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SANDIA REPORT

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Division 1137 Property Control System

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Douglas J. Pastor

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Division 1137 Property Control System

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Abstract

An automated data processing property control system was developed by Mobile and Remote Range Division 1137. This report describes the operation of the system and examines ways of using it in operational planning and control.

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Division 1137 Property Control System

Introduction

This report describes the automated data processing (ADP) property control system developed by Mobile and Remote Ranges Division 1137. It explains the special circumstances which created a need for such a system, tells how it operates, and examines ways the system can be used in operational planning and control.

The system is based on open network operating system (NOS) time sharing and consists of two data files and software routines for processing the information in forms which uniquely serve Division 1137's needs. Besides the customary inventory location data, the system stores a complete and permanent record of property movement. Input techniques and output formats were designed specifically to engage the participation of division members most directly involved with operation of the equipment.

Neither this document nor the system it describes addresses employee responsibilities for the physical protection of DOE/SNL property. Rather, the system is presented as an aid to more effective and efficient property management under extraordinary circumstances. Although the major reason for initiating development of the system was to gain a more specialized means of property control, its features promise to be very beneficial operationally; e.g., budgetary information stored for each item includes acquisition costs, replacement cost, purchase order number, acquisition date and estimated replacement date. Equipment cost figures are readily available and can be used in preparation of the Assets Protection Security Plan which must accompany each move to a remote location. Other operational advantages are described below.

Background

Mobile and Remote Ranges Division 1137 supports weapons development, weapon-related reimbursable programs, and, to a minor extent, energy-related test activity throughout the United States and abroad. The division is responsible for more than 2000

controlled items, including telemetry receiving, recording, and data processing equipment; rotary drilling rigs and ancillary equipment; special purpose vehicles; fixed and mobile field radios; and a wide variety of electrical, mechanical, optical, and related devices required to support high technology field operations in remote areas (Figures 1 and 2).

The nature of remote site field testing mandates frequent material movement, ranging from individual items to blocks of several hundred. The destination might be a test range, a military base, a contractor's plant, or an undeveloped remote area. The property may remain at the new location for a week, a month or several years.

Test support ordinarily involves one or more instrumentation trailers or vans containing a large number of controlled items. A move is documented by listing the items on Shipper Form 6951 (Appendix A). When the Shipper is processed, the pertinent information is loaded into the SNLA Property Management System (PMS). Unfortunately, despite the best efforts of all organizations involved, the PMS has been unable to provide timely information about division 1137's inventory. Often, PMS outputs data which lag actual events by several moves. Such obsolete information can have obvious effects on spot audits, inventory surveys, and other aspects of property accounting.

A heavy test schedule and the consequent large number of moves increased the level of technical manpower devoted to record keeping. Early in FY81, Division 1137 began development work on a property control system tailored to the special needs of a highly mobile organization with a large inventory of accountable equipment. The objectives were to design a system which would (1) output up-to-date information on the movement and location of the division inventory, and (2) accept information at a minimum cost in technical manpower. From the outset, a design goal was a system which would perform an operational role, as well as the property control and assets protection functions.

Figure 1. Drilling Rig

Figure 2. Interior of Equipment Trailer

The central element of the system is the Master Inventory File (MIF) which is compiled from division records and updated as necessary. MIF lists all B, E, D and S numbered property as well as several hundred pieces of uncontrolled equipment. Uncontrolled items are included when they are sensitive, critical for test support, expensive/difficult to replace, or are prone to recurrent movement; for example, subcarrier discriminator channel selectors are not recorded in PMS but are assigned division control numbers and listed in the master file. Figure 3 shows both types of property numbers. As many as 10 pieces of information are stored against each control number (for example, description, model, manufacturer, cost, etc). All items in the file are assigned to a particular location such as an instrumentation trailer, shop area, or office.

DESC	Name, including topic and subtopic; example: tuner, S-band
MFG	Manufacturer
MODEL	
FREQ/GROUP	Frequency-related or functional-related information
Serial Number	
Property Number (or 1137 assigned number)	
PO#	Purchase order number
LOCATION	

• Topic	Name
• SB-TOPIC	Subtopic
• MFG	Manufacturer
• MODEL #	
• FREQ/GROUP	
• Property Number (or 1137 assigned number)

- Several options can be combined to sort the file to a smaller sample, as in the case of DESC, MFG, MODEL. If the entire inventory is not of interest, individual locations can be searched, (Appendix D).

Serial and Property Number
Description (all items of the same description)
Location (to or from a location)
Manufacturer
Model Number
FREQ/GROUP
Employee (all moves initiated by an employee)

*When inconsistencies are indicated, the key punch form is checked for incorrect information.

When a block of items such as an instrumentation trailer is moved, the system will produce an up-to-date list of all trailer items in a shipper format to be attached to Shipper 6951 (Appendix H). Although several hundred items may be involved, entry of only the trailer designator (example: B-42) will result in an output of the entire trailer inventory in the shipper format.

I/O Terminals

Two terminals are provided: one in the Division 1137 office at SNLA and one in Building 402 (KAFB Operations Section). Each terminal consists of

- CRT Terminal
- Hard-Copy Line Printer
- 1200 Baud Modem/Acoustic Coupler
- Telephone for connection with NOS
- Entry Log Book (Movement Data Key punch Forms).

The terminal in Building 402 includes a telephone recorder.

When a move is initiated from a remote location, the information is called in to the telephone recorder; recorded messages are transcribed daily to the Movement Data Key punch Form. When the move begins in the KAFB area, the employee responsible for the move registers the information on the key punch form. The information on the key punch forms is entered directly from either CRT terminal.

