



Navy Cash Training

Disbursing Unit 6: Maintenance Procedures

Objectives

- Demonstrate preventive maintenance and troubleshooting procedures
- Describe how to replace damaged or lost components
- Explain various software maintenance procedures
- Explain procedures used to resolve system casualties

Preventive Maintenance and Troubleshooting Procedures

Preventative Maintenance

■ Daily:

- Check the *Cluster Administrator*
 - » *Node 1* still in control? An auto change of Nodes indicates possible failure of a component or a software service
 - » Check that all resources are *online* and on same Node
- Perform Server tape backups
 - » Backups free system data storage
 - » Continuous failed backups will cause system errors and ultimately crash it (in weeks)
 - » Check *Veritas* Logs to confirm backups were completed

Preventive Maintenance (cont)

- Weekly:
 - Check that disk drives have >1GB free space
 - Check server airflow (paper test)
 - Wipe down all unit screens
 - Use card reader cleaner in the K22, K80 and CADs
 - Update laptop/workstation to current IAVA (antivirus)
- Bi-Weekly: Power server down/up
- Monthly:
 - Open up K80s and blow out dust (include the card reader)
 - Blow out dust around the routers
 - Clean the tape backup drive

Preventive Maintenance (cont)

- Every 18 months:
 - Replace the lithium battery inside the K22*:
 - » Open back of K22 by pressing and lifting off the lid positioned on the back of the terminal
 - » Remove three “AA” batteries if installed
 - » Push on lithium battery and release (battery will pop out)
 - » Press new lithium battery into place, “+” symbol facing up
 - » Replace the “AA” batteries and the back panel cover

***Caution: Prior to removing the lithium battery, check that the device holds no transactions still pending transfer ‘!’**

Troubleshooting NC Equipment

Prior to anyone performing any maintenance or repair for their first time, they should:

- Review the applicable video and
- Navy Cash Troubleshooting Guide

See Navy Cash supporting documentation on ship's Intranet or L3 Resource disk [in Disbursing] and/or <http://fms.treas.gov/navycash/maintenance.html>

Troubleshooting K80

- K80s run “Built-In-Test” (BIT) on startup. If a problem occurs, an error code (top of screen) and an error msg (bottom of screen) will display
- Error messages are detailed in the SOP, Ch. 2
- Most problems involve either jammed card, bad “Security Access Module” (SAMs), or ship’s LAN



K80 Jammed Cards

- To remove jammed cards:
 - Open unit (w/ key)
 - Turn off K80 with black on/off switch
 - Turn off main power with the red switch
 - Unplug the power cord from power supply
 - Remove the card reader and back cover plate
 - locate the dial and dial the card out
- In severe cases you may need to use a pair of needle nose pliers to remove the card
- When reinstalling the card reader, take care to align with cover slot so cards slip in/out easily



Clean/Replace K80 SAMs

- Each point of sale device in NC has a SAM
 - SAM stands for Security Access Module
- If K80 is rejecting cards, but all else seems normal, clean the card reader
- If problem persists
 - Clean the SAM, or
 - Replace the SAM

Clean/Replace K80 SAMs (cont)

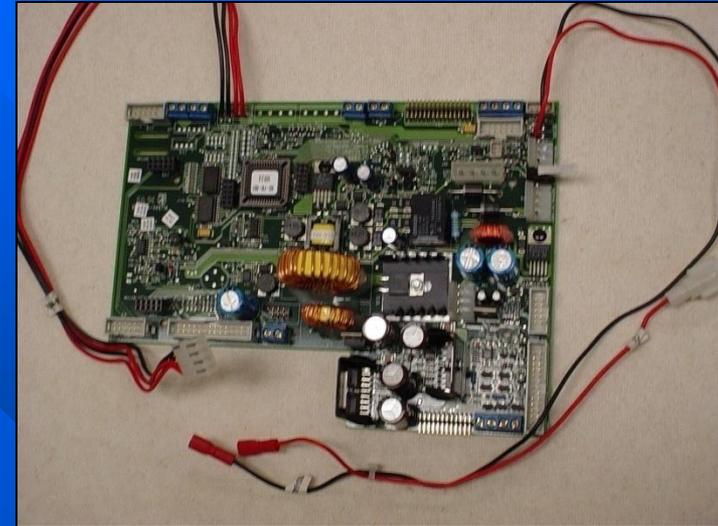
- Tools required to clean/replace the K80 SAM:
 - Phillips head screwdriver
 - Needle nose pliers
 - K80 key (from Disbursing Officer or deputy)
 - Navy Cash card
 - Replacement Secure Access Module (SAM)
 - (Maintenance video)

