

THE PREPARATION OF SLIDES FOR
INDIVIDUALIZED STUDY OF
SHORTHAND

A Thesis
Presented to
the Division of Business Education
Kansas State Teachers College of Emporia

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

by
H. Joan Gerardi
August 1972

R. B. Russell
Approved for the Major Department

George Walters
Committee Member

Joyce J. Stutte
Committee Member

Lorion Horgan
Committee Chairman

John E. Peterson
Approved for the Graduate Council

TABLE OF CONTENTS

	PAGE
LIST OF TABLES	v
Chapter	
1. INTRODUCTION	1
The Problem	1
Statement of the Problem	1
Importance of the Study	2
Delimitations of the Study	3
Definitions of Terms	4
Automatization	4
Individualized Study	5
Most-Used Words	5
Methods of Procedure	5
2. REVIEW OF RELATED LITERATURE	7
Remedial Study	7
Time Factor in the Classroom	8
Psychological Implications	8
Individualized Study	8
Skinner's Theory of Learning	10
Teaching-Learning Process	11
Inculcating Behavior	11
Shorthand Theory	12
Post Office Department State Abbreviations	13

Chapter	PAGE
500 Most-Used Words	14
Slides.	15
Transparency Film	15
Slides and Slide-Making Materials	17
Care of Slides	17
Equipment Sources	18
3. THE PREPARATION OF SHORTHAND SLIDES	20
Transparency Film	20
Material Costs	21
Master Sheets	22
Mounting the Slides	24
Coding the Slides	25
Storing the Slides	28
4. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	29
Summary	29
Conclusions	32
Recommendations	32
BIBLIOGRAPHY	34
APPENDIXES	38
A. Master Sheets for the Preparation of Film	38
B. Mounts, Film, and Codes	126
C. Film Samples.	130
D. Manufacturers and Distributors of Equipment and Supplies. . .	136

LIST OF TABLES

Tables	Page
1. Manufacturers and Distributors of Slides, Film, Binding, Sorting, and Mounting Equipment and Supplies	137
2. Manufacturers and Distributors of Slide Projectors	138
3. Code System Used to Keep Slides in Sequence When Filing in Carousels	26

Chapter 1

INTRODUCTION

The concept of individualization of instruction is one of the most pervasive themes dominating American education during the last decade. It has been said, "No other concept has had greater influence or greater impact upon the development of modern educational programs and the implementation of instructional changes."¹ The teacher has and will continue to play a major role in classroom changes.

In this era of the computer and the knowledge explosion, what better method could be employed in individualizing instruction than the machine. Machines are capable of aiding the teacher in individualizing instruction, with proper programs, to meet the needs of education today. A programmed machine can offer the student a controlled stimulus, evoke a response, and provide reinforcement.

Slides and the slide projector can become economical tools for individualized instruction in shorthand. These tools can be used effectively in beginning shorthand or advanced shorthand and can be used on both the secondary level and the post-secondary level of instruction.

The Problem

Statement of the Problem

The purpose of this study was to prepare shorthand slides for individualized study for students' skill improvement in writing brief

¹Lloyd K. Bishop, "Individualizing Educational Programs," Business Education Forum, XXV (May, 1971), 13.

forms, theory, phrases, state abbreviations, and the 500 most-used words.

Importance of the Study

One of the major unsolved problems in teaching shorthand is helping each student achieve his best potential. Brenholt and Houghton stated:

Basic to any shorthand curriculum are the philosophical and educational beliefs supported by those who design and implement it. The following beliefs are valued and accepted by business education faculties. An individualized video shorthand program should be predicated upon the following philosophical bases:

1. Each person is a unique individual as a result of his experiences. This statement implies that the learning process, and that which is learned, will vary with each individual.

2. Learning develops through involvement--which is the interaction of self with all the facets of the environment. The student involved is continuously making choices, the consequences of which shape his being.

3. All the critical factors of any learning experience include content, the process of learning, and interaction of learner and the teacher (or medium). All are equally important and all must be continually evaluated in terms of stated behavioral objectives.

This philosophy of education is being reflected in a shorthand program which emphasizes the business education department's responsibility to the learner. These responsibilities are:

1. To provide a stimulating environment in which the learner will accept the responsibility for his own intellectual, emotional, and behavioral development in order to achieve his own personal and professional objectives;

2. To provide numerous opportunities for the learner to become actively involved with content and processes through interaction with various classroom learning activities;

3. To provide the profession with competent, creative teachers capable of synthesizing knowledge, informational resources, and educational technology so that the business education student may adequately fulfill his personal and societal needs;

4. To provide continuously cooperative evaluation of each learner by the shorthand teacher and by the learner himself to assess his personal growth attainment.

Educational technology, when properly utilized, may provide more time for individual pursuits in intellectual inquiry, creative endeavor, and provocative reflection. The focus must be on the learner and the processes of learning.¹

With the exception of dictation tapes, little has been done in the area of shorthand skill improvement on an individualized basis using machines as a media.²

Biggee quoted Skinner on the error of not employing materials and techniques that are available to education:

In education we design and re-design our curricula in a desperate attempt to provide a liberal education while steadfastly refusing to employ available engineering techniques which would efficiently build the interests and instill the knowledge which are the goals of education.³

Russon said, "Every available aid should be used in building shorthand and transcription skill."⁴ In the aids listed (notebook, pen, pencil, chalkboard, tapes, and records), there was no mention of the use of slides.

Delimitations of the Study

The shorthand slides that were prepared were designed for the equipment available at Chanute Senior High School, Chanute, Kansas.

The study was correlated with the Diamond Jubilee Series of Gregg Shorthand.

¹JoAnne M. Brenholt and Edward L. Houghton, "Individualized Video Shorthand Instruction," The Balance Sheet, LIII (May, 1972), 342.

²F. A. Foss and G. L. Pearce, "Liven Up Laboratory Learning with Synchronized 2 X 2 Sound Slides," Audio-Visual Instruction, XIII (March, 1968), 288.

³Morris L. Biggee, Learning Theories for Teachers (New York: Harper and Row, 1964), p. 134.

⁴Allien R. Russon, Methods of Teaching Shorthand, Monograph 119 (Cincinnati: South-Western Publishing Company, 1968) pp. 23-24.

The theory slides consisted only of the theory listed in the index of Gregg Shorthand, Diamond Jubilee Series as follows: alphabetic characters, amounts, days, figures, months, punctuation, quantities, weights and measures, word beginnings and word endings.¹ A maximum of two words were given as examples for any one theory.

The phrase slides consisted only of phrases listed in Gregg Dictation, Diamond Jubilee Series.²

The 500 most-used words slides consisted only of the 500 most-used words listed in Correlated Dictations and Transcription, Gregg Diamond Jubilee Edition.³

Limitations of the Study

Information used in the development of the study was obtained primarily from the William Allen White Library and the Instructional Media Center at Kansas State Teachers College, Emporia, Kansas.

Definitions of Terms

Automatization

Automatization is the process by which an act becomes so habitual and routine that it is performed without any conscious thought or mental effort.⁴

¹John R. Gregg, Louis A. Leslie, and Charles Zoubek, Gregg Shorthand, Diamond Jubilee Series (New York: McGraw-Hill Book Co., Inc., 1969) pp. 381-383.

²Louis A. Leslie, Charles E. Zoubek, and Madeline S. Strony, Gregg Dictation, Diamond Jubilee Series (New York: McGraw-Hill Book Co., Inc., 1963) pp. 511-512.

³Hamden L. Forkner and others, Correlated Dictations and Transcription Gregg Diamond Jubilee Edition (New York: Forkner Publishing Co., 1966) pp. 1-3.

⁴Carter V. Good, Dictionary of Education 2d ed. (New York: McGraw-Hill Book Co., Inc., 1963) p. 50.

Individualized Study

Individualized study is study activities that are differentiated to meet the needs of the student instead of being the same for all those in a study group.¹

Most-Used Words

Frequency of use was the criterion for the selection which includes basic vocabulary and frequently used geographical and proper names.²

Methods of Procedure

The slides to be prepared were divided into five general areas: brief forms, theory, phrases, state abbreviations, and the 500 most-used words. These areas were selected on the basis of individualized study that would be most useful in a Shorthand I class.

The methods of procedure used in this study of the preparation of slides were as follows:

1. Available literature was reviewed in determining the content and preparation of the slides.
2. Advice was solicited from Mr. L. R. Marks at the Instructional Media Center at Kansas State Teachers College at Emporia, Kansas, and film materials were tested.
3. Price quotations were secured on film, mounts, and carousels.

¹Ibid., p. 531.

²Forkner, op. cit., p. ix.

4. White 8 1/2 by 11 inch sheets were ruled for 28 squares size 1 1/2 by 1 5/16 inches each to match the slide mount openings. Individual words were typewritten in one square and rewritten in shorthand in another square. These were the master sheets to be used in the preparation of the film.

5. Mounts and carousels were purchased for the slides.

6. The transparencies were prepared with Xerographic Film on a Xerox Model 914 Machine at the Instructional Media Center at Kansas State Teachers College at Emporia, Kansas.

7. The transparencies were cut into sections, and each section was mounted in a slide mount and sealed with a mount press.

8. After the slides were prepared, they were classified into areas and filed in carousels according to the five general areas for ease in selection and use.

9. A summary was made of the study, conclusions were stated, and recommendations were made.

Chapter 2

REVIEW OF RELATED LITERATURE

The use of slides and sound slides in shorthand is so new and funds have been so limited that progress has not been made beyond the experimental stage.¹ As a result, little has been written regarding actual studies.

The literature reviewed dealt primarily with learning theories and techniques, material selection for slides, and preparation of slides, and equipment.

Remedial Study

Students do not progress at the same rate, and some students have difficulty in adapting to shorthand as a new medium of communication. Once they fall behind, it becomes increasingly more difficult for them to catch up. Condon suggested a technique that has improved the situation with considerable success.

Some teachers do not use the regular textbooks for a week or two. Instead, they use specially prepared materials designed to introduce the subject of shorthand in a simple and brief preview. Most of the alphabet and a few brief forms are included in this presentation. Writing is included from the beginning, but only a few simple sentences are used. This plan introduces the student to this new type of learning activity. At the completion of this brief unit, the class begins using the regular textbook by which time much faster progress and more complete mastery may be expected as a result of this preview.²

¹F. A. Foss and G. L. Pearce, "Liven Up Laboratory Learning With Synchronized 2 X 2 Sound Slides," Audio-Visual Instruction, XIII (March, 1960), 288.

²Arnold Condon, "Secretarial Education with a Future," The American Business Education Yearbook, XIX (Somerville, New Jersey: Somerset Press, 1962), pp. 135-136.

Time Factor in the Classroom

In a conventional classroom of group instruction a teacher has only so much time, and it is usually necessary for him to reinforce the desired behavior only in blocks of responses.

According to Skinner, the most serious criticism of current classroom procedures is the relative infrequency of reinforcement of the desired acts of students. The slower student particularly suffers because of the lack of reinforcement.¹

Psychological Implications

There seems to be two psychological principles that operate in learning: (1) nothing succeeds like success and (2) nothing fails like failure. The stigma of failure definitely slows learning. Seagoe stated:

1. Failure slows learning.
2. Failure causes a moving away from reality.
3. Failure causes persistent non-adjustive behavior.
4. Failure increases the variability of behavior.
5. The effect of failure is cumulative.²

Individualized Study

The following premises evoke dynamic educational procedures and contain powerful implications for any school program desiring to provide

¹Morris L. Biggee, Learning Theories for Teachers (New York: Harper and Row, 1964), 136.

²May V. Seagoe, A Teacher's Guide to the Learning Process (Dubuque: Wm. C. Brown Co., 1961) pp. 86-87.

the best possible education for its children:

1. That learning takes place individually; therefore, curriculum and methodology should be organized around the individual student. The quest for ways to individualize learning is the most important innovating force influencing the development of present-day educational systems.

2. That students must come in contact with different levels of learning and have the opportunity to work together to discover the relationships of various disciplines as aspects of one world. Fragmentation and compartmentalization of subject matter must be replaced with interdisciplinary and multidisciplinary approaches with concomitant interaction of the instructional staff.

3. That there are no time limits or space limits when or where a student can learn--with or without the teacher and the formal classroom. In fact, there are no age limits; for education to be internalized, students must learn that true education is a continuous process. This is the ubiquitous nature of true education and learning.

4. That the educational program must be dynamic and in a constant state of evaluation and change in order to survive. It must be adaptable, flexible, and capable of meeting the demands of a complex technological and changing culture.

In an individualized study program, each student progresses at his own rate--a rate which is governed by his background, interest, and ability. He competes primarily with himself and only generally with the group.

An individualized study program in shorthand should provide the student with:

1. Stimulating environment
 - a. Greater student responsibility for program development and progress.
 - b. Wider variability in threshold levels of entering competence and insight
 - c. Differential speed of progress throughout the shorthand program
2. Active involvement
 - a. Earlier and more frequent contact with shorthand students in learning situations

¹Lloyd K. Bishop, "Individualizing Educational Programs," Business Education Forum, XXV (May, 1971), 13.

