

026/00040 10:27 02/27 HERK
<CJC140:REDLT,LISVC,MEND>

TX NO 140

TO:

Local cc:

M Abrahams	R Havlick	C McNutt	J Bogdan
D Baum	E Heston	E. Miguel	D Calderara
R Bruer	T Hoy	G Orłowski	D Carver
R Burton	B Hull	A Powers	D Corts
T Carson	A Jager	C Sheldon	B Daley
C Cobb	B Keller	R Sundius	R Diodati
D Cowdin	D Leek	B Wicks	H Johnson
W Garrison	H Leggett	B Williams	W Maytan
R Geyer	B. Ivey	G Wipperfuerth	D Petucci
R Gutosky	C Marrone	B Wright	L Stevens
T DeLaFuente	B McNeese	B Zinsmeister	G Whittaker
			R Poland
			J Hill

TRAINING
MAR 8 1984
DOCUMENTATION

R E D L I G H T A L E R T #561

EFFECTIVITY: Fujitsu Eagle Disk Drives

PROBLEM:

The disk will not power up when the system is first received.

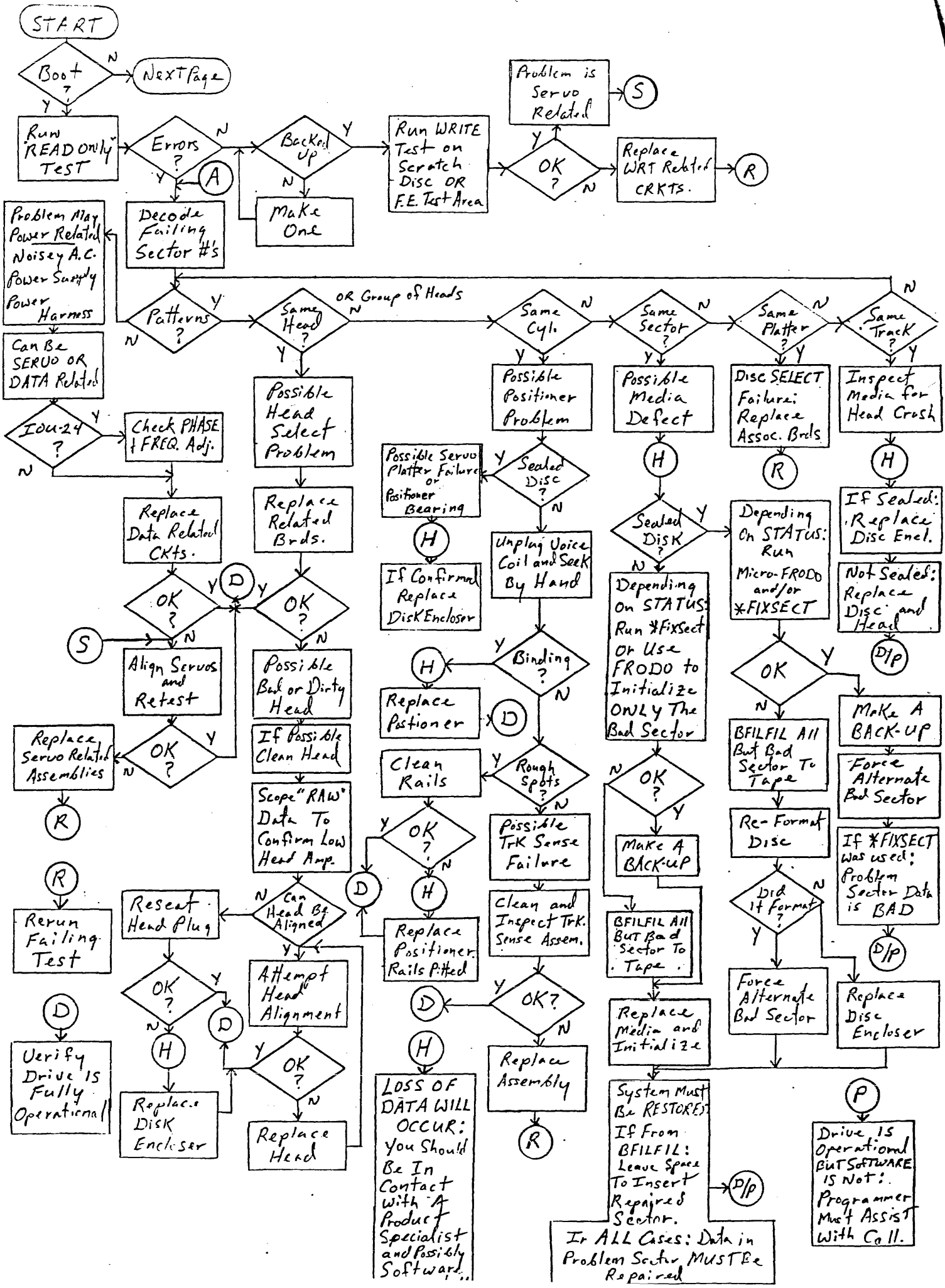
SOLUTION:

Reset connector CJN502 on the head/deck assembly. To gain access to the connector, the card cage on the left side of the disk must be lifted out. The connector is on the bottom of the HDA. Seating of this connector is apparently disturbed while the vibration damping foam block is installed or removed.

CONCLUSION:

This information will be contained in the service manual in the black book.

Ben Wright
Qantel



Disk failures generally appear to the customer as two major types:

1. System "BOOTS" but gets Disk Errors.
2. System "Can't Boot".

These two major categories are your first "half-split".

DRIVE "BOOTS" BUT GETS ERRORS

A drive that boots will provide many more clues to aid repair than one that doesn't. The ability to use the Operating System as a tool is a definite advantage.

Drives that can be booted are not necessarily easier to repair, but require much less discussion HERE since the "CAN BOOT FLOWCHART" covers the wide range of possibilities much better. Refer to the flowchart for a logical approach to diagnosing this type of failure.

CAN'T BOOT

A system that "can't boot" is a whole new ball game. A major disadvantage is, in the case of most Dynex systems, you don't have any way to load test programs. Also a customer may not have a good Backup. In these cases, You must rely on Macro Programs to help diagnose the failure. Listed below are a few Macro Programs that can be adapted to suite your particular situation.

Refer to the "CAN'T BOOT FLOWCHART". Many of the boxes require macro programs. These listed are only one of many ways the tasks may be accomplished. The Flowchart is a series of "half-splits" that attempts to isolate the problem into one of FOUR MAJOR CATEGORIES: POWER, SELECT, SERVO, or READ/WRITE.

ACCESS OTHER DEVICES?

Is the problem in the disk subsystem OR is it somewhere else? (CPU, Memory, CRT, Power, or another Controller hanging up the backplane).

ECHO MEMORY: 0010F2100000 0010F21000B0 0006A7 (xmit)

Enter 16 characters and xmit. The CRT screen should fill with the character entered.

If this fails, remove all controllers except for the CRT and try again. If it still fails, you have eliminated the Disk AND 3/4 of the System.

The above test is a very basic test but is a good starting point. The next step may be attempting to boot the Tape Drive (if there is one). If you can boot the tape, your problem IS most likely the Disk Subsystem.

READ STATUS ZERO

RS0: 4d009D 0001F30017B0 0000A8 (xmit)

An IOU-24 should return "74" (immediatly following IPL).

An IOU-32 or 42 should return "04".

Status' F4, E4, 94, or 84 indicate serious failures. Follow the "READY" branch to NO. If status is good, follow YES branch.

WILL IT SEEK

SEEK & FILL: 000680 0000A8 xd3x3x3x3x3x (xmit)

Choose a LARGE seek address and execute with the drive covers off. Watch for the positioner movement.

If the drive can seek and it is possible to change Packs, mount your ATP pack and attempt to boot it. If it boots, it is very possible that the drive is OK but Sector 0 data is blown. The Operating System may need a new LOADER. This is accomplished by running *LDLD (BEST Utility). DO NOT use the loader program on your ATP pack. ATP's are an incompatible language.

CAN IT READ

ALTERNATE SEEKS, READ, & REPORT STATUS:

0020A7 <Q0020> (cr)

006080 0300F210000d 4d009D 0001F30017B0 0040A7 <Q0040> (cr)

008080 0300F220000d 4d009D 0001F30017B0 0020A7 <Q0060> (cr)

xd3x3x3x3x3x <Q0080> (cr)

xd3x3x3x3x3x (xmit)

Good status is "04". "74" Status indicates a failure to Read properly. However, the problem may still be in the SERVO ckts. (heads not positioned directly over data track).