For most routines, three output options are available: hard copy at the user's local terminal, line printer output via SNLA computer annex, and microfiche output via SNLA's computer annex. Changes, additions, and deletions to the master file are entered from the terminals.

Operational Advantages

The foregoing has described the Division 1137 system primarily in its role of property accounting. Fortunately, many worthwhile features "fall out" at no additional cost. Some of the outputs which aid in operational planning and control were mentioned earlier. Others are

- Block dump inventory to determine completeness of station moving to field support location (Appendix I)
- Track and location of items which the block dump indicates are missing from a station
- A running tabulation of return due dates for items on loan or in repair
- Inventory search for scarce items which must be found quickly
- Inventory search for specific types of equipment needed in large numbers
- Rapid location of uncontrolled spare parts. For example, the channel selectors mentioned earlier are given Division 1137 control numbers and tagged with individual frequencies, making it easy to find a particular module quickly.

Software is being developed which will enable the system to track equipment failures. Such data will be used to furnish a performance history of a particular item, model, or class of equipment. Or, a station tab run will quickly identify the known equipment problems at a station.

As of November 1981, system design is complete and approximately 70% of the system is on-line. All elements will be operational by January, 1982. If additional information is desired, the author can be contacted in Division 1137.

APPENDIX A
Shipper Form 6951

SHIPPER

Sandia National Laboratories

☐ Livermore, California 94550☐ Albuquerque, New Mexico 87185☐ Other

SHIP TO:										Sec. Insp. Badge No. 759812		Page of					
Site/Suplr. Code 10 Bldg. Room Org. Employee No.										Highest Material Security Class. 3		Document No.		Cat. 4		Shipment Register No. 5	
										Date Due at Destination 6		Date Shipped or Handcarried 7		Date to be Returned 8		Hazardous Mat'l. Packing Instr. No. 9	
Originator of Form 11										Org.		Phone		Date Prepared 12			
FROM: Site Bldg. Room Org. Requester's Name Employee No. Phone Case No. Authority for Shipment (Contract No./P.O., etc.)										13		14		15		16	
Material Billing 17 ☐ Charge ☐ No Charge										Credit Approval 18		Freight Billing 19 ☐ Collect ☐ Prepaid ☐ Prepaid Bill to Consignee					
Item No. 20	Sec. Class. 21	Quantity 22	Unit 23	Haz. Mat. 24	Property Tag No. And/Or MID No. 25	Description 26					Unit Value 27	\$ Total 28					
REASON FOR SHIPMENT (Explain): (See e. on Back)														GRAND TOTAL \$		\$	
HAZARDOUS MATERIAL MUST BE ROUTED BY TRAFFIC																	
*Indicate with (Y) or (N) (Yes or No) List Hazardous Material first.																	
DOE Transportation Safeguards Div. Courier Required ☐ No ☐ Yes If yes enter category of matter code										Guard Escort Required ☐ No ☐ Yes							
Routing 31		B/L No. 32		No. of Boxes 33		Weight 34		Total Cubic Feet/Dimensions 35									
Authorizing Signature 36				Special Approval 37		Special Approval 38		Buyer Approval 39									
Name Org.				Name Org.		Name Org.		Name Org.									
39A				The listed material has been examined and the designations as to hazardous/nonhazardous material (HAZ. MAT.) are certified correct. 40 ☐ Hazardous ☐ Nonhazardous		Receipt or Return Acknowledged 41		Name									
39B Bearer's Signature				Packaging Engr./Svc. Clerk		Packaged by		E.No. Org.									
Handcarry Card Number																	

AT SNLA - Security Inspector detach and route to Security Standards and Investigations which forwards it to Property Management.

AT SNLL - Corporate File in Purchasing.

GATE PASS

APPENDIX B

Example of Format of Full Inventory Tab Run Sorted by Description and Serial Number

OPT. 1 DESCRIPTION/SERIAL #		1137 TAB RUN			81/10/12	
DESCRIPTION	FREQ./GROUP CONTROL#	MFG. SERIAL#	MODEL# P.O. NUMBER	ACC.COST ACC.DATE	RPLC.COST RPLC.DATE	LOCATION S-NUMRD
ACOUSTIC COUPLER	ADPE 011001	ANDER JACO 80400	AZ42A 28-0409			402 ND
AMPLIFIER	S-270991	AVANTEK 56	AN-2500M	\$ 547. 04-76	\$ 556. 08-84	B-32 YES
AMPLIFIER AUDIO	050101	ATKINSON 1144	AD-27A	\$ 500.	\$ 2003.	B-32 ND
	070101	ATKINSON 1148	AD-27A	\$ 500.	\$ 2003.	B-42 ND
	070102	SOUND ENG 002	SPECIAL	\$ 200.		B-42 ND
AMPLIFIER DATA	S-270652	HONEYWELL A-2544	T6GA-500 50-4913	\$ 775. 06-64	\$ 950. 06-81	V-2 YES
AMPLIFIER L BAND	040104	AERTECH 56354	A4428 28-0433			B-8 ND
	040103	AERTECH 56355	A4428 28-0433			B-8 ND
	S-271085	AERTECH 6250	A4549 72-0523	\$ 1109. 09-69	\$ 1450. 09-81	V-3 YES
	S-270989	AERTECH 6251	A4549 72-0523	\$ 1109. 09-69	\$ 1450. 09-81	B-32 YES
	S-270990	AERTECH 6252	A4549 72-0523	\$ 1109. 09-69	\$ 1450. 09-81	B-32 YES
	.	.	.	.	.	.
	.	.	.	.	.	.
	.	.	.	.	.	.
	.	.	.	.	.	.
ITEM COUNT: 1847.	SANDIA CONTROL# COUNT: 751.					
TOTAL REPLACEMENT COST: \$ 5190769.	FOR 1792. ITEMS PRICED OR: 97.022 % OF THE TOTAL ITEMS					
TOTAL ACQUISITION COST: \$ 3331705.	FOR 1551. ITEMS PRICED OR: 83.974 % OF THE TOTAL ITEMS					