- b. A wider variety of reality experiences
 - c. A better mix of theoretical and practical emphasis
3. Continuous cooperative evaluation
 - a. Continuous knowledge of levels of effort and progress by student and program management
 - b. Continuous evaluation of program effectiveness
 4. Attainment of objectives
 - a. Individualized progress throughout the shorthand program
 - b. Differential levels of performance above floor criterion
 5. Continuous evaluation
 - a. Rapid program modification based upon feedback mechanisms
 - b. Continuous program revision--few permanently static components¹

The class is led and encouraged by the video presentation. The teacher is free to work with individuals or smaller groups.

Skinner's Theory of Learning

Skinner found operant conditioning highly effective in working with animals and was confident that similar conditioning could be successfully used with students in the learning process.

Operant conditioning is the learning process whereby a response is made more probable or more frequent. Operants--sets of acts--are reinforced--strengthened--so as to increase the probability of their recurrence in the future.²

¹JoAnne M. Brenholt and Edward L. Houghton, "Individualized Video Shorthand Instruction," The Balance Sheet, LIII (May, 1972), 343.

²Biggee, op. cit., pp. 113-114.

Teaching-Learning Process

In this learning process, teachers are considered architects and builders of students' behavior. Learning objectives are divided into a large number of very small tasks and reinforced one by one.

The key to successful teaching or training is to analyze the effect of reinforcement and design techniques which manipulate the process with considerable precision--to set up specific reinforcing contingencies.

Through operant reinforcement an existing unit of behavior may be refined by the process of differentiation of response. In this process, reinforcement which develops skill must be immediate.

Skinner believed that the most efficient control of human learning requires instrumental aid.

Programmed instruction is a system of teaching and learning within which pre-established subject matter is broken down into small, discrete steps and carefully organized into a logical sequence in which it can be learned readily by the students. Each step builds deliberately upon the preceding one. The learner can progress through the sequence of steps at his own rate and he is reinforced immediately after each step; either he is given the correct response or he is permitted to proceed to the next step after he registers the correct response. Programmed instruction may be accomplished with or without the use of teaching machines.¹

Inculcating Behavior

In order to plan a procedure for inculcating certain desired behavior in a student, certain specific questions need to be answered: (1) What behavior is to be established? (2) What reinforcers are available? (3) What responses are available? (4) How can reinforcements be most efficiently scheduled?²

¹Ibid., pp. 133-134.

²Ibid., 136.

The teacher must have specific objectives that are defined in terms of desired behaviors. He is the architect and builder of behaviors.

Reinforcers that are used after a student makes a response have to be practical in a particular school setting. If machines are available, they can be used; if not, another substitute must be found.

The responses the student is expected to make have to be within his scope of abilities, time, and materials.

Reinforcement is most effective if accomplished immediately after the response. Scheduling of the reinforcement should be arranged to meet this criteria.

In building a case for properly programmed teaching machines, Skinner stated ". . . the effect upon each student is surprisingly like that of a private tutor."¹

Shorthand Theory

Shorthand is a perceptual-motor skill. This means that practice is necessary if a student is to progress in building skill.

Two antithetical schools of thought regarding intermediate shorthand learning symptoms are: (1) those associated with theoretical accuracy of the shorthand outlines and the perfection and refinement of the shorthand penmanship. (2) those associated with fluency and utility.² Gregg stated:

The shorthand learner has succeeded in learning shorthand when he can write rapidly and accurately from dictation and read

¹Ibid., p. 140.

²John R. Gregg, Louis A. Leslie, and Charles E. Zoubek, Instructor's Handbook for Gregg Shorthand Diamond Jubilee Series (New York: McGraw-Hill Book Co., 1963), p. 66.

rapidly and accurately from his shorthand notes taken from rapid dictation. The exact outline used is far less important than the fact that the learner wrote a reasonable, readable, transcribable outline without hesitation.¹

A thorough comprehension of the principles of the system is necessary. Condon stated:

Although memorization of rules is not suggested, there is evidence to suggest that the study of the principles of shorthand theory should receive greater emphasis. However, minor theory deviations, such as whether to write or omit the vowel sound, need not be emphasized. It has been found that students will do a better job of taking dictation, improvising shorthand outlines for unfamiliar words, and turning out acceptable transcripts when they have a thorough understanding of the basic principles of the system.²

Brief forms are great time savers in taking dictation. The correct outline response must be automatic. Therefore, sufficient drill must be given on the brief form lists to insure instant recognition and automatic response.³

Shorthand shortcuts and advanced phrasing do not merit emphasis. They merely tend to increase the memory load and inhibit the writer. With the exception of a few memory phrases, such as been, able, had, hope, etc., it is doubtful if the time spent in studying such phrases can be justified.⁴

Post Office Department State Abbreviations

The Post Office Department has suggested the adoption of a two-letter state abbreviation to facilitate the use of the Optical Character Reader (OCR) which provides electronic mail sorting for a sizable portion of business mail

¹Ibid.

²Condon, op. cit., p. 134.

³Ibid., p. 134.

⁴Ibid., p. 135.

in several major cities.¹ Neuerburg stated:

With the adoption of the two-letter state abbreviations, a new demension has been added to the confusion students must face as they attempt to recognize the old abbreviations, develop spontaneous recall of the new two-letter abbreviations, and write the shorthand symbol that has variations of both--the old and the new.

Teachers should teach students the new two-letter abbreviations at the same time as they are introduced to concise shorthand symbols that are as close to the abbreviations as clarity and ease of writing will permit.²

500 Most-Used Words

This study dealt with 500 of the 3,000 most-used words because of necessary delimitations. Reliable estimates indicate that 97 percent of the ordinary dictation material is made up of approximately 3,000 high frequency words.³

There is a lack of clearness and lack of agreement among teachers of shorthand as to the amount of time that should be spent in developing skill in the use of high frequency words. Forkner stated:

The words I, the, and, to, and you probably appear in every business letter and are used so often that they require little or no special drill; however, this does not hold true for the basic writing vocabulary of 3,000 words . . . Experience has shown that if a student masters a basic vocabulary of high frequency words, he is ready to extend his vocabulary, using the high frequency words as a foundation for writing other words.⁴

¹Addressing for the Optical Character Reader, POD Publication 65 (Washington, D. C.: Post Office Department, 1968), p. i.

²Lawrence P. Neuerburg, "Clinch New State Abbreviations with Shortened Shorthand Symbols," The Journal of Business Education, XLIV (March, 1969), 242.

³Hamden L. Forkner and others, Correlated Dictations and Transcription, Gregg Diamond Jubilee Edition (New York: Forkner Publishing Co., 1966) p. ix.

⁴Ibid.

Slides

There are a variety of materials that can be used in the preparation of transparency film and in the mounting of the slides. The film can be black and white or in color. The film can be prepared with a camera or a transparency maker. The mounts are available in different sizes and materials. See Table 1 for several sources of supply.

Transparency Film

Transparencies are permanent and non-fading. The Nashua Corporation said, "Anything you can copy on paper, you can copy on colorful Xerographic Film; and the transparency is ready to use the minute it's made."¹ Masters for the transparency can be:

Typewritten Copy	Blueprints
Hand Lettering	Line Drawings
Magazines	Charcoal Sketches
Newspapers	Graphs
Books	Maps ²

Nashua Xerographic Film is prepared for use in Xerox Machine Models 914, 720, 420, 2400, 36001, 813, 660 and 330.³

Nashua Xerographic Film is unaffected by light, heat, humidity and age.⁴

¹Nashua Corporation, Nashua Xerographic Film, 1972 Edition; (Nashua, New Hampshire: Nashua Corporation, 1972) pp. XT-23 and 24.

²Ibid.

³Ibid.

⁴Ibid.

Nashua Xerographic Film is available in four sparkling colors and

clear:

No. 950	Clear	100	8 1/2" X 11" sheets to a box
No. 960	Blue	100	8 1/2" X 11" sheets to a box
No. 970	Yellow	100	8 1/2" X 11" sheets to a box
No. 980	Red	100	8 1/2" X 11" sheets to a box
No. 990	Green	100	8 1/2" X 11" sheets to a box
No. 940	Assortment	100	8 1/2" X 11" sheets to a box 25 Blue 25 Yellow 25 Red 25 Green ¹

The cost of Nashua Xerographic Film was \$28.95 for 100 sheets of 8 1/2 X 11 inches in 1972.²

Multiple transparencies can be made automatically on the Xerox Machine. Nashua Corporation stated the following instructions:

1. Fan the transparency sheets so that they handle and feed easily.

2. Place 10 or 15 sheets into the loading tray and feed according to the simple instructions on each transparency sheet.

3. Make the prints as you normally would if the film were ordinary paper. If the print is light, pump the toner up to the darkness level you want, just as you would with paper.

4. If the image on the film doesn't fuse properly, simply go to the next highest heat setting.³

¹Ibid.

²Ibid.

³Ibid.

Slides and Slide-Making Materials

Table 1 lists several sources of supply for slide mounts and materials. The Eastman Kodak Company provided information on the various types of materials that are available from their company:

The Kodak Ektagraphic Write-On Slide is Estar Film Base with a matte surface on one side, which is mounted in a 2 X 2-inch mount. The writing area is 1 1/2 X 1 1/2 inches. You can draw, print, write on these slides with almost any pencil or fiber-tip pen. Bold images can be obtained with the use of special drawing inks made for transparencies. Use of these slides means a quick, simple, and inexpensive way to display information on a screen with any slide projector (except those with automatic focusing systems). Box of 100 slides/\$4.95.

The Kodak Ready-Mounts are for mounting 28 X 28mm (126), 24 X 36mm (135), and 1 5/8 X 1 5/8 inch (super-slide) transparencies. Solid grayboard with printing on face, "Seal edge with warm iron, do not touch film"; and on the reverse side, "Made in U.S.A." Two types are available: Folded--Convenient for mounting a few transparencies at one time. Supplied with 3 edges sealed; open edge can be sealed with a household iron. Flat--Can be sealed on 4 edges with a household iron or mounting press. Folded--Pkg of 50/\$3.35. Flat--Pkg of 100/\$2.35.

The Kodak Slide Cover Glass (Thin, Precleaned) Thickness: .030 inch. 2 X 2 inch. For mounting slides in glass for use in Carousel and other slide trays. Pkg of 50/\$2.10.

The Kodak Metal Binder (for 2 X 2 inch Slide Cover Glass, thin)--Provides a quick and inexpensive method of glass-mounting slides. A transparency, mask, and two pieces of thin cover glass are inserted into the open end of the binder. The binder frames three sides, and holds the slide securely without the need of tape or fasteners. Glass slides bound in this manner are ideal for use in the Kodak Carousel Slide Trays and other slide trays. Pkg of 50/\$2.75.

Care of Slides

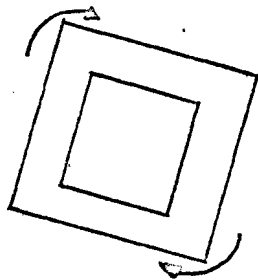
The Eastman Kodak Company stressed the importance of proper care

¹Eastman Kodak Company, 1970-1971 Audiovisual Products Catalog, (Rochester, New York: Eastman Kodak Company, 1970), p. 23.

and storage of completed slides:

Dirty slides detract from the presentation. Therefore, clean them before use. Dust or lint can be removed with a clean, dry camel's-hair brush. Use it gently on both sides of the transparency. Fingerprints or oil smudges can be removed by applying Kodak Film Cleaner sparingly to the slide with a plush pad or a wad of cotton.

After cleaning, the slides should be loaded into trays. Be sure to load these trays correctly! To properly orient a slide for projection, hold it so the picture looks correct; rotate it bottom to top; and put it into the tray from behind the projector.



Slide trays are ideal for storage purposes, keeping the slides clean, orderly, and always ready for projection.

There are also many types of compartment files in which to store 2 X 2-inch slides. Most important, don't keep slides on table tops, in drawers or cupboards, with chalk and ink, or where they may become damaged, dirty, disorganized, or lost. Store the box of slides in a dry, dark, cool place.

To facilitate retrieval of any slide, make a list of all slides in each box.

Equipment Sources

The best equipment to use will depend upon individual objectives, needs, cost limitations, and preference.²

¹Eastman Kodak Company, Slides With a Purpose for Business Education, (Rochester, New York: Eastman Kodak Company, 1971) pp. 24-25.

²Foss, op. cit., p. 289.

Refer to Appendix D for prices and descriptions of equipment and company addresses.¹

A carousel has been produced that will accommodate 140 slides.

The Eastman Kodak Company described the carousel:

Kodak Carousel Slide Trays--Accept up to 140 2 X 2 inch slides. Clearly numbered for easy slide location. Removable retaining rings prevent slides from spilling yet permit quick editing, loading, or unloading. Supplied in attractive storage boxes including identification card and tray sticker. Fit all Carousel Projectors. Cost per Carousel/\$3.80.²

¹National Audio-Visual Association, The 1972-1973 Audio-Visual Equipment Directory, (Evanston: The National Audio-Visual Association, 1972), pp. 63-70.

²Eastman Kodak Company, 1970-1971 Audiovisual Products Catalog, op. cit., p. 22.

