

MEMOREX CORPORATION
LARGE STORAGE SYSTEMS GROUP
DEVELOPMENT ENGINEERING
1969 - 1973

This is a photograph of a collage assembled and photographed by Rodney Laas and Geoff Lee in late 1973, copies of which were distributed to attendees at the going-away party for Dr. Marco Padalino. Padalino was then the head Large Storage Systems Development; he left to work for Xerox's Computer System organization in Dallas, Texas. Laas was an engineering change analyst and Lee was an engineer. The original negative has been donated to the Computer History Museum.

The period, 1969 – 1973, marks the Al Shugart era at Memorex. Initially formed as Storage Products Corporation, a Memorex subsidiary, Shugart's organization became the storage products engineering organization within Memorex. With the formation of Memorex's Equipment Group in 1969, Shugart added other equipment engineering responsibilities. Hiroshi (Rusty) Nagakura was then responsible for all storage products engineering. Reporting to Nagakura was Padalino, responsible for disk drive engineering and Walter Hillblom, responsible for control unit engineering. In early 1973 after Shugart's departure, Padalino became responsible for all storage products engineering. Hillblom, Nagakura and Shugart are not in the collage.

The photograph in the center, taken in the spring of 1973 for Padalino, depicts the various managers then within Large Storage Systems Development Engineering.

The picture in the upper right hand corner is the team responsible for the Memorex Floppy Disk Drive product line.

In the collage there are 80 persons shown individually, 15 persons in the manager's photo and 11 persons in the FDD photo for a grand total of 109 including Hillblom, Nagakura and Shugart. About 40 were IBM alumni.

This engineering team was responsible for two major successful Memorex storage products:

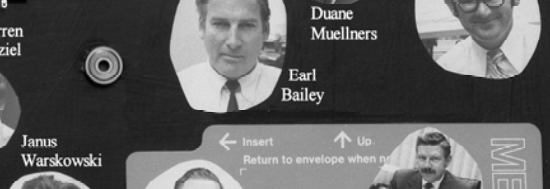
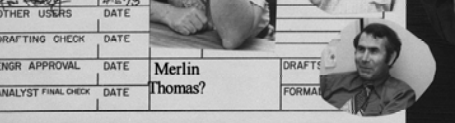
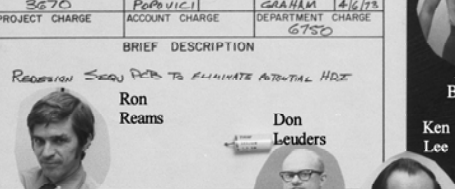
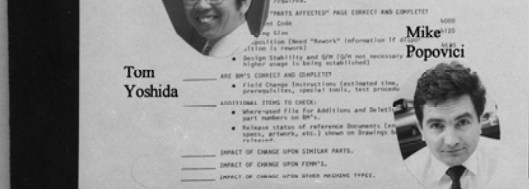
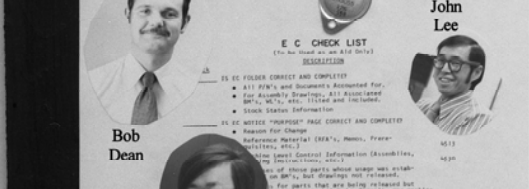
- The 661 storage control unit and 660-0 disc drive (collectively the 3660 Disc Storage Subsystem) that were plug compatible with the IBM 2314 Direct Access Storage Facility.
- The 3671 storage control unit and the 3670 disk drive (collectively the 3670 Disc Storage Subsystem) that was plug compatible with the IBM 3330 Direct Access Storage System.

The 3670 Disc Storage Subsystem, responding to IBM's competitive product announcements, evolved into the 3672 storage control unit, 3673 disc controller and 3675 disc drive. These Memorex products correspond to the IBM 3830-2 storage control unit, 3333-11 string controller and 3330-11 disk drive respectively. The Memorex products were the foundation of much of Memorex's success in the middle 1970's.

The depth of the talent assembled in this team is measured in part by the many companies founded by its veterans, including but not limited to (alphabetically), Array Technology, Conner Peripherals, MiniScribe Corp., PrairieTek Corp., Quantum Corp., Seagate Technology, Shugart Associates and Tandon Magnetics.

