

HAL COMMUNICATIONS CORP. 90008005.INV ST-8000A  
INVENTORY CONTROL PROCEDURE: PI900-08005 REV: A 03/23/91  
ST8000A ALL ASSEMBLIES P/N: 900-08005

ST-8000A INVENTORY CONTROL PROCEDURES - ALL ASSEMBLIES

MANUFACTURING WORK ORDER (MWO): PER ASSEMBLY

\*\*\*\*\* CAUTION \*\*\*\*\*

ST-8000A PARTS INCLUDE ELECTRO-SENSITIVE DEVICES (ESD). PARTS HANDLING MUST BE CONDUCTED AT AN APPROVED ESD WORK-STATION. PERSONNEL MUST WEAR AND USE ESD PREVENTION DEVICES.

\*\*\*\*\*

REF: INVENTORY PROCEDURES MANUAL (See Section 7; 3/17/87)  
HAL PART NUMBERING STANDARD: 870-99030 REV: A (3/06/91)  
SOURCE and SPECIFICATION CONTROL DRAWINGS (As issued)  
ALTERED ITEM DRAWINGS (As issued)

INVENTORY CONTROL PROCEDURES

STEP PROCEDURE

-----  
NOTE: The following procedures are in addition to those detailed in the INVENTORY PROCEDURES MANUAL. In case of conflict, THESE PROCEDURES HAVE PRECEDENCE. These procedures generally apply to materials for production manufacturing use and may not in all cases apply to materials delivered for R&D and other non-production use.

1.0 PARTS RECEIVING AND SCD/AID:

1.1 All components used in the ST-8000A must exactly match the requirements of the relevant SOURCE or SPECIFICATION CONTROL or ALTERED ITEM drawing (SCD or AID). This includes:

- VENDOR/MANUFACTURER
- MANUFACTURER'S PART NUMBER AND REVISION (if any)
- ELECTRICAL SPECIFICATIONS
- MECHANICAL SPECIFICATIONS
- ALL REQUIRED MILITARY SPECIFICATIONS

INVENTORY CONTROL PROCEDURES (Continued)

STEP PROCEDURE

- 
- 1.2 Any component received that is not in complete conformance with the SCD or AID cannot be added to inventory stock. Receipt of any non-conforming component must be brought to the immediate attention of the Inventory Manager and the Configuration Manager. These materials must be placed in SEGREGATED STORAGE so that they cannot be accidentally added to standard inventory stock.
- 1.3 All components received for use in the ST-8000A must exactly match the requirements listed on the original Purchase Order. In case of a discrepancy between the Purchase Order and the SCD/AID, the SCD or AID has precedence.
- 1.4 Any component received that is not in complete

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

conformance with the Purchase Order cannot be added to inventory stock. Receipt of any non-conforming component must be brought to the immediate attention of the Purchasing Agent and the Configuration Manager. These materials must be placed in SEGREGATED STORAGE so that they cannot be accidentally added to standard inventory stock.

- 1.5 Any component failing to meet SCD/AID or Purchase Order requirements and judged by the Inventory Manager, Purchasing Agent, or Configuration Manager to be unsuitable, must be returned to the supplying vendor. These materials must remain in SEGREGATED STORAGE until they are returned to the vendor. Under no condition shall these items be released from Inventory Control for use within HAL Communications without the express written consent of the Q/A Manager.
- 1.6 If the relevant SCD/AID or Purchase Order includes a Military Specification (MIL-SPEC) requirement, newly received parts must be accompanied by a signed and dated certification from the vendor or manufacturer. The certifications shall be passed immediately to the Purchasing Agent. A MIL-SPEC part not accompanied by a signed and dated certification is non-conforming. See step 1.2.

INVENTORY CONTROL PROCEDURES (Continued)

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

STEP PROCEDURE

-----

- 1.7 The SCD/AID drawing is the ULTIMATE authority for component specification. The SCD/AID replaces and supersedes any other component specification. Errors or contradictions in SCD/AID drawings must be brought to the immediate attention of the Configuration Manager.
- 1.8 Revised SCD/AID drawings shall be furnished to Inventory Control as new revisions are generated. A new revision version is effective immediately upon receipt. When new revisions of SCD and AID's are received, they must be immediately placed in the Master SCD file for Inventory Control, previous versions destroyed, and all related Inventory paper and computer records up-dated.

2.0 ESD HANDLING

- 2.1 Components that are ELECTROSTATIC SENSITIVE DEVICES (ESD) are so identified on their SCD/AID. ESD handling and storage procedures must be used on all ESD devices. ESD requirements include:
- a. Always open and handle ESD components at an approved ESD workstation.
  - b. Grounding wrist straps must be worn while handling ESD components.
  - c. ESD components from a vendor must be supplied in anti-static containers (tubes, bags, etc.).  
An ESD component not received in an anti-static container is non-conforming (see step 1.2).
  - d. All ESD components must be stored in anti-static containers.