APPENDIX C

Examples of Full Inventory Tab Runs for Various Priorities

2	OPT.: MFG. /CONTROL #		1137 TAB RUN				81/10/13.
3							
4	DESCRIPTION	FREQ./GROUP CONTROL#	MFG. SERIAL#	MODEL# P.O. NUMBER	ACQ. COST ACQ. DATE	REPL. COST REPL. DATE	LOCATION S-NUMRD
5	-----	-----	-----	-----	-----	-----	-----
6							
7	TELEM RECEIVER	RCVR SYS S-271138	ACL 120	SR-219A	\$ 3541. 04-79	\$ 4170. 04-81	402 YES
8	TUNER	RCVR SYS S-271093	ACL 260	SH-205P	\$ 2102. 08-78	\$ 2200. 08-86	402 YES
9							
10	ANTENNA HELIX SPEC.L BAND	040306	AEL 409	ASN-112A			B-8 NO
11		040307	AEL 410	ASN-112A			B-8 NO
12							
13	AMPLIFIER L BAND	040103	AERTECH 56355	A4428 28-0433			B-8 NO
14		040104	AERTECH 56354	A4428 28-0433			B-8 NO
15		S-270989	AERTECH 6251	A4549 72-0523	\$ 1109. 09-69	\$ 1450. 09-81	B-32 YES
16		S-270990	AERTECH 6252	A4549 72-0523	\$ 1109. 09-69	\$ 1450. 09-81	B-32 YES
17		S-271085	AERTECH 6250	A4549 72-0523	\$ 1109. 09-69	\$ 1450. 09-81	V-3 YES
18		S-271091	AERTECH 6300	A4549 72-0523	\$ 1111. 10-69	\$ 1450. 10-81	AT-1 YES
19							
20	AMPLIFIER S BAND	S-271059	AERTECH 2742	A5602 72-8150	\$ 1527. 12-69	\$ 1900. 12-81	V-3 YES
21		050103	AERTECH 36269	A5602	\$ 1526. 12-69	\$ 1900. 12-81	B-18 NO
22		S-270673	AERTECH 6258	A5635 72-0523	\$ 1105. 10-69	\$ 1450. 10-81	V-2 YES
23		S-270992	AERTECH 6256	A5635 72-0523	\$ 1104. 11-69	\$ 1450. 11-81	B-32 YES
24		S-271096	AERTECH 6308	A5635 72-0523	\$ 1105. 12-69	\$ 1450. 12-81	V-3 YES
25		040105	AERTECH 6253	A5636		\$ 1100. 12-81	B-8 NO
26							
27	DIVIDER POWER	111201	AERTECH NSN	M4401	\$ 450.		V-3 NO
28							
29							
30							
31							
32							

a. Example of Format of Full Inventory Tab Run Sorted by Manufacturer/Control Number

OPT.: MODEL # /CONTROL #		1137 TAB RUN				81/10/13.	
DESCRIPTION	FREQ./GROUP CONTROL#	MFG. SERIAL#	MODEL# P.O. NUMBER	ACQ.COST ACQ.DATE	RPLC.COST RPLC.DATE	LOCATION S-NUMBR	
VOICE ANNOTATOR	032111	SANDIA NSN	AAV			AT-1 NO	
	052111	SANDIA NSN	AAV			B-18 NO	
	062111	SANDIA NSN	AAV			B-32 NO	
	072111	SANDIA NSN	AAV			B-42 NO	
	102111	SANDIA NSN	AAV			V-2 NO	
	112111	SANDIA NSN	AAV			V-3 NO	
AMPLIFIER AUDIO	060101	ATKINSON 1144	AD-27A	\$ 500.	\$ 2000.	B-32 NO	
	070101	ATKINSON 1148	AD-27A	\$ 500.	\$ 2000.	B-42 NO	
AMPLIFIER P BAND	040102	AVANTEK 1036	AK-400N			B-8 NO	
	070105	AVANTEK 572	AK-400N	\$ 660.		B-42 NO	
AMPLIFIER S BAND	070106	AVANTEK 275	AM-2302N	\$ 660.	\$ 780.	B-42 NO	
	S-271200	AVANTEK 273	AM-2302N 13-6703	\$ 690. 06-79	\$ 780. 06-87	B-32 YES	
	090104	AVANTEK 276	AM-2302N	\$ 660.	\$ 780.	B-18 NO	
	070107	AVANTEK 274	AM-2302N	\$ 660.	\$ 780.	B-42 NO	
AMPLIFIER L BAND	050101	AVANTEK 15	AMG-1540N	\$ 650.	\$ 1000.	B-18 NO	
	070103	AVANTEK 27	AMG-1540N		\$ 1000.	B-42 NO	
	070104	AVANTEK 28	AMG-1540N	\$ 650.	\$ 1000.	B-42 NO	

b. Example of Format of Full Inventory Tab Run Sorted by Model Number/Control Number