Chapter 3

THE PREPARATION OF SHORTHAND SLIDES

Throughout the preparation of the slides, advice was solicited from Mr. L. R. Marks at the Instructional Media Center at Kansas State Teachers College at Emporia, Kansas.

Transparency Film

It was necessary to test the types of transparency film that was available to find a film that would project a clear image when magnified by the slide projector and that would be durable to withstand continued use.

The three types of film available at the Instructional Media Center were:

- 8 1/2 X 11 inch Clear mylar film
- 8 1/2 X 11 inch 3M Transparency film
- 8 1/2 X 11 inch Nashua Xerographic film

Nashua Xerographic Film produced the clearest and most durable copy. The Xerox Model 914 Machine was used to make the prints.

The Nashua Xerographic Film was available in an assortment of four colors and clear. The black image was reproduced on clear, blue, red, green, and yellow. See Appendix C.

The film should be used in the following order to produce the least eye strain when projected: (1) blue, (2) red, (3) green, (4) yellow, and (5) clear.

Another factor in testing the film was the materials and typewriter used in preparing the master copies for the film prints. Carbon was a

necessary ingredient in every outline to be reproduced.

The IBM Selectric Typewriter was the most satisfactory of the five tested because of the carbon ribbon and the factor that the ribbon was new each time a key was struck. The Letter Gothic Ball produced the clearest type for reproducing on film.

Ballpoints, pens, and a variety of pencils were tested to find the best carbon content. Of all the pencils tested, the Wallace Machine Scoring Number 400 Pencil was the most satisfactory and was used for writing the shorthand outlines. The Fighier Number 77 Pencil with a Number 2 lead was satisfactory and was used to draw the mount outline and the ruled line for the alphabetic characters.

Material Costs

The Instructional Media Center at Kansas State Teachers College at Emporia, Kansas, had the current price lists available and Nashua Xerographic Film in stock. Mounts were ordered from Lawrence Photo Supply, Incorporated, 802 West Second, Wichita, Kansas. The total cost per slide was approximately as follows considering there averaged 28 frames on an 8 1/2 by 11 inch film:

Nashua Xerographic Film \$28.95/100 sheets	\$.0103	Per Slide
Metered Xerox Machine Charge 10¢/per sheet	.0036	Per Slide
Mounts \$10.95/1,000 mounts	<u>.0110</u>	Per Slide
Material Cost.....	<u>\$.0249</u>	Per Slide

The cost per slide could be reduced by putting the maximum number of frames on the film. If margins are not a concern, 35 frames could be

put on one film sheet. The film and metered Xerox Machine charge would total \$.0114 instead of \$.0139.

Master Sheets

The master sheets that were used to make the film are shown in Appendix A. The master sheets were divided into the following areas for ease in mounting, coding, and filing:

<u>Area</u>	<u>Number Of Slides</u>
Introduction Slides	27
Vowels	110
Consonants	72
Brief Forms	258
Punctuation, Amounts, Quantities, Days, Months, and Business Abbreviations	110
Word Beginnings	150
Word Endings	135
Phrases	156
States	102
500 Most-Used Words	964

The master sheets were preruled with a Number 2 pencil for a frame size guide. A guide sheet was made for ruling the master sheets to expedite the process. The line guides for writing shorthand outlines with good proportion were also on the guide sheet. See Appendix A.

After the master sheets were ruled, the words were typewritten on the master sheets. Tabulation stops were set for the center of each frame in which a word was to be typewritten. Each word was individually centered by backspacing from the tabulation point. The width of the visual area on

the film was one-eighth inch less than the frame size. Long words had to be checked to be sure they did not extend beyond this visual area.

After the words were typewritten, the words were written in shorthand. A Wallace Machine Scoring Number 400 Pencil was used in writing the shorthand outline. The master was laid over the guide-sheet lines as a guide for good proportion.

The introduction slides were typewritten in all capital letters and used to notify the student of a change in areas. The terms on the introduction slides were those used in the various sources for writing the slides.

The theory slides consisted of the theory listed in the index of Gregg Shorthand, Diamond Jubilee Series as follows: alphabetic characters, amounts, days, figures, months, punctuation, quantities, weights and measures, word beginnings and word endings.¹ A maximum of two words were given as examples for any one theory.

The joined and disjoined word beginnings and endings were prepared by typewriting the beginning or ending and following with two words using the shorthand theory. There were 35 frames on each sheet in these areas. See Appendix A.

The phrase slides consisted of phrases listed in Gregg Dictation, Diamond Jubilee Series.² The phrases were divided into sections with introduction slides and several examples of each type of phrase given.

¹John R. Gregg, Louis A. Leslie, and Charles Zoubek, Gregg Shorthand, Diamond Jubilee Series (New York: McGraw-Hill Book Co., Inc., 1969), pp. 381-383.

²Louis A. Leslie, Charles E. Zoubek, and Madeline S. Strony, Gregg Dictations, Diamond Jubilee Series (New York: McGraw-Hill Book Co., Inc., 1963), pp. 511-512.

The 500 most-used words slides consisted of the 500 most-used words listed in Correlated Dictations and Transcription, Gregg Diamond Jubilee Edition.¹ See Appendix A.

The source for the new state abbreviations was The Journal of Business Education.² The new two-letter abbreviations are concise shorthand symbols that are as close to the Post Office Department's Optical Character Reader abbreviations as clarity and ease of writing will permit. See Appendix A.

The brief forms were listed in the index of Gregg Shorthand, Diamond Jubilee Series.³ If a brief form shorthand outline had more than one meaning, they were all presented at one time. See Appendix A.

Mounting the Slides

After the film was made, it was cut with scissors into sections for mounting in slide mounts. The film was thick and would not cut evenly on a paper cutter.

A 2 by 2 inch heat seal style mount was purchased that sealed on four sides. Because of the danger of ruining the film and the time factor in sealing the mounts with a household iron, a hand press was used.

The top of the film was mounted on the folded edge of the mount.

See Appendix B.

¹Hamden L. Forkner and others, Correlated Dictations and Transcription Gregg Diamond Jubilee Edition (New York: Forkner Publishing Co., 1966), pp. 1-34.

²Lawrence P. Neuerberg, "Clinch New State Abbreviations with Shortened Shorthand Symbols," The Journal of Business Education, XLIV (March, 1969), 242.

³Gregg, op. cit., pp. 383-384.

Coding the Slides

The slides were color coded as follows considering the eye strain factor: (blue, red, green, yellow, and clear)

<u>Area</u>	<u>Color Code</u>
Introduction Slides	Clear
Vowels	Red
Consonants	Green
Brief Forms	Red
Punctuation, Amounts, Quantities, Days, Months, and Business Abbreviations	Green
Word Beginnings	Blue
Word Endings	Red
Phrases	Green
States	Yellow
500 Most-Used Words	Blue

Because of the limited five colors of film available and because the sequence of certain slides was necessary, a coding system had to be devised to be sure the slides were filed in the proper order.

In most cases, it was a matter of the stimulus (typewritten word) and the reinforcement (shorthand) slide being together. However, in the cases of a sequence of words for one principle a series had to be coded together (Example: word beginnings). Each area was separated by introduction slides.

The typewritten slide was always placed first. See Table 3 for the codes used on the slide mounts for filing the mounts in carousels.

The code was placed on the bottom of the slide mount so it could be read on the top edge when the slide was in the carousel. See Appendix B.

Table 3

CODE SYSTEM USED TO KEEP SHORTHAND SLIDES
IN SEQUENCE WHEN FILING
IN CAROUSELS

Areas	Introduction Slides	Code
Vowels	Vowels	V-1A, V-1B, V-1C, V-1D, V-1E V-2A, V-2B,.....V-21E
Consonants	Consonants	C1 & C1.....C36 & C36
Brief Forms	Brief Forms	BF1 & BF1.....BF129 & BF129
Punctuation	Punctuation	P1 & P1.....P6 & P6
Amounts and Quantities	Amounts and Quantities	AQ1 & AQ1.....AQ18 & AQ18
Days	Days of the Week	D1 & D1.....D7 & D7
Months	Months of the Year	M1 & M1.....M12 & M12
Business Abbreviations	Business Abbreviations	BA1 & BA1.....BA11 & BA11
Word Beginnings	Disjoined Word Beginnings ^a Joined Word Beginnings ^a	WB-1A, WB-1B, WB-1C, WB-1D.. WB-2A, WB-2B,.....WB-29E
Word Endings	Disjoined Word Endings ^a Joined Word Endings ^a	WE-1A, WE-1B, WE-1C, WE-1D.. WE-2A, WE-2B,.....WE-27D

Table 3 (Continued)

CODE SYSTEM USED TO KEEP SHORTHAND SLIDES
IN SEQUENCE WHEN FILING
IN CAROUSELS

Areas	Introduction Slides	Code
Phrases	Phrases ^a I for I <u>o</u> in Phrases Been Represented by <u>B</u> A <u>ble</u> Represented by <u>A</u> Want Preceded by Pronoun A <u>go</u> Represented by <u>G</u> To Omitted in Phrases The Omitted in Phrases Of Omitted in Phrases A Omitted in Phrases Intersected Phrases Special Phrases	PH-1A.....PH-1H PH-2A.....PH-2J PH-3A.....PH-3H PH-4A.....PH-4H PH-5A.....PH-5E PH-6A.....PH-6F PH-7A.....PH-7F PH-8A.....PH-8G PH-9A.....PH-9F PH-10A.....PH-10E PH-11A.....PH-11G
States	States	SI & ST.....S51 & S51
500 Most-Used Words	500 Most-Used Words ^b	W1 & W1.....W482 & W482

^aWhen there was more than one introduction slide in an area, the introduction slides were filed at the point of code changes.

^bIn the 500 Most-Used Words area, there are less than 1,000 slides because shorthand symbols with more than one meaning were combined on one slide (Example: in and not).

Storing the Slides

The slides were stored in carousels so students could easily place the carousel on the projector with a minimum of time and effort. Each carousel was stored in a labeled box provided with the carousels at the time of purchase.

The carousels hold 140 slides so it was necessary to divide some of the areas for maximum use of the carousels. The order of filing in the carousels was coordinated with the presentations in the textbooks.

Chapter 4

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

It was the purpose of this study to prepare shorthand slides for individualized study for students' skill improvement in shorthand at Chanute Senior High School. The preparation of the slides was done to (1) provide students with an additional media for individualized study of shorthand, (2) provide the teacher with instructional material, and (3) provide a new media in shorthand instruction at a minimum cost.

The preparation of the slides was done in five general areas: brief forms, theory, phrases, state abbreviations, and the 500 most-used words.

Summary

One of the major unsolved problems in teaching shorthand is helping each student achieve his best potential. Both philosophical and educational factors are involved in the learning process.

The philosophical bases are: each person is a unique individual; learning develops through involvement; and all the critical factors of any learning experience include content, the process of learning, and interaction of learner and the medium.

The educators responsibilities to the learner are: to provide a stimulating environment; to provide numerous opportunities for the learner to become involved; to provide capable teachers, resources and technology; and to provide continuous cooperative evaluation of each learner.

Skinner believed that learning is facilitated when the student is given a stimulus, makes a response, and is given a reinforcement.¹ Reinforcers that are used after a student makes a response have to be practical in a particular school setting. Reinforcement is most effective if accomplished immediately after the response. Properly programmed instructional media can produce an effect upon each student of that of having a private tutor to provide reinforcement.

Individualized instructional media can give teachers more time to work with individuals or small groups while the majority of the class is progressing at their own rate.

Shorthand is a perceptual-motor skill. This means that practice is necessary if a student is to progress in building skill. The degree and method of the practice should be individualized to meet the students' needs.

Brief forms are great time savers in taking dictation. The correct outline response must be automatic. Practice is required to write the brief forms automatically during dictation.

Shorthand shortcuts and advanced phrasing do not merit emphasis. They merely tend to increase the memory load and inhibit the writer. A few memory phrases that are helpful are been, able, had, hope, etc.

There is a lack of clearness and lack of agreement among teachers of shorthand as to the amount of time that should be spent in developing skill in the use of high frequency words. Some teachers believe that if a student masters a basic vocabulary of high frequency words, he is ready to extend his vocabulary, having a foundation for writing other words.

¹Morris L. Biggee, Learning Theories for Teachers (New York: Harper and Row, 1964), 136.

Students who are taught the new two-letter abbreviations for states in shorthand do not have the confusion of remembering both the shorthand abbreviations for the states and the two-letter abbreviations.