*Caution: **Before** touching Motherboard, remove static from your body by ...*

Clean/Replace K80 SAMs (cont)

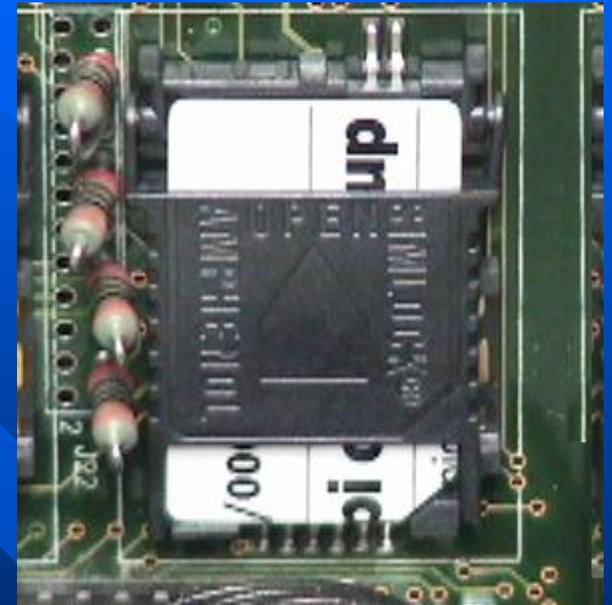
- Turn off K80 using black switch
- Turn off main power w/ red switch
- Unplug power cord from power supply

- Locate the motherboard
 - Unplug the 13 wires and cables that attach to the motherboard, noting each location



Clean/Replace K80 SAMs (cont)

- Using the Phillips screwdriver and needle nose pliers, unscrew and retain the **four screws and washers**
- Touching only the green sides, carefully remove the motherboard from the K80
- Once the motherboard is removed, look into the opening below it and locate the SAM holder



Clean/Replace K80 SAMs (cont)

- Use your finger to slide the SAM holder backwards where it should release and spring upwards on a hinge
- Slide the SAM out of the holder, noting its orientation in the holder (Pay attention to the notched corner)
- If cleaning, use appropriate cleaning cloth. If replacing...
- Orient and slide the new SAM into the holder, gently press down and slide holder forward to lock into place



Clean/Replace K80 SAMs (cont)

- Replace the motherboard
 - Be careful not to lose any of the screws or washers
- Reattach the 13 wires and cables
- Plug the power cable back in the power supply
- Turn on main power with the red switch
- Turn on K80 with the black switch
- Test the K80: insert a Navy Cash card and perform a transaction, such as checking account balance

Troubleshooting K22s

- K22s run a built in test (BIT) on startup. If there are problems, an error message will display
- If screen is dark
 - Make sure the K22 has power
 - Make sure the *Cancel/Off* key is not stuck under the lip
 - Hold down the [OK] button for five seconds to re-initialize the K22



K22 Errors

- K22 screen reads “*CARD TIMEOUT*”
 - Pull out card and re-insert

- K22 screen reads “*CARD BLOCKED*”
 - Member entered their PIN incorrectly 3 times
 - Send member (& ID) to Disbursing to unblock PIN

K22 Errors (cont)

- K22 turns off randomly:
 - Check the power cable
 - Ensure the cable is not twisted, the plug is connected firmly to the K22 and the cover is in place
 - If problem persists, replace the cable
- Replace any faulty K22 with a new unit
 - Each ship is issued several spares