3 CRT: FREQ/GROUP/CONTROL - 1137-AB-RUN PAGE: 107

DESCRIPTION	FREQ./GROUP CONTROL	MFG. SERIAL	MODEL P.O. NUMBER	ACQ.COST ACQ.DATE	RPLC.COST RPLC.DATE	LOCATION S-NUMBER
7 CHANNEL SELECTOR	192.000 +08 KHZ 100625	EMR 2989	4131	\$ 495.	\$ 600.	V-2 NO
8	192.000 +08 KHZ 110625	EMR 2990	4131	\$ 495.	\$ 600.	V-3 NO
9	192.000 +16 KHZ 010625	EMR 5565	4131	\$ 495.	\$ 500.	402 NO
11 CHANNEL SELECTOR	212.000 -30.0% KHZ 016808	EMR 2821	4131	\$ 495.	\$ 500.	402 NO
12	212.000 -30.0% KHZ 050817	EMR 2821	4131	\$ 495.	\$ 500.	8-32 NO
13	216.000 -30.0% KHZ 030826	EMR 5565	4131	\$ 495.	\$ 500.	AT-1 NO
14	216.000 -30.0% KHZ 070826	EMR 5565	4131	\$ 495.	\$ 500.	8-42 NO
15	216.000 -30.0% KHZ 070826	EMR 5565	4131	\$ 495.	\$ 500.	8-42 NO
16 FILTER OUTPUT	220.000 KHZ 041311	EMR 1841	4137	\$ 495.	\$ 550.	8-8 NO
17	220.000 KHZ 041312	EMR 1841	4137	\$ 315.	\$ 550.	8-8 NO
18	220.000 KHZ 041313	EMR 1842	4137	\$ 315.	\$ 550.	8-8 NO
19	220.000 KHZ 041314	EMR 1842	4137	\$ 315.	\$ 550.	8-8 NO
20	220.000 KHZ 041314	EMR 1842	4137	\$ 315.	\$ 550.	8-8 NO
21	220.000 KHZ 041314	EMR 1842	4137	\$ 315.	\$ 550.	8-8 NO
22	220.000 KHZ 041314	EMR 1842	4137	\$ 315.	\$ 550.	8-8 NO
23 MULTIPLEXER	240.000 KHZ 031502	TRICOM 73	405P	\$ 547.	\$ 660.	AT-1 NO
24	240.000 KHZ 051502	TRICOM 72	405P	\$ 547.	\$ 660.	8-18 NO
25	240.000 KHZ 061503	TRICOM 38	405P	\$ 547.	\$ 660.	8-32 NO
26	240.000 KHZ 071502	TRICOM 74	405P	\$ 547.	\$ 660.	8-42 NO
27	240.000 KHZ 071502	TRICOM 74	405P	\$ 547.	\$ 660.	8-42 NO
28	240.000 KHZ 071502	TRICOM 74	405P	\$ 547.	\$ 660.	8-42 NO
29 CALIBRATOR OSC	256.000 +08 KHZ 8-950570	MPX 1135	6120	\$ 391.	\$ 550.	402 YES
30	256.000 +08 KHZ 8-950571	MPX 1134	6120	\$ 391.	\$ 550.	8-32 YES
31	256.000 +08 KHZ 8-950571	MPX 1134	6120	\$ 391.	\$ 550.	8-32 YES
32						

c. Example of Format of Full Inventory Tab Run Sorted by Frequency or Group/Control Number

OPT.: DESCRIPTN./CONTROL # LOC: AT-1 1137 TAB RUN 81/11/12.

DESCRIPTION		FREQ./GROUP CONTROL#	MFG. SERIAL#	MODEL# P.O.NUMBER	ACQ.COST ACQ.DATE	RPLC.COST RPLC.DATE	LOCATION S-NUMRD
AMPLIFIER	.L BAND	S-271091	AERTECH 6300	A4549 72-0523	\$ 1111. 10-69	\$ 1450. 10-81	AT-1 YES
AMPLIFIER	.POWER	S-269356	HP 44402003	467A 46-5663	\$ 583. 10-69	\$ 840. 10-81	AT-1 YES
		S-269357	HP 94902202	467A 46-6197	\$ 583. 04-70	\$ 840. 04-81	AT-1 YES
ANALYZER	.DISPLAY	S-269415	HP 81302368	851B 72-7403	\$ 2423. 08-68	\$ 8900. 08-81	AT-1 YES
ANALYZER	.SPECTRUM	TM1 S-269350	NR 1013-149	TA-1013 72-9380	\$ 4224. 07-71	\$ 7082. 07-81	AT-1 YES
ANALYZER PI	.TUNING SEC	S-269419	HP 82502336	8551B 72-7403	\$ 7573. 08-68	\$ 8500. 08-81	AT-1 YES
ANTENNA HELIX	.L BAND	030301	ANDREW 12	60117		\$ 580.	AT-1 NO
ATTENUATOR	.STEF	030401	HP NSN	8496A		\$ 2000.	AT-1 NO
CALIBRATOR	.AMPLIFIER	030501	MPX 1036	614 13-3399		\$ 400.	AT-1 NO
CALIBRATOR	.FREQUENCY	S-269406	MPX 1024	610 SERIES 13-3399	\$ 9400. 06-79	\$ 12500. 06-87	AT-1 YES
CALIBRATOR OSC	.MASTER	030522	MPX 1018	613G 13-3399		\$ 730.	AT-1 NO
CALIBRATOR OSC	.1 FR 3 DEV	176.000 030502	+02 KHZ MPX 2005	612D 13-3399		\$ 650.	AT-1 NO
CALIBRATOR OSC	.2 FR 1 DEV	000.960 030503	-07.5% KHZ MPX 1050	613D 13-3399		\$ 700.	AT-1 NO
		001.700 030504	-07.5% KHZ MPX 1052	613D 13-3399		\$ 700.	AT-1 NO
		003.000 030505	-07.5% KHZ MPX 1056	613D 13-3399		\$ 700.	AT-1 NO
		005.400 030506	-07.5% KHZ MPX 1057	613D 13-3399		\$ 700.	AT-1 NO
		010.500 030507	-07.5% KHZ MPX 1061	613D 13-3399		\$ 700.	AT-1 NO

d. Format of Full Tab Run Sorted by Description and Control Number for Location AT-1 Only