The following procedure was used in the preparation of the shorthand slides:

1. Available literature was reviewed in determining the content and preparation of the slides.
2. Typewriter print and ribbons, pens, and pencils were tested for reproduction on various types of film and machines. The most satisfactory were: the IBM Selectric Typewriter with the Letter Gothic Ball, the Wallace Machine Scoring Number 400 Pencil, and the Fighier Number 77 Pencil with a Number 2 lead. The film that produced the clearest copy and was the most durable was the Nashua Xerographic Film made on the Xerox 914 Machine.
3. Price quotations were secured on film, mounts, and carousels. The Nashua Xerographic Film cost was \$28.95 per 100 sheets. The cost of the mounts was \$10.95 per 1,000 mounts. The carousels cost \$3.80 and hold 140 slides. The meter charge on the Xerox 914 Machine was \$.10 per copy of the film.
4. White 8 1/2 by 11 inch sheets were ruled for 28 squares size 1 1/2 by 1 5/16 inches each to match the slide mount openings. Individual words were typewritten in one square and rewritten in shorthand in another square. These were the master sheets used to prepare the film.
5. The film was cut into sections, and each section was mounted in a slide mount and sealed with a mount press.
6. After the slides were prepared, they were classified into areas

and filed in carousels according to the five general areas for ease in selection and use.

Conclusions

Shorthand slides can be prepared for individualized instructional media in shorthand using Skinner's theory of learning (stimulus-response-reinforcement).

Slides prepared in five different colors (clear, blue, red, green, and yellow) will add variety in the classroom and reduce eye strain.

There are several types of projecting equipment available from local and national sources of supply. Prices vary according to the type of equipment purchased.

There are usually suppliers in every state who can supply the teacher with film, film making machines or service, and mounts.

The film and mounts for the preparation of the slides in this study cost approximately \$.0249 per slide. A total of 140 slides were filed in one carousel which cost \$3.80 or approximately \$.0270 per slide. The approximate cost of each slide mounted and filed in a carousel was \$.0519.

An assembly line process would be most feasible for preparing and mounting large numbers of slides. The best order for the assembly process seemed to be cutting, mounting, coding, and filing.

Recommendations

Equipment and supplies should be tested thoroughly before slide master sheets are prepared. Project sample slides to check reproduction under magnification before preparing the final slide master sheets.

Additional slides could be developed in some of the following cases:

1. Entire sentences could be written on one frame to improve and develop students' retention level.
2. Sentences could be written on one frame for punctuation drills.
3. Terminology could be developed for areas of shorthand specialization such as legal or medical shorthand.
4. Spelling words could be written on slides to reinforce good spelling habits.

Dictation tapes should be prepared to correlate with the slides that were prepared in this study. The student could individually work with the slides and then transfer his learning while taking dictation from tapes.

A follow-up study should be done using a control group to test the effectiveness of using the slides prepared in this study.

BIBLIOGRAPHY

BIBLIOGRAPHY

A. BOOKS

- Biggee, Morris L. Learning Theories for Teachers. New York: Harper and Row, 1964.
- Bishop, Lloyd K. Individualized Educational Systems. New York: Harper and Row, 1969.
- Condon, Arnold. "Secretarial Education with a Future," The American Education Yearbook. Somerville, New Jersey: Somerset Press, 1962.
- Forkner, Hamden L., and others. Correlated Dictations and Transcription, Gregg Diamond Jubilee Edition. New York: Forkner Publishing Co., 1966.
- Good, Carter V. Dictionary of Education. 2d ed. New York: McGraw-Hill Book Co., Inc., 1959.
- Gregg, John R., Louis A. Leslie, and Charles Zoubek. Gregg Shorthand, Diamond Jubilee Series. New York: McGraw-Hill Book Co., Inc., 1963.
- Hosler, Russell J., and others. Programmed Gregg Shorthand, Diamond Jubilee Series, Experimental Edition. New York: McGraw-Hill Book Co., Inc., 1969.
- Leslie, Louis A., and Charles E. Zoubek. Key to Graded Transcribing Tests. New York: McGraw-Hill Book Co., Inc., 1964.
- National Audio-Visual Association. 1972-1973 Audio-Visual Equipment Directory. Evanston: The National Audio-Visual Association, 1972.
- Russon, Allien R. Methods of Teaching Shorthand. Monograph 119. Cincinnati: South-Western Publishing Company, 1968.
- Sands, Lester B. Audio-Visual Procedures in Teaching. New York: Ronald Press Co., 1956.
- Seagoe, May V. A Teacher's Guide to the Learning Process. Dubuque: Wm. C. Brown Co., 1961.
- Tonne, Herbert, Estelle L. Popham, and M. Herbert Freeman. Methods of Teaching Business Subjects. New York: McGraw-Hill Book Co., Inc., 1965.
- Wittich, Walter, and Charles F. Schuller. Audio-Visual Materials: Their Nature and Use. New York: Harper and Row, 1957.

B. PERIODICALS

- Bishop, Lloyd K. "Individualizing Educational Programs," Business Education Forum, XXV (May, 1971), 13.
- Brenholt, JoAnne M. and Edward L. Houghton. "Individualized Video Shorthand Instruction," The Balance Sheet, LIII (May, 1972), 342.
- Crunk, Dorothy E. "Learning Psychology and Shorthand," Business Education Forum, XXIII (November, 1969), 17-18.
- Foss, H. A., and G. L. Pearce. "Liven Up Laboratory Learning With Synchronized 2 X 2 Sound Slides," Audio-Visual Instruction, XIII (March, 1968), 288.
- Hollis, R. "Your Own Slides," Catholic Schools, LXX (March, 1970), 30.
- Hosler, Russel J. "Focus on Individualized Instruction," Business Education Forum, XXV (May, 1971), 13-17.
- Motley, D. "How to Find Your Slides Fast," Educational Screen AVG, XLIX (May, 1970), 18-20.
- Neuerburg, Lawrence P. "Clinch New State Abbreviations with Shortened Shorthand," Journal of Business Education, XLIV (March, 1969), 242.
- O'Connell, Mary Margaret. "The Effectiveness of Programmed Shorthand Materials," National Business Education Quarterly, XXXVI (March, 1969), 28-33.
- West, Leonard J. "Individualized Instruction," Business Education Forum, XXV (May, 1971), 19-21.

C. PAMPHLETS






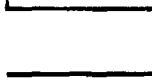




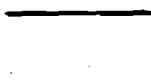
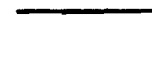


- Eastman Kodak Company. 1970-1971 Audiovisual Products Catalog. Rochester, New York: Eastman Kodak Company, 1970.
- Eastman Kodak Company. Slides With a Purpose for Business Education. Rochester, New York: Eastman Kodak Company, 1971.
- Nashua Corporation. Nashua Xerographic Film, 1972 Edition. Nashua, New Hampshire: Nashua Corporation, 1972.
- Post Office Department. Addressing for the Optical Character Reader, Publication 65. Washington, D. C.: Post Office Department, 1968.

D. UNPUBLISHED MATERIALS

- O'Neal, Howard R. "Study of Methods and Devices Used in Teaching Gregg Shorthand." Unpublished Master's paper, Kansas State Teachers College, Emporia, 1968.
- Prince, Delma Jo. "An Experiment Comparing the Achievement in Transcription of Students When the 500 Most-Used Words Were Emphasized with the Achievement of Students when These Words were not Emphasized in Beginning Shorthand." Unpublished Master's thesis, University of Maryland, College Park, 1967.
- Weintraub, Boyd and James D. Finn. "An Analysis of Audio-Visual Machines for Individual Program Presentation." Unpublished Doctor's dissertation, University of Southern California, Berkeley, 1967.

APPENDIX A

GUIDE SHEET FOR RULING THE MASTERS

MASTER SHEET
for
INTRODUCTION SLIDES

500 MOST-USED WORDS	BRIEF FORMS	STATES	JOINED WORD BEGINNINGS
DISJOINED WORD BEGINNINGS	JOINED WORD ENDINGS	DISJOINED WORD ENDINGS	PHRASES
<u>I</u> FOR <u>TO</u> IN PHRASES	BEEN REPRESENTED BY <u>B</u>	ABLE REPRESENTED BY <u>A</u>	<u>WANT</u> PRECEDED BY PRONOUN
<u>AGO</u> REPRESENTED BY <u>G</u>	<u>TO</u> OMITTED IN PHRASES	<u>THE</u> OMITTED IN PHRASES	<u>OF</u> OMITTED IN PHRASES
<u>A</u> OMITTED IN PHRASES	INTERSECTED PHRASES	SPECIAL PHRASES	PUNCTUATION
DAYS OF THE WEEK	MONTHS OF THE YEAR	BUSINESS ABBREVIATIONS	AMOUNTS & QUANTITIES
CONSONANTS	VOWELS	USE GOOD PROPORTION	

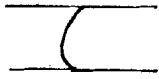
MASTER SHEETS

for

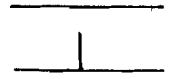
CONSONANTS

Consonants

b



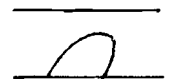
ch



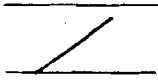
ded,
det,
dit



def,
dif



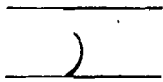
d



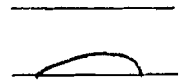
dem



f



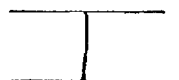
g



h



j



k



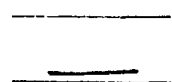
l



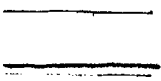



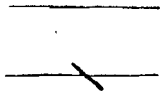
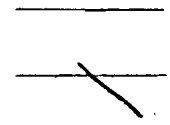

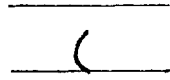


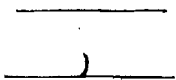
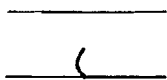
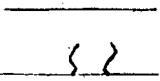
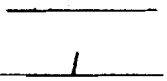
ld



m

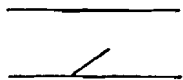


Consonants

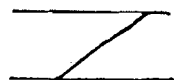
men, mem, min, mon, mun		mt, md	
n		nd	
ng		ngk	
nt		p	
r		rd	
comma "s"		left "s"	
ses		sh	

Consonants

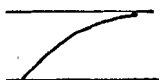
t



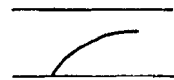
ted



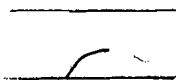
tem



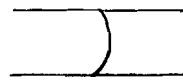
ten



th



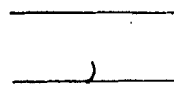
v



x



z

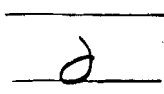
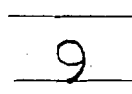
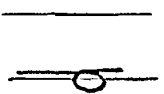
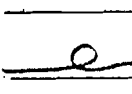
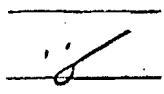
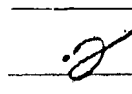
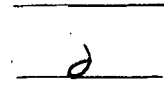
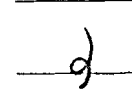
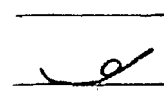
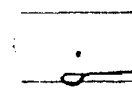
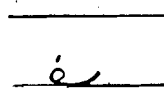

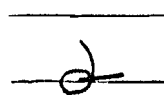
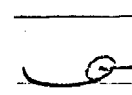


MASTER SHEETS

for

VOWELS

wel

<p>ā</p>	<p>say</p>		<p>ace</p>	
<p>ā, ä</p>	<p>man</p>		<p>mark</p>	
<p>ah, aw</p>	<p>ahead</p>		<p>await</p>	
<p>e</p>	<p>see</p>		<p>fees</p>	
<p>ë, ï, ê, û</p>	<p>let</p>		<p>him</p>	
<p></p>	<p>her</p>		<p>hurt</p>	
<p>i</p>	<p>fine</p>		<p>line</p>	

owels

Long "i"
and "a"
Following
Vowel

trial

appliances

ia, ea

appropriate

area

o

no

note

o, aw

hot

call

ow

now

proud

oi


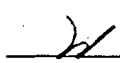
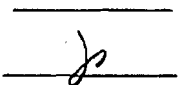

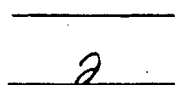

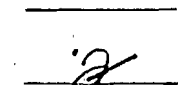

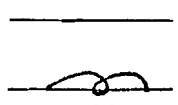
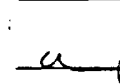
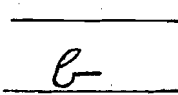
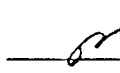
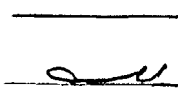

toy

joy

oo

to, two
too

shoe

<p>u, oo</p>	<p>does</p>		<p>foot</p>	
<p>u</p>	<p>few</p>		<p>unit</p>	
<p>w, sw</p>	<p>we</p>		<p>sweet</p>	
<p>wh</p>	<p>white</p>		<p>whip</p>	
<p>"w" in the body of a word</p>	<p>quick</p>		<p>always</p>	
<p>y</p>	<p>yawn</p>		<p>youth</p>	
<p>ye</p>	<p>yellow</p>		<p>yielded</p>	

wels

ya

yard

o

yarn

o

MASTER SHEETS

for

BRIEF FORMS

Brief Forms

I

o

Mr.

—

have

)

are
our
hour

)

will

well

)

a
an

.

am

p

it
at

/

in

not

—

is
his

)

the

)

that

p

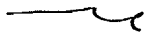













can

)















you
your

)

Brief Forms

Mrs.		of	
with		but	
for		shall	
which		be by	
put		would	
their there		this	
good		and	

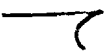


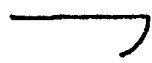






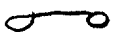



Brief Forms

them		they	
was		when	
from		should	
could		send	
glad		work	
yesterday		very	
thank		order.	