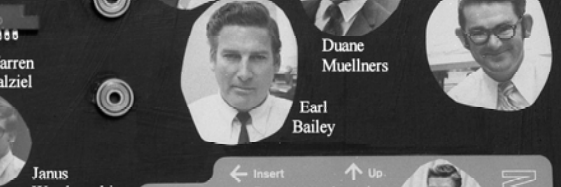
T. Gardner, December 19, 2006

STORAGE SYSTEMS 1969-1973



E C Nr 3300

PRODUCT / MODEL	ORIGINATOR	TEL EXT	GROUP	APPRD BY	DATE
8670	8670			8670	11/12/73
PROJECT CHARGE	ACCOUNT CHARGE	DEPARTMENT CHARGE			
		6750			
BRIEF DESCRIPTION					
REVISION 5690 P/B TO ELIMINATE AERIAL HDZ					
ROUTING SEQUENCE					
ANALYST PRE-CHECK	DATE	EVAL GROUP	DATE	QUALITY ENG	DATE
	11/12/73		11/12/73		11/12/73
MFG-ENG	DATE	TEST ENG	DATE	PROD CONTROL	DATE
	11/12/73		11/12/73		11/12/73
FIELD ENG	DATE	OTHER USERS	DATE	DRAFTING CHECK	DATE
	11-12-73				
ENGR APPROVAL	DATE	ANALYST FINAL CHECK	DATE	DRAFTS	DATE



E C CHECK LIST

IS EC FOLDER CORRECT AND COMPLETE

- ALL P/Ws and documents accounted for.
- For Assembly Drawings, ALL ASSEMBLY PARTS, W/Ts, etc. filled and included.
- Check Station Information.
- IS EC WORKS "PROPOSED" PAGE CORRECT AND COMPLETE
- Reason for Change
- Reference Material (EX's, Memo's, Prop's, etc.) included
- Station Special Control Information (Assemblies, Drawings, etc.) included
- All those parts whose usage was established on P/Ws, but drawings not released.
- For parts that are being released but not yet released, check their machine.
- "PROPOSED" PAGE CORRECT AND COMPLETE
- All Code
- Station Special Control Information (Assemblies, Drawings, etc.) included
- Design Stability and Q/W (Can you make changes without making a drawing?)
- ARE P/Ws CORRECT AND COMPLETE
- Field Change (Indication, Explanatory, etc.) included
- Additional items to check:
 - Where used (for Assembly and Detail part numbers on P/W)
 - Release (Status of Reference Documents, etc.)
 - Station Special Control Information (Assemblies, Drawings, etc.) shown on Drawings
- IMPACT OF CHANGE UPON OTHER PARTS.
- IMPACT OF CHANGE UPON FEMTs.
- IMPACT OF CHANGE UPON OTHER INDENTED ITEMS.

Bill of Material

MEMOREX Equipment Group

01/21/74

20043

21/73

2

MEMOREX

FD/IT Data Disc

← Insert ↑ Up

Return to envelope when

Memorex Disk Drive Division Managers

Spring 1973

Marco Padalino had this picture taken after Al Shugart had left Memorex but before Shugart Associates began forming. It was taken in the lobby of building 14 in front of mockups of the Memorex 3670 & 3671. By the end of 1973 all but Gardner, Graham, Harnett, Montero and Singleton had left Memorex.



**Duanne
Secrist**

**Herb
Thompson**

**Larry
Pyle**

**John
Henry**

**Tom
Gardner**

**Bob
Franchini**

**Dave
Osborne**

**Brent
Nilson**

**Bill
Montero**

**Gary
Harnett?**

**Don
Wartner**

**Ron
Singleton**

**Bill
Harry**

**Ian
Graham**

**Marco
Padalino**

**Don
Massaro**

**Dave
Stoddard**

**George
Anderson**

**Erik
Katz**

**Dave
Brown**

**Ron
Holliday**

**Andy
Leon**

**Jugi
Tandon**

**Linda
Kapp**

**Knute
Kundsen** **John
Conners**

**Jim
Black**