APPENDIX D
Examples of Full Inventory Search Tab Runs for Various
Locations

SEARCH ON:

LOCATION = ALL

DESCRIPTION	MFG.	MODEL#	FREQ./GROUP	CONTROL#	SERIAL#	P.O.NUMBER	ACQ.	RPLC.
		AD-27A						

FOUND:

DESCRIPTION	FREQ./GROUP	CONTROL#	MFG. SERIAL#	MODEL# P.O. NUMBER	ACQ. COST ACQ. DATE	RPLC. COST RPLC. DATE	LOCATION S-NUMRD?	STATUS DATE
AMPLIFIER	AUDIO	COMO 060101	ATKINSON 1144	AD-27A 13-7532	\$ 500. 06-79	\$ 750. 06-83	B-32 NO	
		COMO 070101	ATKINSON 1148	AD-27A 13-7532	\$ 500. 06-79	\$ 750. 06-83	B-42 NO	REMOTE 08-12-81

END OF SEARCH.

READY.

a. Example of Format of Full Inventory Search by Model Number: AD-27A

SEARCH ON:

LOCATION = B-18

DESCRIPTION	MFG.	MODEL#	FREQ./GROUP	CONTROL#	SERIAL#	P.O.NUMBER	ACQ.	RPLC.
TUNER								

FOUND:

DESCRIPTION	FREQ./GROUP	CONTROL#	MFG. SERIAL#	MODEL# P.O. NUMBER	ACQ. COST ACQ. DATE	RPLC. COST RPLC. DATE	LOCATION S-NUMRD?	STATUS DATE
TUNER	S-BAND	RCVR SYS S-271288	MICRODYNE 344	1115-VT(D) 07-6617	\$ 3045. 05-77	\$ 4400. 05-85	B-18 YES	
		RCVR SYS S-271280	MICRODYNE 442	1115-VT(D) 07-8398	\$ 3045. 06-78	\$ 4400. 06-85	B-18 YES	
		RCVR SYS S-271291	MICRODYNE 443	1115-VT(D) 07-8398	\$ 3045. 06-78	\$ 4400. 06-85	B-18 YES	V-2 10-12-81
		RCVR SYS S-271277	MICRODYNE 444	1115-VT(D) 07-8398	\$ 3045. 06-78	\$ 4400. 06-85	B-18 YES	REPAIR 10-2-81

END OF SEARCH.

READY.

b. Example of Format of Full Inventory Search for Items in Location B-18 of Description: Tuner, S-Band

SEARCH ON:

LOCATION = ALL

DESCRIPTION	MFG.	MODEL#	FREQ./GROUP	CONTROL#	SERIAL#	P.O.NUMBER	ACQ.	RPLC.
	EMR	410						

FOUND:

DESCRIPTION	FREQ./GROUP	CONTROL#	MFG. SERIAL#	MODEL# P.O. NUMBER	ACQ. COST ACQ. DATE	RPLC. COST RPLC. DATE	LOCATION S-NUMRD?	STATUS DATE
DISCRIMINATOR	VARIABLE	S-271306	EMR 153	410 02-3299	\$ 16131. 01-76	\$ 24000. 01-84	B-18 YES	
		S-270702	EMR 165	410 02-3299	\$ 16131. 01-76	\$ 24000. 01-84	V-2 YES	
		S-271183	EMR 186	410	\$ 16435. 02-77	\$ 24000. 02-85	B-8 YES	
		S-271083	EMR 226	410 07-8352	\$ 13000. 06-78	\$ 13000. 06-86	V-3 YES	402 08-02-81
		S-270900	EMR 227	410 99-9999	\$ 18000. 05-77	\$ 24000. 05-85	B-42 YES	
		S-269381	EMR 228	410 27-8399	\$ 13000. 07-78	\$ 24000. 07-86	AT-1 YES	
		S-271221	EMR 229	410 07-8286	\$ 18200. 06-78	\$ 24000. 06-86	B-32 YES	REPAIR 09-07-81

END OF SEARCH.

READY.

c. Example of Format of Full Inventory Search for All Units of an Item Made by a Particular Manufacturer: EMR, Model 410

APPENDIX E

Division 1137 Property Movement Form

DJP 11/8

APPENDIX F

Examples of Errors Discovered by the Movement Fill Routine

 ERROR# 1
 DATE: 06-10-81 CONTROL #: B-951767 SERIAL#: 11 EMPLOYEE: GOODRICH
 FROM: AT-1 (3) TO: B-8 (4) COMMENTS:
 DESC.: AMPLIFIER .P BAND
 MFG.: AVANTEK MODEL: ASD-506
 AT-1 (3) OR B-8 (4) NOT VALID LOC. OF: V-3 (11)

ERROR# 2
 DATE: 06-30-81 CONTROL #: 050101 SERIAL#: 15 EMPLOYEE: STOUT
 FROM: B-32 (6) TO: AT-1 (3) COMMENTS:
 DESC.: AMPLIFIER .L BAND
 MFG.: AVANTEK MODEL: AMQ-1540N
 B-32 (6) OR AT-1 (3) NOT VALID LOC. OF: B-18 (5)

ERROR# 3
 DATE: 07-15-81 CONTROL #: 010513 SERIAL#: 1101 EMPLOYEE: PASTOR
 FROM: 402 (1) TO: AT-1 (3) COMMENTS:
 DESC.:
 MFG.: MODEL:
 PAIR OF CONTROL AND SERIAL NUMBERS NOT IN MIF

POSSIBLES:

S-NUMBER	SERIAL#	DESC./FREQ-GRP.	MFG/MDL.	LOC-CHK.
010510	1101	CALIBRATOR OSC .2 FR 1 DEV 022.000 -07.5X KHZ	MPX 613D	*FROM
010513	1104	CALIBRATOR OSC .2 FR 1 DEV 124.000 -07.5X KHZ	MPX 613D	*FROM
010515	1101	CALIBRATOR OSC .2 FR 3 DEV 032.000 +02 KHZ	MPX 612D	*FROM

ERROR# 4
 DATE: 07-17-81 CONTROL #: 050503 SERIAL#: 1048 EMPLOYEE: STOUT
 FROM: AT-1 (3) TO: B-8 (4) COMMENTS:
 DESC.: CALIBRATOR OSC .2 FR 1 DEV.000.960 -07.5X KHZ
 MFG.: MPX MODEL: 613D
 AT-1 (3) OR B-8 (4) NOT VALID LOC. OF: B-18 (5)

4 ERROR(S) STILL EXIST IN MVMSTR

Comments (Not Part of Listing)

This item belongs in Location V-3 but was moved from AT-1 to B-8. A possible error move outside of valid location of V-3.

Same type as error #1

The pair of control number and serial number do not exist in the master inventory file. Possibles follow. LOC-CHK tells to/from location is the same as the assigned.

Same as error #1

APPENDIX G

Listings for Various Movements of Equipment

START DATE: 10-01-81

MOVEMENT HISTORY

81/11/12.

DESCRIPTION	MFG.	MODEL #	FREQ./GROUP	CONTROL #	SERIAL #	LOCATION
SCOPE P1	DUAL TRACE	TEKTRONIX	7A26	S-271115	B193152	B-8

DATE	EMPLOYEE	MOVED FROM	MOVED TO	EQPT. ERROR	RTN. DATE	COMMENTS	EVENT STAT
10-22-81	STOUT	AT-1	B-8				INACTIVE
10-25-81	PASTOR	C-22	402				INACTIVE
11-02-81	PASTOR	402	AT-1				INACTIVE
11-19-81	JOJOLA	AT-1	B-8				INACTIVE
11-28-81	COX	B-8	B-32				INACTIVE
12-03-81	HOFFMAN	B-32	B-8				INACTIVE
12-10-81	STOUT	B-8	AT-1				ACTIVE

a. Movement Search for History of all Moves on One Item for Starting Date of 10-1-81.

START DATE: 01-01-81

ALL ACTIVE MOVEMENTS PENDING

81/11/12.

DESCRIPTION DATE MOVED	MOVED FROM	MOVED TO	MFG. EMPLOYEE	MODEL # RETRN. DATE	FREQ./GROUP COMMENTS ON LOAN/MOVEMENT	CONTROL # ASSGN. LOC.	SERIAL # EVENT STAT
AMPLIFIER 06-09-81	B-18	LOW GAIN AT-1	HP HOFFMAN	8820A		S-270966 B-32	1828A00472 ACTIVE
AMPLIFIER 06-10-81	AT-1	P BANC E-8	AVANTEK GOODRICH	ASD-506		B-951767 V-3	11 ACTIVE
MULTIPLEIER 06-19-81	AT-1	REF OSC B-8	TRICOM PASTOR	405P	240.000 KHZ	031502 AT-1	73 ACTIVE
CALIBRATOR OSC 07-15-81	402	2 FR 1 DEV AT-1	MPX PASTOR	613D	124.000 -07.5% KHZ	010513 402	1104 ACTIVE
CALIBRATOR OSC 07-17-81	AT-1	2 FR 1 DEV B-8	MPX STOUT	613D	000.960 -07.5% KHZ	050503 B-18	1048 ACTIVE
CONVERTER 07-17-81	AT-1	FREQUENCY B-8	MICRODYNE JONES	1171-PR(D)	RCVR SYS	S-270647 V-2	145 ACTIVE
CALIBRATOR OSC 07-18-81	AT-1	2 FR 3 DEV B-18	MPX PASTOR	612D	256.000 +08 KHZ	B-950571 B-32	1134 ACTIVE
MTS 07-19-81	LOCAL AREA	VECHILE WSMR	SANDIA PASTOR	ATIS	MTS	E-029876 LOCAL AREA	AT-1 ACTIVE
CONVERTER 10-12-81	AT-1	FREQUENCY B-42	MICRODYNE PASTOR	1171-PR(A)	RCVR SYS	S-271134 B-8	192 ACTIVE
FILTER 10-21-81	AT-1	BAND PASS 402	MICRODYNE PACE	1120-1 B3	RCVR SYS	S-270904 B-42	400 ACTIVE
CALIBRATOR OSC 10-22-81	AT-1	2 FR 3 DEV B-42	MPX LEGALLEY	612D	048.000 +02 KHZ	040513 B-8	1122 ACTIVE
TIME CODE TRANS 10-23-81	AT-1	B-18	DATUM PACE	9200		S-269332 AT-1	1148 ACTIVE
CALIBRATOR OSC 10-25-81	B-18	2 FR 1 DEV B-32	MPX MILLER	613D	003.000 -07.5% KHZ	040504 B-8	1128 ACTIVE
POWER SUPPLY 10-30-81	AT-1	B-18	HP PASTOR	6228B		S-271145 B-8	1604A01342 ACTIVE
CALIBRATOR OSC 11-03-81	V-2	2 FR 1 DEV LOAN	MPX PASTOR	613D 11-05-81	022.000 -07.5% KHZ LOAN TO SMITH DRG 1532, X-3467	100505 V-2	1027 ACTIVE
SCOPE PI 12-10-81	B-8	DUAL TRACE AT-1	TEKTRONIX STOUT	7A26		S-271115 B-8	B193152 ACTIVE

b. All Active Moves Pending from 1-1-81.