Brief Forms

soon	z	enclose	s
were year	e	value	z
than	r	one won	r
what	d	about	e
great	z	thing think	i
why	o	business	s
gentlemen	L	morning	i

Brief Forms

important importance		those	
where		manufacture	
present		part	
after		advertise	
company		wish	
immediate		must	
opportunity		advantage	

Brief Forms

use

u

big

b

suggest

s

such

s

several

s

correspondence

correspond

ce

how

out

o

ever

every

e

time

t

acknowledge

a

general

g

gone

g













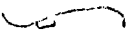

during

d

over

o

Brief Forms

question		yet	
envelope		progress	
satisfactory satisfy		success	
next		state	
under		request	
particular		probable	
regular		speak	

Brief Forms

idea

subject

upon

street

newspaper

purpose

regard

opinion

circular

responsible

organize

public

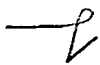
publish

publication

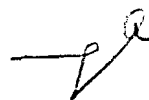
ordinary

Brief Forms

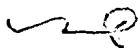
merchant



merchandise



recognize



never



experience



between



short



quantity



situation



railroad



world



throughout



object



character



govern

7

government

2

MASTER SHEETS
for
WORD BEGINNINGS

Per-, Pur-

permit

purchase

Em-

employ

embarrass

Im-

impression

impossible

In-

increase

intend

En-

encounter

encourage

Un-

unwritten




undue

Re-

refer

reorder





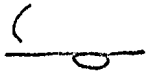


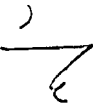






d Beginnings

Be-	beyond		beside	
De-, Di-	deliver		debate	
Dis-, Des-	dismiss		despite	
Mis-	mistake		misstate	
Ex-	explain		express	
Com-	compel		commerce	
Con-	condition		convey	

d Beginnings

Sub-	submit	<i>26</i>	sublease	<i>Ee</i>
Al-	almost	<i>cu</i>	alteration	<i>H</i>
For-, Fore-	forgive	<i>29</i>	forceful	<i>}</i>
Fur-	furnace	<i>2e</i>	further	<i>v</i>
Tern-, Etc.	turn	<i>2</i>	attorney	<i>g</i>
Ul	ultimately	<i>200</i>	adult	<i>g</i>
Inter-, Intr-, Enter-, Entr-	interview	<i>2</i>	introduce	<i>13</i>

d Beginnings

	enterprise		entrance	
Electr-, Electric	electricity		electrician	
Post-	postman		postage	
Super-	supervise		superimpose	
Circum-	circumstance		circumspect	
Self-	selfish		self-confident	
Trans-	translate		transportation	

d Beginnings

Under-

understand

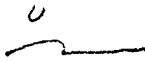


under-paid



Over-

overcome



oversee



MASTER SHEETS





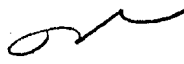
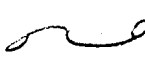

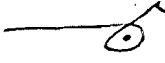
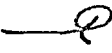




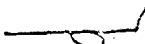
for

WORD ENDINGS

d Endings

-ment	treatment		alignment	
-tion	nation		operation	
-tial	confidential		station	
-ly	namely		tightly	
-ily	family		readily	
-ful	careful		thoughtful	
-sume, -sumption	assume		presumption	

Endings

-ble	dependable		profitable	
-ther	gather		bother	
-ual	actual		equally	
-ure	failure		miniature	
-self, -selves	myself		themselves	
-ort	support		quarter	
-tain	retain		maintain	

d Endings

-cient,
-ciency

efficient

29

proficiency

cy
3

-hood

childhood

61

motherhood

—

-ward

backward

81

reward

—

-ship

relationship

ep

membership

—

-cle, -cal

political

an

article

—

-ulate
-ulations

tabulate

ln

congratulations

—

-ingly

exceedingly

go

surprisingly

—

d Endings

-ings	readings		blessings	
-gram	program		cablegrams	
-ification	notification		specifications	
-lity	personality		reliability	
-lty	faculty		casualty	
-rity	authority		majority	

MASTER SHEETS
for
PUNCTUATION, AMOUNTS, QUANTITIES,
DAYS, MONTHS, AND BUSINESS ABBREVIATIONS








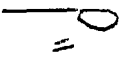






Punctuation, Amounts, Quantities, Days, Months, and Business Abbreviations

period	,	question mark	?
paragraph	¶	dash	—
parentheses	()	hyphen	-
400	<u>4</u>	4,000	4,
400,000	<u>4</u>	\$4	4/
\$4,000	4/	\$400,000	4/
four o'clock	4 ^o	\$4.50	4 ⁵⁰

Punctuation, Amounts, Quantities, Days, Months, and Business Abbreviations

4 per cent	<u>4</u>	\$500	<u>5</u>
5,000,000	<u>5</u>	\$5,000,000	<u>5</u>
5 billion	<u>5</u>	several hundred	<u>9</u>
a dollar	<u>/</u>	a million	<u>.</u>
4 pounds	<u>4</u>	8 feet	<u>8</u>
Sunday	<u>S</u>	Monday	<u>M</u>
Tuesday	<u>T</u>	Wednesday	<u>W</u>

Punctuation, Amounts, Quantities, Days, Months, and Business Abbreviations

Thursday		Friday	
Saturday		January	
February		March	
April		May	
June		July	
August		September	
October		November	

Punctuation, Amounts, Quantities, Days, Months, and Business Abbreviations

December



Dear Mr.



Dear Mrs.



Dear Miss

Yours
sincerelyCordially
yoursVery
cordially
yours

Dear Sir

Sincerely
yoursYours
respectfullyRespectfully
yours

Very truly

Very truly
yours

MASTER SHEETS

for

PHRASES

Phrases

to see		to sell	
to place		to begin	
to have		to be	
to fly		to fit	
had been		have been	
I have been		have not been	
has been		has not been	

Phrases

it has been

you should
have been

you might
have been

I could
have been

Should
be able

would
be able

had been
able

has been
able

have not
been able

I have not
been able

you would
be able

to be able

I want

you want

Phrases

they want

we want

she wants

who wants

if you
wantif you
wanted

days ago

weeks ago

months ago

years ago

few days
agoAble to
say

able to see

glad to see

Phrases

in order
to be

in order
to have

in addition
to the

during the
past

in the past

in the
world

on the
question

many of the

one of the

one of them

out of date

out of this

some of our

some of
these

Phrases

at a loss



at a time



for a few days



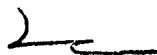
in a position



for a long time



for a moment



a.m.



p.m.



C.O.D.



Chamber of Commerce



vice versa




of course



as soon as



as soon as possible



Phrases

to do



I hope



we hope



to make

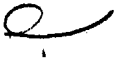











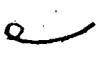



MASTER SHEETS





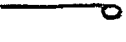

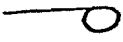
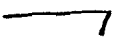
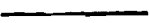
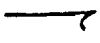




for

STATES

States

Alabama		Alaska	
Arizona		Arkansas	
California		Colorado	
Connecticut		Delaware	
Florida		Georgia	
Hawaii		Idaho	
Illinois		Indiana	

States

Iowa		Kansas	
Kentucky		Louisiana	
Maine		Maryland	
Massachusetts		Michigan	
Minnesota		Mississippi	
Missouri		Montana	
Nebraska		Nevada	

States

New Hampshire	.	New Jersey	+
New Mexico	—	New York	5
North Carolina	5	North Dakota	✓
Ohio	u	Oklahoma	5
Oregon	a	Pennsylvania	6
Rhode Island	6	South Carolina	5
South Dakota	✓	Tennessee	✓

States

Texas	1	Utah	1
Vermont	2	Virginia	2
Washington	2	West Virginia	3
Wisconsin	3	Wyoming	2
District Of Columbia	6		

MASTER SHEETS
for
500 MOST-USED WORDS





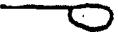









500 Most-Used Words

a, an	.	able	e
afternoon	22	and	/
asked	2v	be	/
before	f	believe	G
can	~	car	e
care	e	company	?
copy	6	do	/

500 Most-Used Words

each	9	early	e
few	f	first	fr
for)	get	g
great	~	has	h
have)	her	h
home	i	in not	-
it at	/	later	l

500 Most-Used Words

leave		letters	
like		mail	
may		morning	
new		of	
office		on	
orders		position	
ready		Saturday	

500 Most-Used Words

she

six

take

the

them

this

to

today

very

we

weeks

well

with

work

would

writing

accept

account

always

am

balance

bank

book

card

check

close

come

credit

500 Most-Used Words

date



day



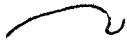
department



every



go



going



I



if



is

his



keep



know



letter



me



money



<p>must</p>		<p>my</p>	
<p>necessary</p>		<p>need</p>	
<p>next</p>		<p>open</p>	
<p>pay</p>		<p>records</p>	
<p>summer</p>		<p>sure</p>	
<p>their there</p>		<p>three</p>	
<p>up</p>		<p>week</p>	

when

write

you

your

appreciate

bill

buy

charge

does

due

four

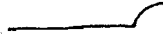
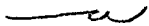
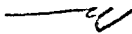
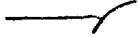







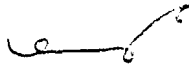


friend

give

happy




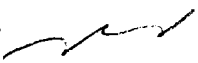
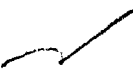



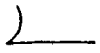

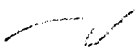


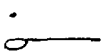
might

500 Most-Used Words

month		more	
most		mother	
not in		one	
order		people	
present		promptly	
receive		remittance	
send		set	

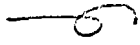
these		they	
time		year were	
about		after	
ago		amount	
another		answer	
any		big	
bring		called	

500 Most-Used Words

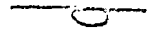
came		city	
complete		contract	
could		country	
find		found	
from		furnish	
got		hard	
he		him	

500 Most-Used Words

make



man



material

our
hour
are

paper



request



sent



supply



than



that



use



was










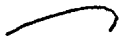

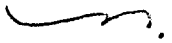




were



which



year

return		cannot	
class		desire	
evening		forward	
Friday		good	
having		looking	
how out		pretty	
question		some	

500 Most-Used Words

stay

until

by

down

had

its

making

Mr.

Mrs.

much

near

number

paid

payment

500 Most-Used Words

place

please

probably

rather

small

town

winter

all

almost

away

busy

enclosed

end

fine

500 Most-Used Words

information

invoice

job

Monday

received

report

sale

show

statement

used

while

call

can't

feel

500 Most-Used Words

hear

heard

meeting

once

part

special

subject

talk

tomorrow

unable

us

business

course

done

500 Most-Used Words

doubt

express

here

little

mind

off

or

reference

remain

returned

satisfy

satisfactory

school

second

short

500 Most-Used Words

taking

then

two

understand

whether

written

yesterday

already

attention

been




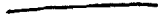










better

change

fact

favor

500 Most-Used Words

further		January	
look		men	
months		only	
over		perhaps	
price		since	
took		within	
again		back	

500 Most-Used Words

between



certainly



dear



half



high



night



offer



old



past



pleased



said



sir



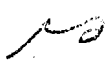













soon



ten

10

500 Most-Used Words

truly		wanted	
young		yours	
did		enough	
given		last	
less		list	
own		prices	
receipt		regarding	

500 Most-Used Words

same

shipment

should

suppose

trouble

want

address

advise

as

delay















full

getting

giving

hope

500 Most-Used Words

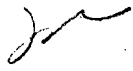
interest		no	
note		prompt	
regard		reply	
replying		seems	
sending		several	
surely		because	
both		box	

500 Most-Used Words

boy	<i>b</i>	case	<i>9</i>
following	<i>u.</i>	help	<i>h</i>
left	<i>l</i>	possible	<i>g</i>
put	<i>(</i>	right	<i>o</i>
room	<i>u</i>	stock	<i>u</i>
taken	<i>o</i>	thought	<i>u</i>
together	<i>u</i>	went	<i>2</i>

500 Most-Used Words

future



goods



hand



indeed



nothing



now



other



pleasure



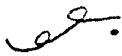
quite



really



returning



service



shipped



sincerely



size



thank



too



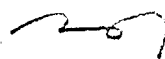
being



but



connection



cost



don't



either



enclosing



girl



how



large



line

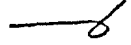


500 Most-Used Words

lot



meet



see



tell



those



told



try



way



why



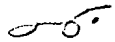
without



wrote



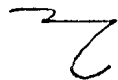
anything



expect



number



500 Most-Used Words

shall

1

state

2

along

e

bed

f

cover

z

cut

w

different

v

ever

g

kind

d

knew

s

name

o

never

7

remember

y

say

o

500 Most-Used Words

such	ƒ	thing think	ſ
value	2	waste	2
what	✓	where	e
bad	f	covering	2.
didn't	—	everything	2.
except	e	gave	9
gone	~	however	9