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

- e. All ESD components delivered to production must be in an anti-static package.
- 2.2 An ESD component delivered to production but returned for re-stock requires certification by Quality Assurance that ESD procedures have not been violated while the component was outside Inventory Control. ESD components with an "unknown" ESD history shall NOT be added to Inventory Control stock.

INVENTORY CONTROL PROCEDURES (Continued)

STEP PROCEDURE

-----

3.0 PRODUCTIONS PARTS LISTS

- 3.1 A Parts List is supplied to Inventory Control for each assembly or sub-assembly to be manufactured. Parts lists are prepared, revised, and furnished by Configuration Management.
- 3.2 Inventory Control shall NOT make additions or corrections to any Parts List. Should a change be required, Inventory Control shall notify the Configuration Manager in writing and request that a revised Parts List be issued.
- 3.3 When parts lists are revised, a copy of the revised version is provided to Inventory Control. The revised parts lists IMMEDIATELY replaces all other parts lists for that assembly or sub-assembly. All previous

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

versions should be destroyed and all paper and computer records immediately up-dated in accordance with the revised parts list.

- 3.4 When pulling parts for a production assembly or sub-assembly, only the MOST RECENT VERSION of a Parts List shall be used.
- 3.5 Inventory Control shall maintain a complete set of all current parts lists. These approved lists shall be the ultimate authority for all further paper and/or computer parts records.
- 3.6 Copying Parts Lists:
  - 3.6.1 For INTERNAL USE ONLY, a parts list may be copied by Inventory Control for use as a parts check-off and/or shortage tally list.
  - 3.6.2 Inventory Control shall NOT make additional copies of parts list and furnish them to other departments of the company without express consent of the Configuration Manager. Inventory Control shall not furnish copies of any parts list to any non-HAL employee or organization.
  - 3.6.3 All Parts List copy requests should be referred to the Configuration Manager.

INVENTORY CONTROL PROCEDURES (Continued)

STEP PROCEDURE

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

-----  
4.0 PULLING PRODUCTION PARTS KITS

- 4.1 As directed by the Inventory Control Manager and Production Manager, Inventory Control shall pull parts and supply bulk quantities of parts for production assembly in accordance with the Manufacturing Work Order for that assembly.
- 4.2 As noted in Section 2.0 (ESD), all ESD components shall be handled using ESD procedures and provided in anti-static containers.
- 4.3 With few exceptions, all parts pulled for production shall be counted and supplied in the EXACT quantities required. Bulk stock shall not be supplied to production for later return to Inventory Control.
- 4.4 Exceptions to the exact count requirement (4.3) may only be granted by the Inventory Control Supervisor. In general, exceptions will be limited to bulk quantities of low-cost hardware.
- 4.5 All parts pulled for use in production assembly shall be immediately logged off of the computer inventory system and the inventory card system.
- 4.6 Parts shall be pulled in the order determined by receipt of the Manufacturing Work Order and Production scheduling. Only the Inventory Manager in cooperation with the Manufacturing Manager may change the order in which parts-kits for assembly are pulled.
- 4.6 Parts Shortages:
  - 4.6.1 If inventory stock contains insufficient parts

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

to completely fill a production requirement, all available parts shall be supplied.

- 4.6.2 The required additional quantity of each short-stock part shall be posted on a shortage list.
- 4.6.3 IMMEDIATELY upon discovery of a production parts shortage, notice shall be given to the Inventory Control Manager and Purchasing Agent.
- 4.6.4 A copy of the shortage list shall be provided with the parts when delivered to production.

INVENTORY CONTROL PROCEDURES (Continued)

STEP PROCEDURE

---

- 4.6.5 When additional parts are received, filling of shortages shall have HIGHEST PRIORITY.
- 4.6.6 In the event of shortages of the same component in multiple production assemblies, ACTIVE production assemblies have the highest priority.
- 4.6.7 Only the Inventory Control Manager, in cooperation with the Manufacturing Manager may change priority of use of components between active production assemblies.
- 4.7 Quantity Accounting of Parts Kits
  - 4.7.1 For the purposes of computer and card quantity accounting, parts pulled for production but not yet delivered (kits remain in inventory) shall be deleted from the computer and card total lists .

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*



4.7.2 Parts kits pulled but not distributed shall, however be counted weekly and the total quantity of such kits furnished to the Manufacturing Manager each Friday, noting any shortages.

## 5.0 INVENTORY CONTROL RECORDS

5.1 Inventory Control personnel shall maintain the following records:

- Complete Library of Current SCD/AID drawings.
- Log of all materials received.
- Complete Library of all Parts Lists.
- Computer Inventory List of all components stocked.
- Card listing of all components stocked.
- Small quantity sign-out log for resale parts.
- Small quantity sign-out log for parts used internally (R&D, etc.).