Troubleshooting CAD Errors

- If CAD will not read (good) cards:
 - Clean the card reader
- If transaction errors display and CAD does not logon:
 - Turn vending machine power off/on
- If CAD displays “*OUT OF STOCK*” when there is stock in the machine:
 - Turn vending machine power off/on
- If the previous items do not work, try these actions:
 - Clean the SAM
 - Change the SAM
 - Change out CAD

CAD Errors (cont)

- If CAD Queue has transactions that are not uploading:
 - Check online status – is the LAN up? Are routers off?
 - Check cables from CAD to router

*Note: if you change a CAD, you must use the *Disbursing Application, Vending and Ship's Store*, to assign the CAD to the proper vending machine*

Troubleshooting the Network

- If none of the Navy Cash devices are working:
 - Contact ADP (IT/ET) to find out the status of the LAN
 - Check that NCService is online in Cluster Administrator
 - » If it is not online then right click *NCService* and bring online
 - If devices are still offline then reboot the server
 - For further help on server problems, refer to the laminated sheet attached to the server

- If these actions do not resolve the issue then contact the *Navy Cash Call Center*

Navy Cash Call Center

- When onsite troubleshooting cannot remedy the issue, contact the Navy Cash Call Center. Prior to contact, have available:
 - Completed *Trouble Call Worksheet*
 - Precise description of the problem
 - List of troubleshooting procedures that have been tried (i.e. rebooted server, switching nodes, cycling K80 or vending machines, etc.) and the results
 - Copy of config file
- The Call Center will start by issuing a case number
 - After reviewing your information, the Call Center will coordinate problem resolution (ie, phone support or tech visit)

Replacing Damaged/Lost Components

Replacing Damaged/Lost Components

- Spare components are provided with the NC installation
- Part for Part replacement policy (you return the bad part and a replacement will be sent to you)
- The Sales Officer is responsible for all CADs (including spares)
- Disbursing is responsible for all K22s (including spares)

Note: See NAVSUP ULSS for Integrated Logistics Support information: repairs, parts, fund source, item source, etc.

Replacing Damaged/Lost Components (cont)

- When a component fails, install a spare
 - For reference on how to remove/replace components, refer to your *Navy Cash Maintenance Videos*
- If the need arises but there are no working spares onboard, call the *Navy Cash Call Center*
- The Call Center will provide a case number and instructions for receiving replacements

Inventory Control

- A NC equipment *inventory* must be done every 6 months
- Regardless of the physical location of Navy Cash spares, they are accounted for as any other repair parts
- They will be added to the ship's COSAL allowance for stock under the control of the Logistics Specialist (LSs)
- Failure to maintain inventory control over Navy Cash items can result in highly visible system operation degradation/resolution

Software Maintenance Procedures

View Log

Utility Functions

[View Log](#)

[View Disk Usage](#)

[NOC Selection](#)

[Process Marine Split Pay](#)

[Provisional Split Pay](#)

[Access Editor](#)

- *View Log* provides access to current and historical records of system actions and error conditions

- It is used primarily to troubleshoot problems with the *Disbursing Application*

C:\Program Files\DispoApp\Log\DispoLog092303.log

```
.Logged: Specified Path File Logging 9/23/2003 8:12:50 AM
.Logged: C:\Program Files\DispoApp\Log\DispoLog092303.log
.Logged: 2
.Logged: .....
.Logged: Disbursing Interface started on >> 9/23/2003 8:12:50 AM
.Logged: By user >> TT DISBO (40313)
.Logged: NavyCash Disbursing Application version >> 1.3.8 connecting to DB: (ncd.demo)
.Logged: Warning: No Merchants IDs have been loaded into the database.

You will need to enter them manually when a Funds transfer is performed.
.Logged: Warning: No Merchants IDs have been loaded into the database.

You will need to enter them manually when a Funds transfer is performed.
.Logged: Warning: No Merchants IDs have been loaded into the database.

You will need to enter them manually when a Funds transfer is performed.
```