START DATE: 10-01-81

ALL MOVEMENTS FROM: B-8

TO: B-8

- ALL LISTINGS

01/11/12.

DESCRIPTION DATE MOVED	MOVED FROM	MOVED TO	MFG. EMPLOYEE	MODEL # RETRN. DATE	FREQ./GROUP COMMENTS ON LOAN/MOVEMENT	CONTROL # ASSGN. LOC.	SERIAL # EVENT STAT
DISCRIMINATOR 10-16-81	T-46	B-8	EHR MILLER	4130		S-271098 B-8	1555 INACTIVE
CALIBRATOR OSC 10-17-81	V-2	.2 FR 1 DEV B-8	MPX PASTOR	4130	022.000 -07.5% KHZ	100505 V-2	1027 INACTIVE
SCOPE PI 10-22-81	AT-1	. DUAL TRACE B-8	TEKTRONIX STOUT	7A26		S-271115 B-8	B193152 INACTIVE
RECORDER DIGITAL 10-26-81	B-8	.TAPE AT-1	PERTEC HEWITT	18840A9	ADPE	S-269335 AT-1	391512847 INACTIVE
SCOPE PI 11-19-81	AT-1	. DUAL TRACE B-8	TEKTRONIX JOJOLA	7A26		S-271115 B-8	B193152 INACTIVE
SCOPE PI 11-28-81	B-8	. DUAL TRACE B-32	TEKTRONIX COX	7A26		S-271115 B-8	B193152 INACTIVE
SCOPE PI 12-03-81	B-32	. DUAL TRACE B-8	TEKTRONIX HOFFMAN	7A26		S-271115 B-8	B193152 INACTIVE
SCOPE PI 12-10-81	B-8	. DUAL TRACE AT-1	TEKTRONIX STOUT	7A26		S-271115 B-8	B193152 ACTIVE

c. All Movements Into or Out of Location B-8 Starting 1-1-81.

APPENDIX H

Example of Format of Tab Run Listing All Items in a Single Location (Shipper Format)

AT-1

SHIPPER

81/10/13.

CONTROL#	SERIAL#	DESCRIPTION	MFG.	MODEL#	PRICE	
B-951774	NSN	SCOPE CAMERA	POLAROID	CR9	\$ 500.	
E-029876	AT-1	MTS	SANDIA	ATIS	\$ 37370.	
S-269325	178	TUNER	MICRODYNE	1114-VT(D)	\$ 4700.	
S-269326	183	TUNER	MICRODYNE	1114-VT(D)	\$ 4700.	
S-269327	470	TUNER	MICRODYNE	1112-VT(D)	\$ 3300.	
S-269328	468	TUNER	MICRODYNE	1112-VT(D)	\$ 3300.	
S-269329	1459	DISCRIMINATOR	EMR	4130	\$ 2005.	
S-269330	201	DISCRIMINATOR	EMR	4130	\$ 2005.	
S-269331	1924	DISCRIMINATOR	EMR	4130	\$ 2005.	
S-269332	1148	TIME CODE TRANS	DATUM	9200	\$ 4100.	
S-269333	WS05845	DISC	DEC	RX02	\$ 3900.	
S-269334	AG-23008	COMPUTER	DEC	PDP11/34	\$ 40000.	
S-269335	391512847	RECORDER DIGITAL	PERTEC	T8840A9	\$ 10000.	
S-269336	229861	PERFORATOR/READER	REMEX	RAF6075BB	\$ 3900.	
S-269337	51490039	SELECTOR	NSI	7112	\$ 12200.	
S-269338	51490048	DECOMUTATOR	DSI	7101	\$ 30200.	
S-269339	35409	FILTER	ITHACO	4213	\$ 2422.	
S-269340	35407	FILTER	ITHACO	4213	\$ 7477.	
S-269341	2786	TIME CODE UEN/IKANS	DATUM	9300	\$ 4100.	
S-269342	B341646	SCOPE	OP	TEKTRONIX	\$ 3000.	
S-269343	B188919	SCOPE PI	DUAL TRACE	TEKTRONIX	\$ 1700.	
S-269344	B237793	SCOPE PI	DIFF AMP	TEKTRONIX	\$ 2400.	
S-269345	B188805	SCOPE PI	TIME BASE	TEKTRONIX	\$ 1500.	
S-269346	1324A00768	COUNTER	MULTIFUNCT	HP	\$ 6000.	
S-269347	63709171	METER	DIGITAL	HP	\$ 1400.	
S-269348	44401743	METER PI	DIGITAL	HP	\$ 1000.	
S-269349	1013-149	ANALYZER	SPECTRUM	NR	\$ 7082.	
S-269350	164	SYNCHRONIZER	PAM	EMR	\$ 8250.	
S-269351						
031902	163	RACK ADAPTER	DISC.	EMR	4005	\$ 1000.
031903	1315	RACK ADAPTER	DISC.	EMR	4005	\$ 1000.
031904	1602	RACK ADAPTER	DISC.	EMR	4005	\$ 1000.
031905	478	RACK ADAPTER	MUX	TRICOM	401-267	\$ 0.
032101	275	METER	POWER	PHILCO	1648	\$ 0.
032111	NSN	VOICE ANNOTATOR		SANDIA	AAV	\$ 0.
050101	15	AMPLIFIER	L BAND	AVANTEK	AMG-1540N	\$ 1000.
100304	NSN	ANTENNA YAGI	P BAND	TACO	Y-53	\$ 0.

ITEM COUNT: 251.

VALUE: \$ 719686.