The problem may also be Head 0 is bad or needs alignment. The above program should be run on Head 0 first, then try it again using different heads. If other heads return "74" status, the next step is to half-split between SERVO & R/W.

Insert "INHIBIT TRACK VERIFY" Write Controls in front of EACH seek & fill instruction. Ex. 1d019D 006080 etc.. The status returned now will be different. An "04" status indicates the drive is on the wrong track (check servo ckts.). A "24", "34", or "54", status points at the data ckts.. Be aware, however, there is a gray area where a poorly adjusted SERVO can make the DATA ckts. APPEAR bad.

MISC. ROUTINES

These may used anytime you want to check the WRITE capabilities of a drive. CAUTION: BE CAREFUL WHERE YOU WRITE!! On sealed media disks, use the F.E. TEST AREA. On Dynex' use a sector number greater than 8000. This way will not destroy customer data.

It is highly recommended that the WRITE FAULT test point be monitored as this program executes.

SEEK & WRITE

0020A7 (Q0020)

0006F3100000 004080 0006F21000Bd 0020A8 (Q0040) (cr)

xd3x3x3x3x3x (xmit) Clear screen and enter six bytes of data (xmit)

** To loop on WRITE, substitute 0029A7 for 0020A8.

SEEK & READ

To verify the data just written, the following program will dump what you just wrote back to the CRT.

```
0020A7 <Q0020> (cr)
004080 0006F220000d 0006F32000B0 0020A8 <Q0040> (cr)
xd3x3x3x3x3x (xmit)
```

EMS MESSAGE NUMBER 156

026/00053 15:24 03/12 HERK
<CJC133:REDLT,LISVC,MEND>

TX NO 133

TO:

Local cc:

M Abrahams	R Havlicek	C McNutt	J Bogdan
D Baum	E Heston	E. Miguel	D Calderara
R Bruer	T Hoy	G Orłowski	D Carver
R Burton	B Hull	A Powers	D Corts
T Carson	A Jager	C Sheldon	B Daley
C Cobb	B. Keller	R Sundius	R Diodati
D. Cowdin	D Leek	A. Rodman	H Johnson
W Garrison	H Leggett	B Williams	W Maytan
R Geyer	B. Ivey	G Wipperfuert	D Petucci
R Gutosky	C Marrone	B Wright	L Stevens
T DeLaFuente	B McNeese	B Zinsmeister	G Whittaker
		R. Biegun	R Poland
			J Hill

R E D L I G H T A L E R T #564

EFFECTIVITY: SYSTEM 64 +5V POWER SUPPLIES

PROBLEM:

Please be advised that we have two different versions of the S/64 5VDC/150 AMP power supply (042646501) which could cause sparing problems for the field. They are designated, but may not be marked Rev 2 and Rev A. Rev 2 supplies must have an adapter cable (042681201), but Rev A does not need one.

SOLUTION:

Attach a warning label to all Rev. 2 supplies

CONCLUSIONS:

To determine if a supply needs the adapter, turn off the main power switch and measure the resistance between pin 4 of the Molex connector and ground. It should measure 90 to 110 ohms if adapter is NOT needed (Rev A supply). With power on, shorting Pin 6 to ground should cause the supply to shut down. Without the adapter (042681201), Rev. 2 supplies will measure 90 to 100 ohms at Pin 2, and Pin 3 grounded will shut it down.

NEVER separate the adapter cable from a Rev. 2 system 64 +5V supply. Order warning labels from Technical Support in Hayward, (415) 887-7777, Ext. 3702 whenever you find a Rev. 2 supply without a warning label.

CONNECTOR CONFIGURATION LIST

-
1. Pre-release Revision level 2 has the control outputs provided via 6-pin MOLEX connector with pin-outs of:

PIN #	FUNCTION	COMMENT
-----	-----	-----
1	+ SENSE	
2	- SENSE	
3	ON/OFF	NOT USED
4	POWER FAIL	- -
5	HI-MARGIN	NOT USED
6	LOW-MARGIN	NOT USED

2. Production Release Level A has the pin-out of:

PIN #	FUNCTION	COMMENT
-----	-----	-----
1	+ SENSE	-----
2	HI-MARGIN	NOT USED
3	LOW-MARGIN	NOT USED
4	- SENSE	-----
5	POWER FAIL	-----
6	INHIBIT	NOT USED

This information will be included in a CSB.