Past Logs:

C:\Program Files\DispoApp\enrollment

Search Criteria

Find Forward Find Back

Goto Line

Goto EOF Goto BOF

View Past Log View Current Log

Log Directory: C:\Program Files\DispoApp\Log

View Storage Usage

Utility Functions

[View Log](#)

[View Disk Usage](#)



- *View Storage Usage* displays current disk usage
 - Problems start to occur when there is < 1GB free space on the drives
 - If less, verify backups are occurring

Drive	Type	Total bytes	Free bytes	Available bytes
C:\	Fixed drive	20,003,848,192	9,884,524,544	9,884,524,544
D:\	CD rom	Remaining disk space unknown	9,884,524,544	9,884,524,544
M:\	Remote mapped drive	436,334,620,672	246,215,720,960	246,215,720,960
U:\	Remote mapped drive	436,334,620,672	246,215,720,960	246,215,720,960

At least 2 GB of free space is required

Software Errors

- A list of system error codes for key components is provided during installation
- Always reboot unit/system to try and clear software errors
- Any software reloading will be done with the assistance of Navy Cash technical personnel

Casualty Procedures

NC Casualty Procedures

- If off ship communications go down, the NC system can run independently for several weeks
- SPO members will be credited by using the DA *Utility Function, Provisional Split Pay Option*
- If the NC LAN or Server go down:
 - Use K22s offline (provided operator was logged on)
 - CADs will continue to work unless ships power is lost

NC Casualty Procedures (cont)

- In a worst-case scenario, go back to using cash
 - Disbursing Office still carries cash
 - The coin acceptors are still in place
- When the system comes back online, the NC server onboard ship will be updated via shore communications

Summary

- Preventive maintenance actions reduce system problems
- Use your onboard resources (Maint. Disk, guides, IT/ET) to resolve minor problems onsite
- If problems cannot be corrected, collect troubleshooting information and contact the Navy Cash Call Center
- Notify the Navy Cash Call Center if LAN upgrades or ship hardware upgrades take place or are scheduled to take place as these could impact NC operations

NC System Service Calls

- *Pre- and post-deployment Service Calls* can be requested to check the overall health of your NC system
 - Equipment will be tested and software updates, training, and/or parts provided, if required
 - Deployment related Service Call scheduling procedures are in the *NC SOP, Appendix Q*
- The ship (you) must initiate a *Service Call* request - Plan ahead (90 days)
- Don't overlook this important support service!!

Navy Cash Program Support

- The program has various levels of support:
 - Navy Cash Customer Service Center (CSC)
 - Navy Cash Call Center
 - NAVSUP FLC Fleet Support Group (FSG) / Fiscal training
 - Navy Cash Depot
 - NAVSUP Navy Cash bulletins and Naval messages
 - Refresher training
- You can contact support services through the following:
 - Navy One-Touch (Global Distance Call Service)
 - CSU 1-866-662-8922
 - CSU e-mail to navycashcenter@ezpaymt.com
 - Local NAVSUP FLC FSG representative

Navy Cash Program References

- NAVSUP P727: Navy Cash Financial System *Standard Operating Procedure (SOP)*
 - Pub Version for each NC System Version, e.g. P727 v1.12 for NC 1.4.6
 - Includes chapters for Disbursing, *Merchants* (Ship store, Messes, MWR, etc), equipment, logs and forms, appendices with supporting topic detail
- NAVSUP Navy Cash *Troubleshooting Manual*
 - TMIN XL060-A5-TTM-010
- NAVSUP Navy Cash User's *Logistics Support Summary (ULSS)*
 - TMIN XL172-AA-LSS-010
- Navy Cash *System Administrator Guide (JPMC - technical)*
- *Maintenance and Repair Videos*

Note: Support documents are found on L3 Resource Disk and at <http://fms.treas.gov/navycash/index.html>