500 Most-Used Words

into

kindly

least

let

ordered

rest

sorry

through

wish

yet

around

doing

even

just

500 Most-Used Words

life



love



real



regret



so



something



still



trust



war



who



world



above






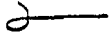






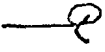



against


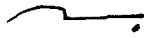






beg



500 Most-Used Words

guess		matter	
nice		seem	
thanking		though	
upon		whole	
enclose		made	
myself		therefore	
under		yes	

cold		coming	
party		reason	
Sunday		weather	

APPENDIX B

MOUNTS AND FILM

MOUNT - The black area is the seal

FILM

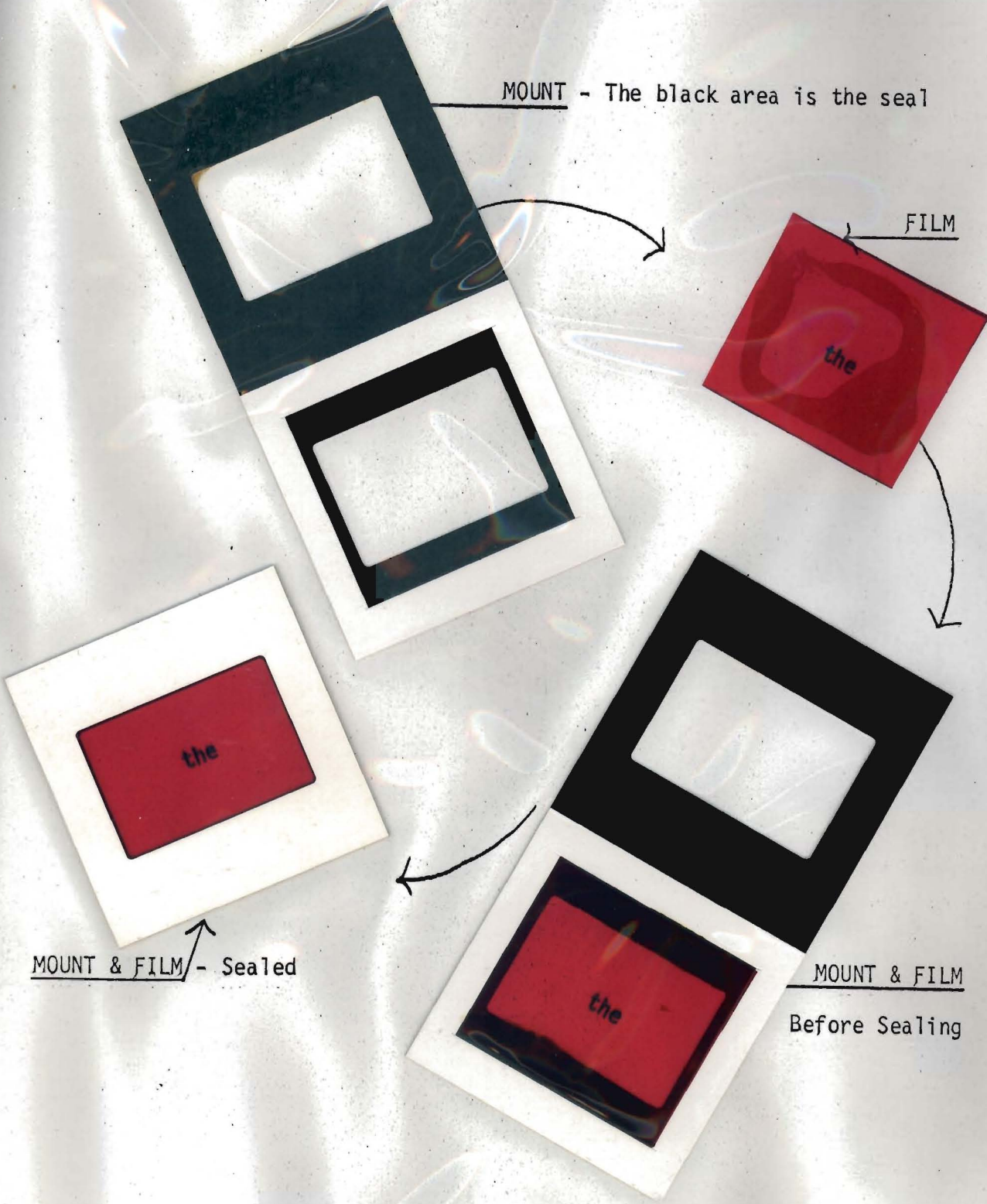
the

the

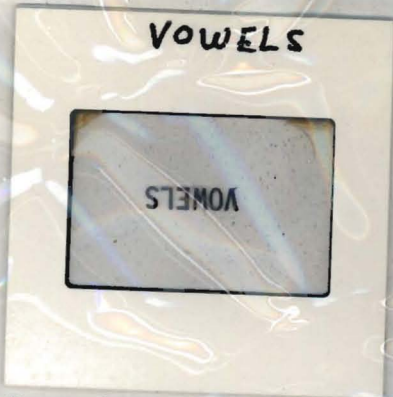
MOUNT & FILM - Sealed

MOUNT & FILM

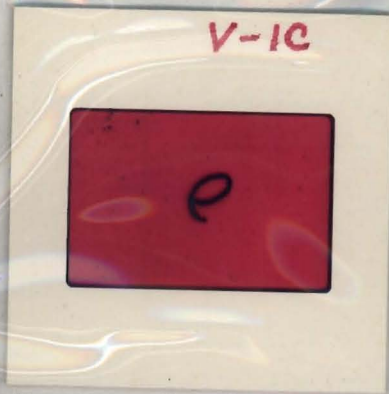
Before Sealing



CODES FOR THE VOWEL SLIDES*



Introduction Slide --
Vowels



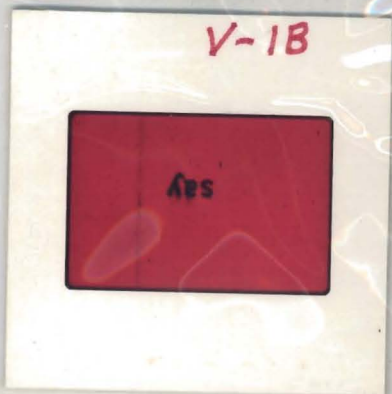
Vowel -- No. 1
"C" Third in a series of 5



Vowel -- No. 1
"A" First in series of 5



Vowel -- No. 1
"D" Fourth in a series of 5



Vowel -- No. 1
"B" Second in Series of 5



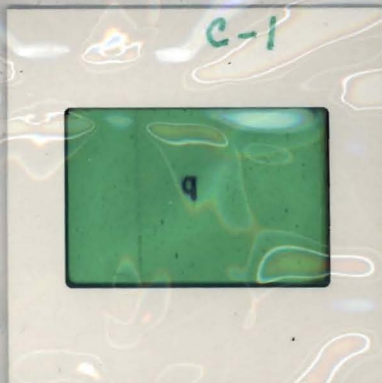
Vowel -- No. 1
"E" Fifth in a series of 5

* Slides shown as they were coded. Codes were written so they would be visible when the slides were filed in the carousels.

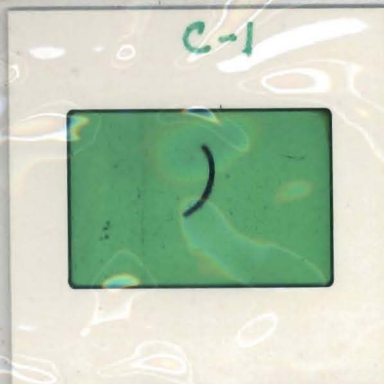
CODES FOR THE CONSONANT SLIDES*



Introduction Slide --
Consonants



Consonant -- No. 1



Consonant -- No. 1

*When pairs of slides are filed, the typewritten word is always first.

*Slides shown as they were coded. Codes were written so they would be visible when the slides were filed in the carousels.

APPENDIX C

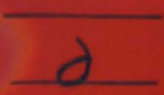



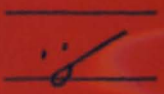
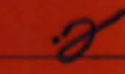
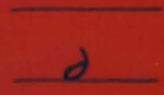
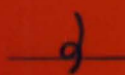
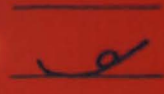
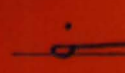
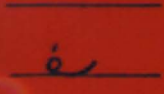
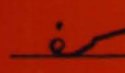
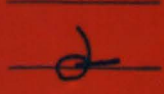

Introduction Slides

500 MOST-USED WORDS	BRIEF FORMS	STATES	JOINED WORD BEGINNINGS
DISJOINED WORD BEGINNINGS	JOINED WORD ENDINGS	DISJOINED WORD ENDINGS	PHRASES
<u>T</u> FOR <u>TO</u> IN PHRASES	BEEN REPRESENTED BY <u>B</u>	ABLE REPRESENTED BY <u>A</u>	<u>WANT</u> PRECEDED BY PRONOUN
AGO REPRESENTED BY <u>G</u>	TO OMITTED IN PHRASES	THE OMITTED IN PHRASES	OF OMITTED IN PHRASES
A OMITTED IN PHRASES	INTERSECTED PHRASES	SPECIAL PHRASES	PUNCTUATION
DAYS OF THE WEEK	MONTHS OF THE YEAR	BUSINESS ABBREVIATIONS	AMOUNTS & QUANTITIES
CONSONANTS	VOWELS	USE GOOD PROPORTION	

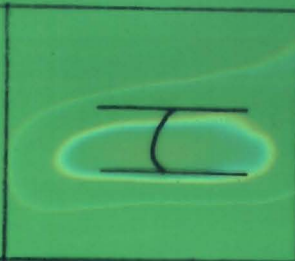
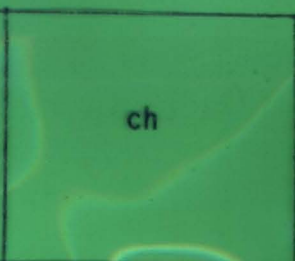
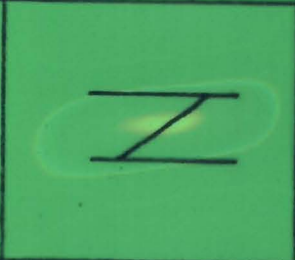
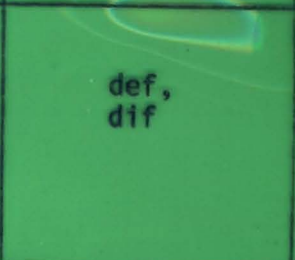
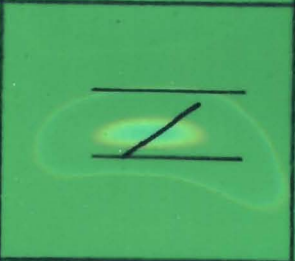
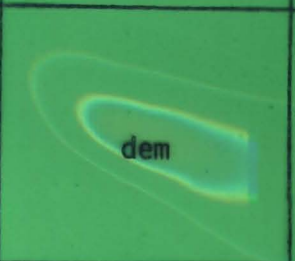
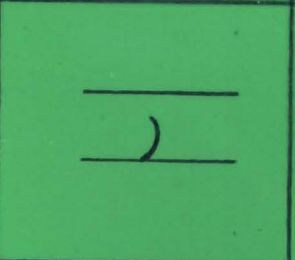
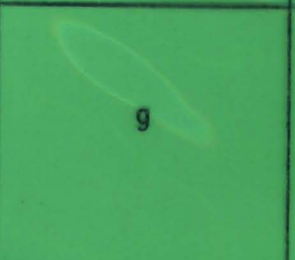

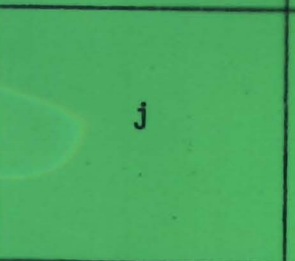
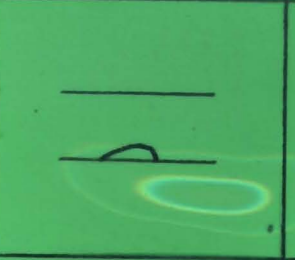
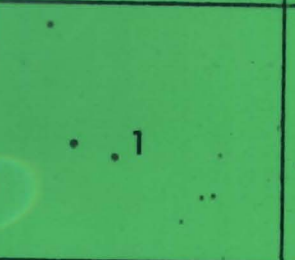
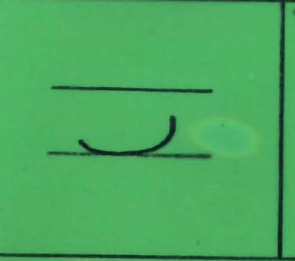
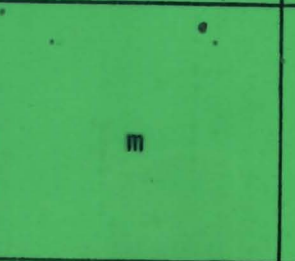
500 Most-Used Words

a, an	.	able	e
afternoon	92	and	✓
asked	21	be	✓
before	5	believe	4
can	✓	car	e
care	e	company	?
copy	6	do	✓

owel

a	say		ace	
a, a	man		mark	
ah, aw	ahead		await	
e	see		fees	
e, i, e, u	let		him	
	her		hurt	
i	fine		line	