George Steffner
Qantel

EMS MESSAGE NUMBER 268

008/00016 11:26 03/26 HERK
<CJC102:REDLT,LISVC,MEND>

TX NO 102

TO:

Local cc:

M Abrahams	R Havlicek	C McNutt	J Bogdan
D Baum	E Heston	E. Miguel	D Calderara
R Bruer	T Hoy	G Orlovski	D Carver
R Burton	B Hull	A Powers	D Corts
T Carson	A Jager	C Sheldon	B Daley
C Cobb	B. Keller	R Sundius	R Diodati
D. Cowdin	D Leek	A. Rodman	H Johnson
W Garrison	H Leggett	B Williams	W Maytan
R Geyer	B. Ivey	G Wipperfuerth	D Petucci
R Gutosky	C Marrone	D. Crandall	L Stevens
T DeLaFuente	B McNeese	B Zinsmeister	G Whittaker
	T. Elder	R. Biegun	R Poland
			J Hill

R E D L I G H T A L E R T #566

EFFECTIVITY: All Qantel System 64's

PROBLEM:

A load base list fault will not be detected by 64 ALU firmware below Revision C. Distortion of memory data, and consequently disk files, can result if the fault occurs.

SOLUTION:

Replace processor firmware in the ALU board as soon as possible.

PARTS:

System 64 ALU PROM Set, PN 042716901

SPECIAL CONSIDERATIONS:

Each ALU board's serial number must be supplied when the PROM's are ordered. Factory effectivity of this revision begins 3/25/84. This will be followed up by a CSB.

George Steffner
Qantel Tech Support

EMS MESSAGE NUMBER 197

013/00012 16:20 04/02 EAST
<CJC221:REDLT,LISVC,MEND>

TX NO 221 April 2, 1984

TO:

Local cc:

M Abrahams	R Havlicek	C McNutt	J Bogdan
D Baum	E Heston	E. Miguel	D Calderara
R Bruer	T Hoy	G Orlovski	D Carver
R Burton	B Hull	A Powers	D Corts
T Carson	A Jager	C Sheldon	B Daley
C Cobb	B. Keller	R Sundius	R Diodati
D. Cowdin	D Leek	A. Rodman	H Johnson
W Garrison	H Leggett	B Williams	W Maytan
R Geyer	B. Ivey	G Wipperfuert	D Petucci
R Gutosky	C Marrone	D. Crandall	L Stevens
T DeLaFuente	B McNeese	B Zinsmeister	G Whittaker
	T. Elder	R. Biegun	R Poland
			J Hill

R E D L I G H T A L E R T #568

EFFECTIVITY: Qantel System 64

PROBLEM:

Mandatory board revision levels are not published for the field.

SOLUTION: A revision list is provided in this RLA.

SPECIAL CIRCUMSTANCES:

The following is the current revision levels for the System 64 Processor Boards. If any new units arrive with boards below these revisions, please contact TFO in Cherry Hill, New Jersey, or Technical Support in Hayward, California.

This list will be updated as necessary.

Q64 Revision Levels as of 3/15/84

Board	Latest Rev	Necessary	PROMS
ALU	D	C	C
ALU-R	A	A	C
AUX	J	E	A
MAD	D	C	A
MAD-R	A	A	A
MDA	H	H	C
MDA-R	B	B	A
MEM 64 A	C	B	A
MEM 64 B	A	A	

R E D L I G H T A L E R T #567

EFFECTIVITY: Qantel IOU39Q CRT Controller

PROBLEM:

An excessive time out delay on the IOU39Q CRT controller addressed "0" can cause too much delay during a streaming backup. Data transmission to the streaming tape drive, on he System 64, will be stalled. The tape drive will then ramp down out of streaming mode.

SOLUTION:

The standard time out delay for the IOU39Q is fifteen mili-seconds. Do not extend the delay for the IOU39Q addressed "0". Extended delays should only be necessary for remote communications over modems.

SPECIAL CONSIDERATIONS:

It has been reported that some error 30's and string hang problems were relieved by increasing the IOU39Q time out delay. That delay can slow operation of the system as well as interfere with streaming backup.

CONCLUSION:

All non-remote operating IOU39Q CRT controllers should have minimum

time out delay (15 mili-seconds). If failures occur at that setting, please notify Product Support in Hayward, CA and TFO by WINC.

George Steffner
Qantel Tech Support