

ILLUSTRATOR TRAINING AND DEVELOPMENT

*a coordinated program
at Motorola – Phoenix
produces results*

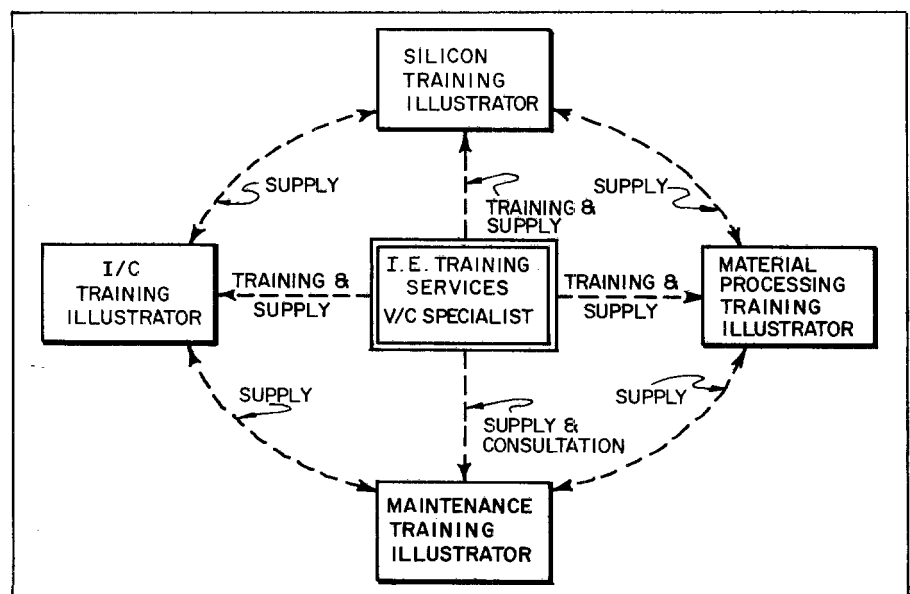
Our decentralized training operation at Motorola S.P.D. has created a unique situation for the training illustrators. We have an illustrator in the Silicon Training Area, one in the Integrated Circuits Training Area, one in the Material Processing Training Area, one in the Maintenance Training Area and one to take care of all the other production areas too small to justify their own illustrator. Each of these illustrators is located in a different place within the division and one is even located in a different plant. Needless to say we had a slight communication problem. How could we eliminate duplication of effort? How do we train the illustrators just starting out to do a better and faster job? How do we supply the illustrators with equipment and all the small petty cash items needed to exist and produce from day to day?

The only answer was a pseudo-centralization. Since each illustrator reported to a different boss, the old "dotted line" relationship was the obvious and inevitable solution. Since the training services group was considered the consulting group, we decided to be the catalyst in this attempt at unification. Figure 1 illustrates the relationship we worked out to solve our problems.

All the various training coordinators were rather dubious at the beginning. Each one hated to relinquish the least bit of control over their respective illustrators. After repeated discussion and explanation we were able to convince them of the project's worth. Our objectives were as follows:

1. Work out a means of eliminating duplication of effort (some illustrations are applicable in several areas).
2. Train the new illustrators to increase quality and quantity of work.
3. Supply petty cash items to all.
4. Work out a universal estimating and scheduling control technique.
5. Establish progress reports on all work accomplished and all work backlogged.
6. Make a combined inventory list of equipment and supplies available in each area for loan or exchange.
7. Work out a means of discussing mutual problems, exchanging techniques, ideas, and in emergencies, helping out areas being snowed by shifting work loads.
8. Increase the capabilities and effectiveness of our visual training aids per se.

Figure 1. Pseudo-centralization of visual aid functions



RON MACKLIN
Visual Communications Specialist
Semiconductor Products Division
Motorola, Inc.
Phoenix, Arizona

9. Establish a fair means of evaluating the performance of each illustrator.

IMPLEMENTATION OF OBJECTIVES

1. To eliminate duplication of effort we established a numbering system within each training area for all work accomplished within that area. For example, a training manual accomplished by the training services group would have a coded number by each illustration. (See Figure 2)

This number could be referenced by anyone wanting to use this particular illustration. By using the cross reference, the project number could be determined and the master art pulled for duplication. Each area could reference the other areas' work and eliminate many unnecessary drawings.