Consonants

b		ch	
ded, det, dit		def, dif	
d		dem	
f		g	
h		j	
k		l	
ld		m	

States

Alabama	2	Alaska	9
Arizona	9	Arkansas	2
California	0	Colorado	2
Connecticut	2	Delaware	1
Florida	2	Georgia	0
Hawaii	0	Idaho	0
Illinois	2	Indiana	1

APPENDIX D

Table 1

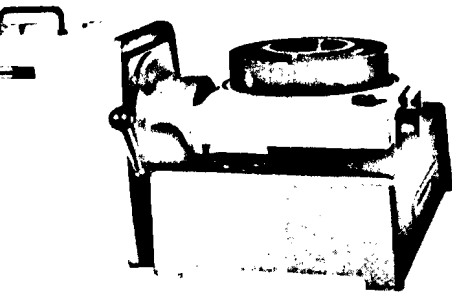
MANUFACTURERS AND DISTRIBUTORS OF SLIDES, FILM, BINDING,
SORTING, AND MOUNTING EQUIPMENT AND SUPPLIES

Company	Street	City
Art-O-Graph Inc	529 S Seventh St	Minneapolis, MN 55415
Eastman Kodak Co	343 State St	Rochester, NY 14450
Emde Products Inc	2040 Stoner Ave	Los Angeles, CA 90025
Gem-Mounts and Gem-Masks Co	Box 630 Times Sq	New York, NY 10036
Kaiser Products	Box 3101	Colorado Springs, CO 80907
Lawrence Photo Supply Inc	802 W Second	Wichita, KS 67201
3M Business Products Sales Inc	4800 W Kellogg	Wichita, KS 67209
Montage Productions Inc	49 W 27 St	New York, NY 10001
Plastic Sealing Corp	1507 N Gardner St	Hollywood, CA 90046
Seary Manufacturing Corp	19 Nebraska Ave	Endicott, NY 13760
Sickles Inc	P0 Box 3396	Scottsdale, AZ 85357
Yankee Photo Products	407 E Redondo Beach	Gardena, CA 90247

Table 2

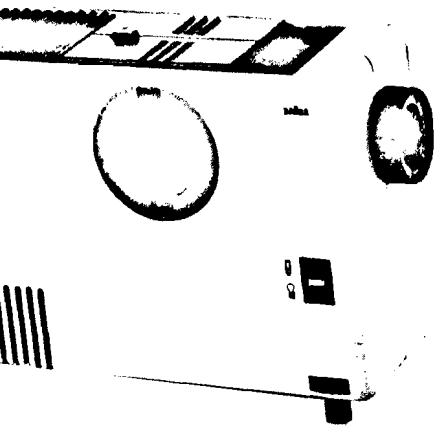
MANUFACTURERS AND DISTRIBUTORS OF SLIDE PROJECTORS
ILLUSTRATED ON THE
FOLLOWING PAGES

Company	Street	City
Bergen Expo Systems Inc	Route 46	Lodi, NJ 07644
Braun Electric Canada Ltd	3269 American Dr	Mississauga, Ontario
Buhl Optical Co	1009 Beech Ave	Pittsburg, PA 15233
Busch Film & Equipment Co	214 S Hamilton	Saginaw, MI 48602
Christie Electric Corp	3410 W 67 St	Los Angeles, CA 90043
Decision Systems Inc	E 66 Midland Ave	Paramus, NJ 07625
Eastman Kodak Co	343 State St	Rochester, NY 14650
Fortune Audio-Visual	35 Bergen Tpk	Little Ferry, NJ 07643
GAF Corporation	140 W 51 St	New York, NY 10020
Harwald Company	1245 Chicago Ave	Evanston, IL 60202
Honeywell Inc	5501 S Broadway	Littleton, CO 80120
Hopmann Corporation	5410 Port Royal Rd	Springfield, VA 22151
Hudson Photographic Industries Inc	2 S Buckhout St	Hudson, NY 10553
International Audio Visual Inc	119 Blanchard St	Seattle, WA 98121
Leitz Inc		Rockleigh, NJ 07647
Motiva Ltd	115 E 55 St	New York, NY 10022
Presentation Technical Aids Inc	630 Ninth Ave	New York, NY 10036
Realist Inc	PO Box 67	Menomonee Falls, WI 53051
Spindler & Sauppe Inc	13034 Saticoy St	North Hollywood, CA 96105
Strong Electric Corp	PO Box 1003	Toledo, OH 43601
T M Visual Industries Inc	25 W 45 St	New York, NY 10036
Tel-A-Story Inc	517 Main St	Davenport, IA 52805



BERGEN EXPO SYSTEMS INC.

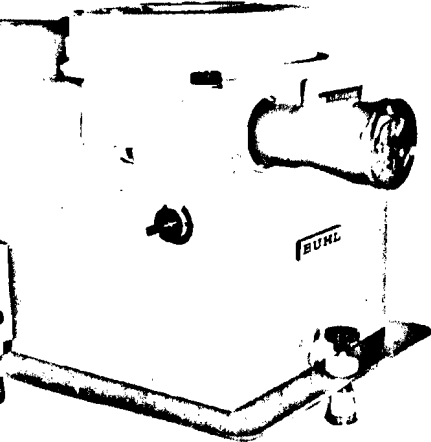
Model: O-R-1000
 Price: \$1995.00
 Projects: 2x2" slides
 Capacity: 140
 Operation: Automatic (timed), 5-8-15 second intervals; semi-automatic; push button on projector; remote control forward and reverse; focus
 Lamp: Custom Xenon, 1000 watt equivalent; blower cooled
 Lens: 4" or 5", f/2.8
 Weight: 49 lbs, including built-in power supply
 Power: 120 V., 60 Hz.
 Notes: Lamphouse contains built-in power supply; various focal length lenses available



BRAUN ELECTRIC CANADA LTD.

Model: Braun D7
 Price: \$49.95
 Projects: 2x2" slides
 Operation: Manual (hand operated), two-way slide carrier
 Lamp: 50 watt quartz and 25 watt viewer lamp, convection cooled
 Lens: 85 mm., f/4.5
 Screen: 2½x2½"
 Weight: 5½ lbs.
 Power: 120 V., 60 Hz.

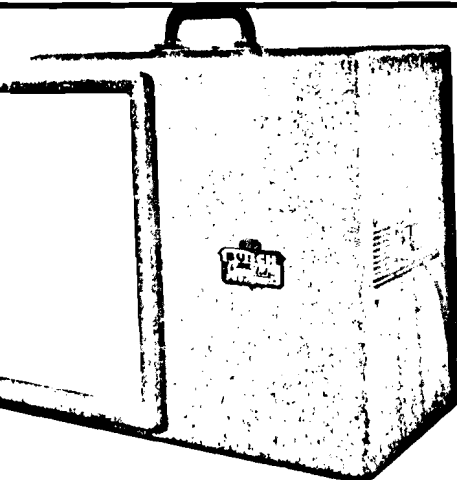
Dimensions: 6-5/8x10-1/8x3-5/8"



BUHL OPTICAL CO.

Model: Hi Lite 820-800
 Price: \$750.00
 Projects: 2x2" slides
 Capacity: 80
 Operation: Built-in slide changer; remote control, forward and reverse focus
 Lamp: BRN, 1200 watt; blower cooled
 Lens: 1" to 15.5"
 Weight: 28 lbs.
 Power: 120 V., 60 Hz.
 Other Models: 820-20, separate cooling pack, \$750.00
 Notes: 3000 lumen output; various lenses available

Dimensions: 14x15x14"



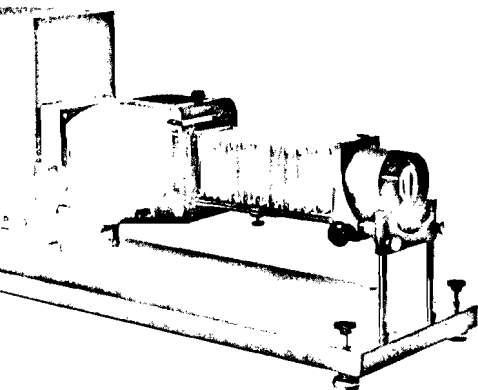
BUSCH FILM & EQUIPMENT COMPANY

Model: Cine-Slide 325
 Price: \$325.00
 Projects: 2x2" slides
 Operation: Automatic; remote or on-machine control; built-in slide changer
 Capacity: 80 slides
 Lamp: 500 watt; blower cooled
 Lens: f/1.4
 Screen: 14x14", built-in
 Power: 120 V., 60 Hz.
 Weight: 20 lbs.



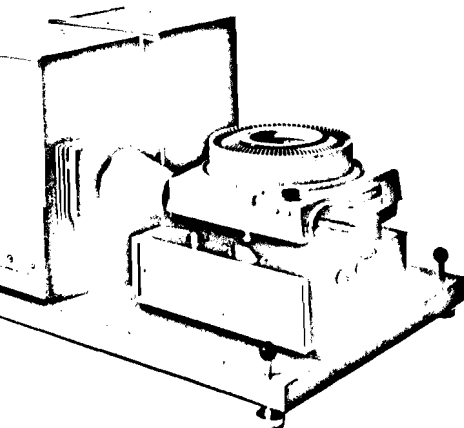
BUSCH FILM & EQUIPMENT COMPANY

Model: 6-240SS Big Screen Cine-Slide
 Price: \$1095.00
 Uses: Kodak Carousel Model 851
 Operation: Automatic or manual
 Lamp: 500 watt; fan cooled
 Lens: 3"
 Screen: 28x28"
 Weight: 125 lbs.
 Dimensions: 40x25x65"
 Power: 120 V., 60 Hz.
 Notes: Equipped with cartridge tape recorder; mike for inaudible projector control; push button start cycling stop



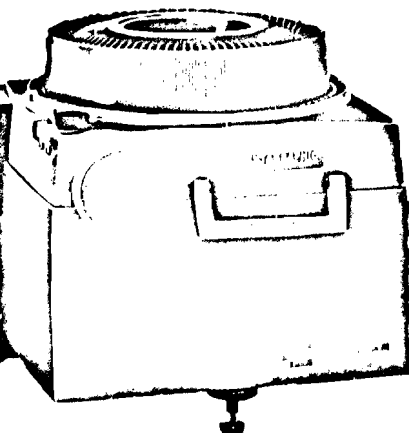
CHRISTIE ELECTRIC CORP., Xenolite Division

Model: BFB900-3624E Projector with Xenolite
 Price: \$3390.00
 Projects: 2x2" slides, 2 1/4 x 2 1/4" slides, 3 1/4 x 4" slides
 Operation: Manual (hand operated)
 Lamp: 900 watt Xenon; blower cooled
 Lens: 12 1/2" - 26", f/1.4
 Power: 120 V., 60 Hz.
 Other Models: BFB900-3624EG, customer furnished projector, \$2775
 Notes: Brightness about 7 times that of standard lamp; dichroic cold mirror; approx. 5400° K (daylight) color temperature; 2000 hour lamplife



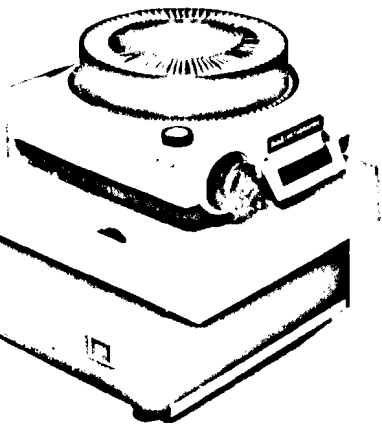
CHRISTIE ELECTRIC CORP., Xenolite Division

Model: BFL450-46 Xenolite with Kodak Ektographic
 Price: \$2220.00
 Projects: 2x2" slides
 Capacity: 80 or 140
 Operation: Built-in slide changer; automatic (timed) intervals: 5, 8, 15, 30, 60 seconds; semi-automatic; push button on projector; remote control: forward only, focus
 Lamp: 450 watt Xenon; blower cooled
 Lens: 4-6", f/3.5 zoom
 Power: 120 V., 60 Hz.
 Weight: 135 lbs.
 Dimensions: 18 1/2 x 20-1/8 x 30 1/2"
 Accessories: Remote douser, on-off, etc., \$240.00; lap dissolve for time-lapse projectors, \$690.00
 Other Models: BFL450-OG with customer furnished projector, \$2010.00
 Notes: Brightness about 4 times that of standard lamp; dichroic cold mirror; approx. 5400° K (daylight) color temperature; 2000 hour lamplife



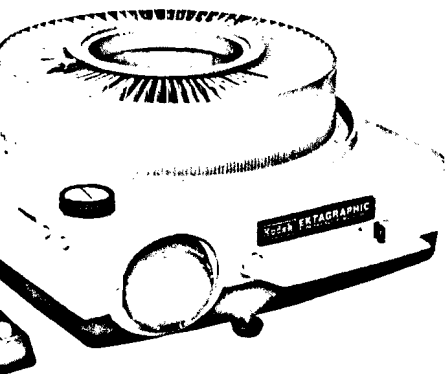
DECISION SYSTEMS INC.

