bin	00.11	
usage.bin	00.06	
version.bin	00.10	
wboot.bin	00.09	
who.bin	00.06	

Files in **/etc**

fdboot	00.11	
hdboot	00.05	
login.bin	00.02	
sfdboot	00.11	-new-

Files in **/gen**

crogen.bin	00.23	-new-
crolib.rel		
default.bin	00.02	
iolib.rel		-new-

Disk 2:

Files in **/etc**

ioload.bin	03.01	-new-
octart.iop	11.18	-new-
oct_reset.bin	01.00	-new-
quadart.iop	11.21	-new-