2. To train the new illustrators, a weekly training session was begun. We set aside one or two hours, one day a week, for these sessions. A

questionnaire was circulated among the illustrators to determine how much training and experience they already had. Based on this information a training schedule was worked out and put into operation. Various methods of training are being used. We have found lecture and discussion with a pre- and post-test to be very effective. No grades or competitions are encouraged, as each one is vitally concerned with self development. The motivating factor is the normal incentive of better pay and possible upgrading with increased knowledge and skill. We have an atmosphere of mutual help and encouragement rather than competition. It works well.

3. To supply the petty cash items needed by all the illustrators, an open purchase order was instituted at a local art dealer, through the central group training services. One person was responsible for acquiring and signing for these supplies. We found that one trip per week was adequate except in rare emergencies. By actually visiting the art store, our buyer was also able to keep up with the ever-advancing technology of equipment. In this way, we also do a certain amount of product evaluation and experimentation. A combined inventory of illustrating supplies and equipment was prepared by the training services group. (See Figure 3.) This catalog listed every item of equipment available for loan from group to group. It also contained a list of all lettering, screens, tapes, paints, etc. stocked in each area. We try to update the inventory at least once each year.

This catalog has proved to be invaluable and encourages less buying of petty cash items.

4. For the universally adaptable estimating and scheduling control technique I developed an estimating guide. (See Figure 3.) A book of simple, average and complex examples of all kinds of art work. With

Figure 2. Example of illustration code numbers

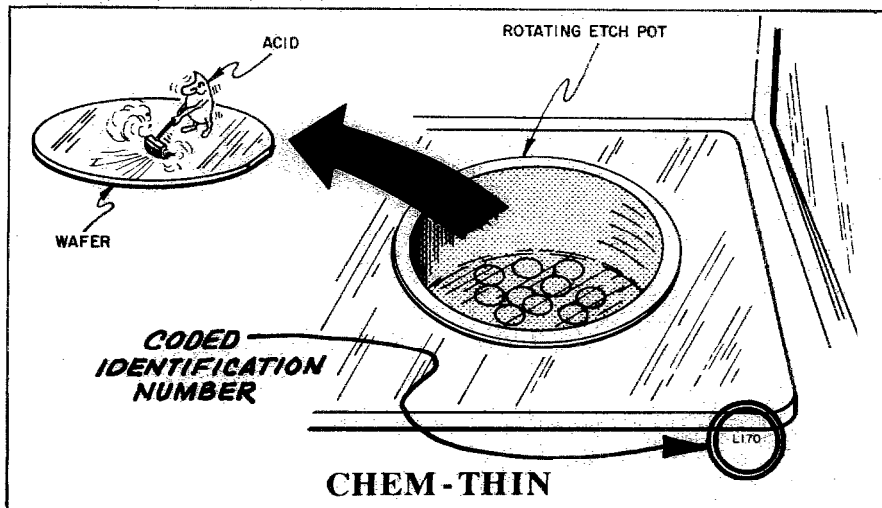
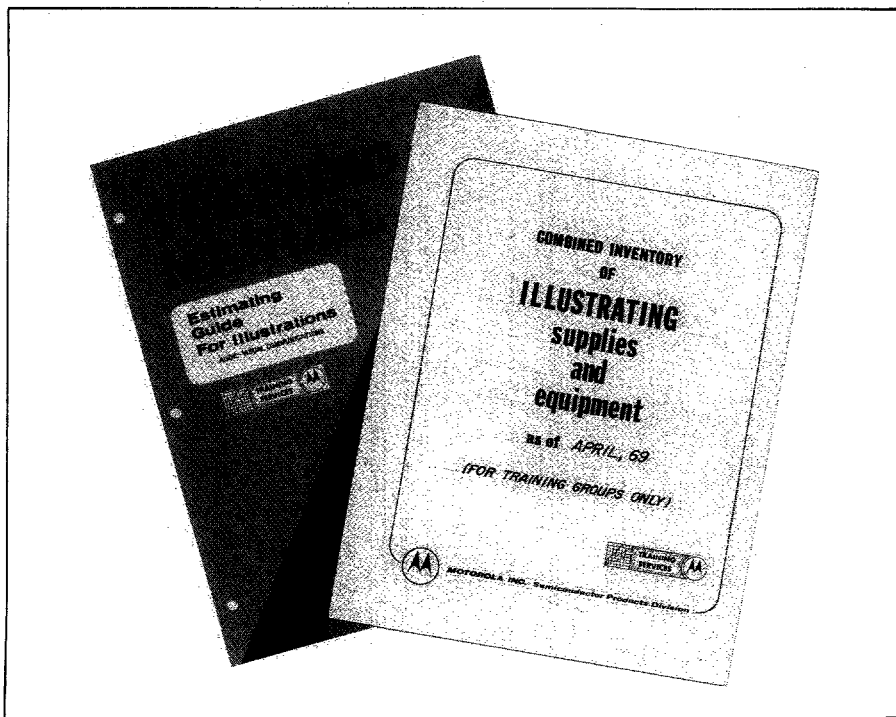