LAST ENTRY IN MVFILE: 09/04/81

APPENDIX I

Block Dump Inventory

STATUS: WSMR¹ -CONTROL #² DATE: 07-19-81¹ AT-1 TAB RUN: (E-029876) 81/10/13.

DESCRIPTION		MFG.	MODEL#	FREQ./GROUP	CONTROL#	SERIAL#	COST	MV. DATE	STATUS
AMPLIFIER	.L BAND	AERTECH	A4549		S-271091	6300	\$ 1450.		
		AVANTEK	AMG-1540N		050101	15	\$ 1000.	06-30-81	**B-18
AMPLIFIER	.LOW GAIN	HP	8820A		S-270966	1828A00472	\$ 1580.	06-09-81	**B-32
AMPLIFIER	.POWER	HP	467A		S-269356	44402003	\$ 840.		
		HP	467A		S-269357	94902202	\$ 840.		
ANALYZER	.DISPLAY	HP	851B		S-269415	81302368	\$ 8900.		
ANALYZER	.SPECTRUM	NR	TA-1013	TMI	S-269350	1013-149	\$ 7082.		
ANALYZER PI	.TUNING SEC	HP	8551B		S-269419	82502336	\$ 8500.	09-04-81	> B-18
ANTENNA HELIX	.L BAND	ANDREW	60117		030301	12	\$ 580.		
ANTENNA YAGI	.P BAND	TACO	Y-53		100304	NSN		09-04-81	* V-2
ATTENUATOR	.STEP	HP	8496A		030401	NSN	\$ 2000.		
CALIBRATOR	.AMPLIFIER	MPX	614		030501	1036	\$ 400.		
CALIBRATOR	.FREQUENCY	MPX	610 SERIES		S-269406	1024	\$ 12500.		
CALIBRATOR OSC	.MASTER	MPX	6130		030522	1018	\$ 730.		
CALIBRATOR OSC	.1 FR 3 DEV	MPX	612D	176.000 +02 KHZ	030502	2005	\$ 650.		
CALIBRATOR OSC	.2 FR 1 DEV	MPX	613D	000.960 -07.5% KHZ	030503	1050	\$ 700.		
		MPX	613D	001.700 -07.5% KHZ	030504	1052	\$ 700.		
		MPX	613D	003.000 -07.5% KHZ	030505	1056	\$ 700.		
		MPX	613D	005.400 -07.5% KHZ	030506	1057	\$ 700.		
		MPX	613D	010.500 -07.5% KHZ	030507	1061	\$ 700.		

* = FROM ANOTHER ASSIGNED LOCATION³
 ** = FROM ANOTHER NON-ASSIGNED LOCATION⁴
 > = MOVED TO ANOTHER LOCATION

AMP-CAL

AT-1 - 1

*Not part of tab run.

DESCRIPTION	MFG.	MODEL#	FREQ./GROUP	CONTROL#	SERIAL#	COST	MV. DATE	STATUS
TELEM RECEIVER	MICRODYNE	1100AR	RCVR SYS	S-269499	1611	\$ 9100.		
TIME CODE GEN/TRANS	DATUM	9300		S-269342	2780	\$ 4100.		
TIME CODE TRANS	DATUM	9200		S-269332	1148	\$ 4100.		
	DATUM	9200		S-269382	1757	\$ 4100.		
TUNER .L BAND	MICRODYNE	1114-VT(D)	RCVR SYS	S-269325	178	\$ 4700.		
	MICRODYNE	1114-VT(D)	RCVR SYS	S-269326	183	\$ 4700.		
TUNER .P BAND	MICRODYNE	1112-VT(D)	RCVR SYS	S-269327	470	\$ 3300.		
	MICRODYNE	1112-VT(D)	RCVR SYS	S-269328	468	\$ 3300.		
TUNER .S BAND	MICRODYNE	1115-VT(D)	RCVR SYS	S-269384	335	\$ 4400.		
	MICRODYNE	1115-VT(D)	RCVR SYS	S-269399	571	\$ 4400.		
	MICRODYNE	1115-VT(D)	RCVR SYS	S-269403	341	\$ 4400.		
	MICRODYNE	1115-VT(D)	RCVR SYS	S-269752	568	\$ 4400.		
VOICE ANNOTATOR	SANDIA	AAY		032111	NSN			

LINE COUNT: 253⁵ ITEM COUNT: 251⁶ TOTAL REPLACEMENT COST: \$ 719686.

LAST ENTRY IN MVFILE: 09/04/81

* = FROM ANOTHER ASSIGNED LOCATION
 ** = FROM ANOTHER NON-ASSIGNED LOCATION
 > = MOVED TO ANOTHER LOCATION

TEL-V01

AT-1 - 13

*Not part of tab run.

Notes (not part of listing):

1. Location of all items as of this date (AT-1 located at White Sands Missile Range on date shown).
2. Listing order for like description.
3. Shown is location both moved from and assigned to that item.
4. Shown is location assigned to that item, moved in from a nonassigned location.
5. Number of entries.
6. Actual number of items at Location AT-1 as of listing date (indicates two items listed are not presently at this location).

DISTRIBUTION:

1100 C. D. Broyles
1120 T. L. Pace
1137 G. L. Miller (35)
1170 S. A. Moore
1171 D. H. Denton
1172 R. D. Bentley
1173 L. W. Lathrop
2627 D. A. Young
3411 N. W. Ollman
3412 M. E. Mefford
3413 J. A. Kaiser
3416 E. C. Domme
8214 M. A. Pound
3141 L. J. Erickson (5)
3151 W. L. Garner (3)
3154-3 C. H. Dalin (25)
For: DOE/TIC (Unlimited Release)