5.2 The computer inventory list shall at a minimum include the following data:

- a. HAL Part Number.
- b. Part Description.
- c. Total quantity currently in stock.
- d. Current per-piece cost of each component.
- e. Extended cost for each component

## INVENTORY CONTROL PROCEDURES (Continued)

### STEP PROCEDURE

-----

5.3 In addition, the computer inventory list may contain:

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

- a. Sub-assembly, assembly, and complete unit parts lists, BUT with the caveat that the paper lists provided by Configuration Management are the ultimate authority for this information.
- b. Records of Vendors, Manufacturers, and MFGR's Part Numbers , BUT with the caveat that the SCD and AID drawings are the ultimate authority for this information.
- c. Cost history data for each component.
- d. Disbursement records for each component (assembly, date, and quantity disbursed).

5.4 The card inventory list shall include the following data:

- a. HAL Part Number
- b. Description of part
- c. Vendor, date, and quantity input to inventory
- d. Assembly, date, and quantity removed from inventory.
- e. Running total of the quantity of each component remaining in inventory storage.

5.5 Maintenance of the computer records AND the card inventory records are of EQUAL AND PRIMARY IMPORTANCE. Both systems must be up-dated. The totals part quantities from one system MUST agree with those of the other.

5.6 Inventory Control personnel are also encouraged to maintain a tally card log in each parts bin that reflects the current total quantity of each component. The card should be up-dated each time parts are added or removed to the bin, including a date and initial. HOWEVER, such tally logs are only a check and do not

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

HAL COMMUNICATIONS CORP. 90008005.INV ST-8000A  
INVENTORY CONTROL PROCEDURE: PI900-08005 REV: A 03/23/91  
ST8000A ALL ASSEMBLIES P/N: 900-08005

replace the computer and card records.

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

INVENTORY CONTROL PROCEDURES (Continued)

STEP PROCEDURE  
-----

6.0 PHYSICAL INVENTORY COUNTS

- 6.1 A physical count of all inventory items shall be done twice per year. The counts shall be completed and ready for verification by June 30, and December 31 of each year.
- 6.2 The Inventory Control Manager shall spot check both semi-annual physical inventory counts. A minimum of 100 items shall be spot checked.
- 6.3 The June 30 physical inventory count shall also be checked by an independent accounting firm. The firm may sample or check 100% of the counts at their option.
- 6.4 Should an error in EITHER the computer or card inventory records be discovered in any verification, for EACH errored count:
- a. The count is re-done until two successive counts are equal.
  - b. TWO ADDITIONAL ITEMS shall also be verified by physical count for each original flawed count.
- 6.5 Should the physical check of more than 20 parts be in error, the ENTIRE PHYSICAL INVENTORY shall be recounted by Inventory Control Personnel and re-verified by the Inventory Control Manager. The

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

recount and verification shall be completed within two weeks (by July 15 or January 15). A recount shall NOT interfere with or delay on-going production.

- 6.6 Computer inventory costs shall be checked by the Purchasing Agent twice per year. All discrepancies shall be corrected within one month of the semi-annual physical count (July 31 and January 31).

INVENTORY CONTROL PROCEDURES (Continued)

STEP PROCEDURE

-----  
7.0 ACCESS TO PARTS INVENTORY

7.1 The parts inventory cage will AT ALL TIMES be locked and have limited access.

7.2 The following personnel may have unlimited access to the inventory storage area:

President of HAL Communications Corp.  
Inventory Control Manager / Supervisor  
Manufacturing Manager

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

Inventory Control Clerk(s)  
Purchasing Agent  
Quality Assurance Manager  
Configuration Manager  
Engineering SCD Manager  
Q/A Inspector, while inspection is in process.  
Inventory Count Auditor while audit is in process.

7.3 With the exception of personnel listed in 7.2, all other HAL personnel shall NOT be granted access to inventory storage unless accompanied by one a HAL employee listed in 7.2.

7.4 The inventory control area will NEVER be left un-attended and unlocked.

#### 8.0 INVENTORY PROCEDURES MANUAL

Attached are 44 pages which constitute the HAL INVENTORY PROCEDURES MANUAL. The Manual includes the following sections:

"Job Description - Inventory Clerk" (pp 1 & 2, 3/17/87)  
"Inventory Department Procedures Manual" (pp 3-16)  
"Examples" (pp 17-39)  
"Inventory Directory" (pp 40-44)

This manual is based upon previous procedures, some of which are superseded by previous of this document. The manual will be totally revised at a later date. HOWEVER, until a revised manual is prepared and approved, the attached INVENTORY PROCEDURES MANUAL is an approved HAL procedure, and under configuration control. It may ONLY be changed by the CONFIGURATION MANAGER. Error corrections and desired revisions should be presented in writing to the CM.

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*

HAL COMMUNICATIONS CORP. 90008005.INV ST-8000A  
INVENTORY CONTROL PROCEDURE: PI900-08005 REV: A 03/23/91  
ST8000A ALL ASSEMBLIES P/N: 900-08005

\*\*\* CAUTION ESD HANDLING PROCEDURES REQUIRED \*\*\*