Figure 3. Estimating Guide and Inventory Catalog



this guide one can estimate a job within a few minutes, one way or the other, depending on the proficiency of the illustrator. Several forms were developed — the most important being the “WORK ORDER FOR VISUAL AIDS.” (See Figure 4)

Figure 4.

This form was printed on a different colored paper for each group to avoid any possible mix up. (A detailed explanation of all the forms and the procedure for using each is in my article in the January 1969 *Industrial Arts Methods Magazine*.

Figure 5. Progress Report

PROGRESS REPORT OUTLINE (For Illustrators)		
Hours Remaining		Time Expended
	I. Board Projects	
	A. Completed this period	Hours
	1. Project #, Title, Etc.	Hours
	B. In Progress	Hours
	1. Project #, Title, Etc.	Hours
	C. Not yet started	Hours
	1. Project #, Title, Etc.	Hours
	D. Projects being held	Hours
	1. Project #, Title, Reason Held	Hours
	E. Perpetual Projects	Hours
	1. Project #, Title, Etc.	Hours
	II. Other Duties and Responsibilities	
	A. Accomplished this period	Hours
	1. Title & Description	Hours
Hours (if known)	B. To be accomplished	Hours
	1. Forecasted work	Hours
	III. Miscellaneous Time Charges	
	A. Sick Leave, Holiday, Vacation, Etc.	Hours
Hours Total Backlog		Hours Total Expended
(Remarks) If Applicable		

5. To encourage accurate record keeping, progress reports were initiated. Everyone hated them at first, but after almost 12 months of usage the importance of them can be understood. Not only do the reports show what has been accomplished, they

show what is being held up, what is in progress and what has yet to be accomplished. (See Figure 5 for an outline of all the information contained in the reports.)

6. A detailed inventory of all equipment and supplies was made by training services. All like items were listed together. The quantities, etc. were all carefully noted. All items that could be loaned between groups were marked. Telephone numbers and locations of each participating group were listed. Periodically the inventory is brought up to date. All screens and transfer letters were included with samples of each. This list has proved to be quite valuable.
7. At the end of each training session with the illustrators, a 15 to 20-minute discussion of work prob-

lems takes place. During this time, technical problems are solved and different techniques are recommended. If an area illustrator runs low on work, jobs are moved in from other areas. (The reason for different colored forms for each area.) In this way, no one suffers a prolonged shortage of work. Critical deadlines can be met in the same manner.

8. For increased capabilities and effectiveness of our visual training aids, this is probably the most phenomenal area of improvement. I want to show some of the improvement examples here — see Figures 6, 7 and 8. As you can see in the comparison samples, the improvement is well worth the time and effort.
9. To establish a fair and accurate means of evaluating each illustrator,

Figure 6 — Illustrator No. 1

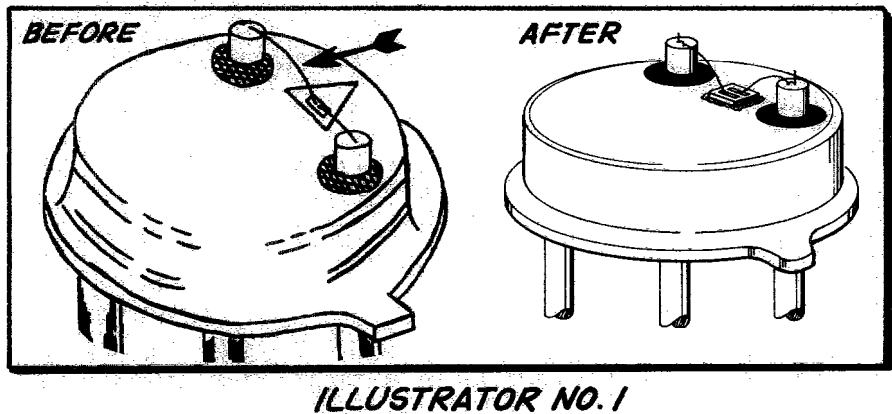


Figure 7 — Illustrator No. 2