Model: Carobeam B2
 Price: \$795.00; case, \$65.00
 Projects: 2x2" slides
 Capacity: 80 slides
 Operation: Semi-automatic; push button on projector; remote control: forward and reverse; focus
 Lamp: BRN, 1200 watt; fan and blower cooled
 Lens: 1" through 15 1/2" and zoom
 Weight: 20 lbs.
 Dimensions: 11 1/2 x 11 x 11"
 Power: 120 V., 60 Hz.
 Accessories: Random access selection, \$1495.00
 Other Models: Carobeam-2 with dissolver, \$1790.00; Carobeam-2 random access with dissolver, \$3495.00
 Notes: Special application projectors may be developed from basic models.



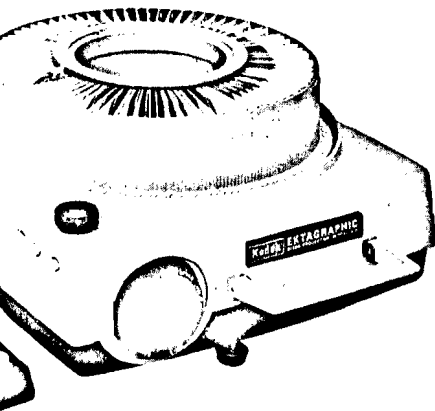
EASTMAN KODAK COMPANY

Model: Kodak Ektagraphic Arc
 Price: \$1200.00
 Projects: 2x2" slides
 Capacity: 80; 140 with Carousel Slide Tray
 Operation: Manual (hand operated); built-in slide changer; automatic focus maintenance at machine and remote; automatic (timed); 5, 10, 15 second intervals; semi-automatic; push button on projector; remote control, forward and reverse; focus
 Lamp: GE Marc 300; fan and blower cooled
 Weight: Power supply, 26½ lbs.; projector module, 27½ lbs.
 Dimensions: 9-3/8x11¼x20-1/8"
 Power: 120 V., 60 Hz.
 Notes: **UL listed**
 Power supply interchangeable with Pageant Arc 16 mm Sound Projector



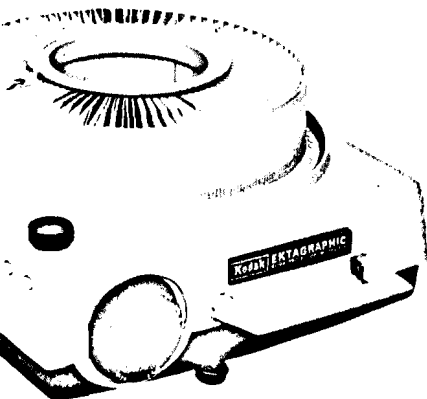
EASTMAN KODAK COMPANY

Model: Kodak Ektagraphic Model AF-2
 Price: \$214.50; case, \$12.95
 Projects: 2x2" slides; filmstrips with adapter
 Capacity: 80; 140 with Carousel 140 slide tray
 Operation: Manual, built-in slide changer; automatic (timed) intervals; 5, 8, 15 seconds; semi-automatic, pushbutton on projector; remote control: forward/reverse, focus
 Lamp: ELH 300 watt; fan cooled Lens: 5", f/3.5
 Weight: 10½ lbs. Dimensions: 4x10¼x11-3/8"
 Power: 120 V., 60 Hz. UL listed
 Accessories: Lenses, \$22.50-\$42.50; Carousel sound synchronizer Model 2, \$39.50; Carousel dissolve control Model 2, \$215.00. Filmstrip adapter, \$39.95; if used, substitute Ektagraphic arc slide projector front condenser lens #625889.
 Notes: Accepts all other Ektagraphic and Carousel accessories



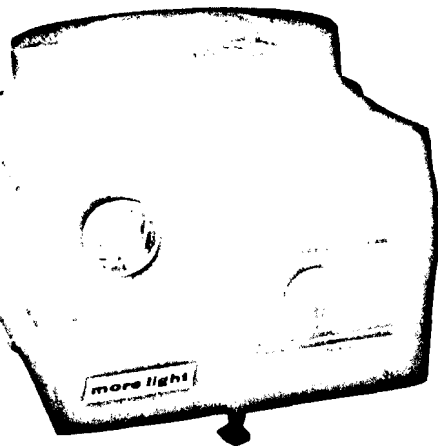
EASTMAN KODAK COMPANY

Model: Kodak Ektagraphic Model B-2
 Price: \$159.50; case, \$12.95
 Projects: 2x2" slides; filmstrips with adapter
 Capacity: 80; 140 with Carousel 140 slide tray
 Operation: Manual (hand operated); built-in slide changer; semi-automatic; push button on projector; remote control: forward and reverse; focus
 Lamp: ELH, 300 watt Lens: 5", f/3.5
 Weight: 10½ lbs. Dimensions: 4x10¼x11-3/8"
 Power: 120 V., 60 Hz. UL listed
 Accessories: 2½", f/3.5 lens, \$22.50; 3", f/3.5, \$12.50; 7", f/3.5, \$36.50; zoom 4-6", \$42.50; Carousel sound synchronizer, Model 2, \$39.50; Carousel dissolve control Model 2, \$215.00. Ektagraphic filmstrip adapter, \$39.95; if used, substitute Ektagraphic arc slide projector front condenser lens #625889
 Notes: Accepts all other Ektagraphic and Carousel accessories



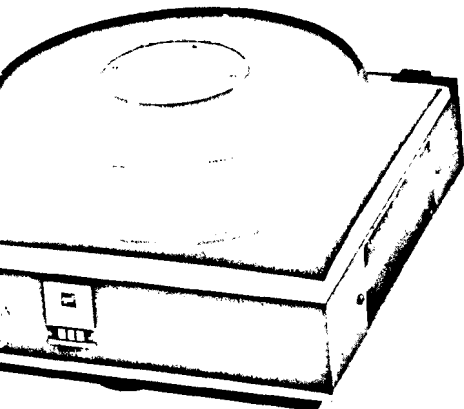
EASTMAN KODAK COMPANY

Model: Kodak Ektagraphic Model E-2
 Price: \$109.50; case, \$12.95
 Projects: 2x2" slides; filmstrips with adapter
 Capacity: 80; 140 with Carousel 140 slide tray
 Operation: Manual (hand operated); semi-automatic; push button on projector
 Lamp: ELH 300 watt; fan cooled Lens: 5", f/3.5
 Weight: 10½ lbs. Dimensions: 4x10¼x11-3/8"
 Power: 120 V., 60 Hz. UL listed
 Accessories: 2½", f/3.5 lens, \$22.50; 3", f/3.5, \$12.50; 7", f/3.5, \$36.50; zoom 4-6", \$42.50; Carousel sound synchronizer Model 2, \$39.50; Carousel dissolve control Model 2, \$215.00. Ektagraphic filmstrip adapter, \$39.95; if used, substitute Ektagraphic arc slide projector front condenser lens #625889
 Notes: Accepts all other Ektagraphic and Carousel accessories



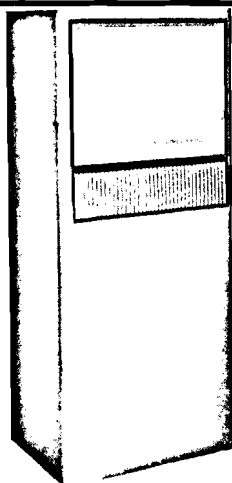
FORTUNE AUDIO-VISUAL

Model: Mor-Lite
 Price: \$795.00; case, \$50.00
 Projects: 2x2" slides
 Capacity: 81 or 140
 Operation: Built-in slide changer; automatic (timed), 5, 8, or 15 second intervals; forward and reverse; focus
 Lamp: 1000-2000 watt; blower cooled
 Lens: As required
 Weight: 20 lbs. Dimensions: 12x12x12
 Power: 120 V., 60 Hz.
 Other Models: With random access capability, \$1595.00; Mor-Lite II, projectors with fade dissolve, \$1995.00.
 Notes: Accepts all Carousel accessories



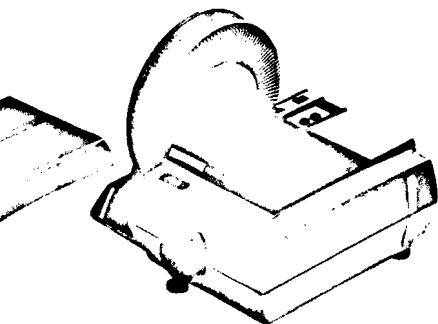
GAF CORPORATION

Model: 970 A/V
 Price: \$159.50
 Projects: 2x2" slides; accepts cardboard mounted slides only
 Capacity: 100 slides
 Operation: Built-in slide changer; circular gravity feed; automatic (timed), 1 second intervals; remote control, forward and reverse; focus
 Lamp: 500 watt; fan cooled
 Power: 120 V., 60 Hz. UL listed
 Accessories: 100 slide tray, \$2.95; 80 glass mounted slide tray, \$2.95; Auto-sync tape synchronizer, \$29.50; slide-seeker for random access, \$39.95



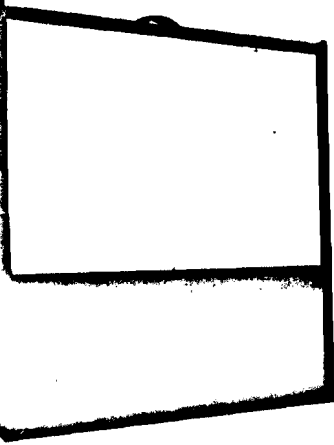
THE HARWALD COMPANY

Model: Admatic
 Price: \$995.00; including case
 Projects: 2x2" slides
 Capacity: 30
 Operation: Built-in slide changer; automatic (timed); semi-automatic; push button on projector; remote control, forward and reverse
 Lamp: DDB, 750 watt; blower cooled
 Lens: 3" f/3.0
 Screen: 16x23" built-in
 Weight: 150 lbs. Dimensions: 66½x28x18
 Power: 120 V., 60 Hz. UL listed
 Other Models: Sonomatic with 2 track tape cartridge playback, \$1495.00; Sonomatic RP with both record and playback capability, \$1895.00



HONEYWELL INC., Photographic Products Division

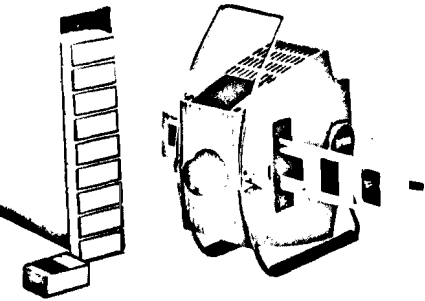
Model: Preview, AV-II, 6694
 Price: \$199.50
 Projects: 2x2" slides
 Capacity: 120 maximum with round tray; less with various straight tray
 Operation: Built-in slide changer; automatic (timed); 5 to 30 second intervals; semi-automatic; push button on projector; remote control, forward and reverse; focus
 Lamp: EGH, 150 watt; blower cooled
 Lens: 4", f/2.8
 Screen: 2½x2½", built-in
 Dimensions: 7x12x12"
 Power: 120 V., 60 Hz. UL listed
 Accessories: 3", 4", or 5" f/3.5 lens, \$12.50; 4"-6" and 3"-5" f/3.5 zoom lens, \$42.50; accessory slide carrying case, \$11.95; tape synchronizer, \$34.50; tape sync cord, \$3.95
 Other Models: AV-I, 6684, with 4" f/3.5 lens, 500 watt lamp, no automatic timer, \$169.50



HOPPMANN CORPORATION

Model: P-2, Portable Rear Projection System
 Price: \$577.00
 Projects: 2x2" slides
 Capacity: 80 slides
 Operation: Automatic (timed), 5-8-15 second intervals; remote control, forward and reverse; focus
 Lamp: 300 watt; blower cooled
 Screen: 25x16", built-in
 Weight: 30 lbs.
 Power: 120 V., 60 Hz.
 Other Models: Screen carrying case with folded optical system for use with customer's own projector, \$295.00

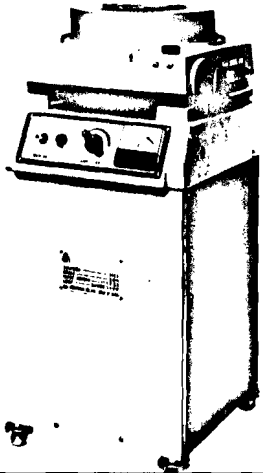
Dimensions: 28x28x7½", folded



HUDSON PHOTOGRAPHIC INDUSTRIES INC.

Model: Prima HPI #345
 Price: \$34.50
 Projects: 2x2" slides
 Capacity: 6 slides
 Operation: Manual (hand operated); two-way slide carrier; uses slide-stick for programmed material
 Lamp: CBX, 75 watt; convection cooled
 Lens: 2", f/2.3
 Weight: 2½ lbs.
 Power: 120 V., 60 Hz.
 Accessories: Slidesticks, \$2.00 dozen; master slide file with 60 Slide-sticks included, \$17.50
 Other Models: #355, with CAR, 150 watt, blower cooled lamp, \$44.50

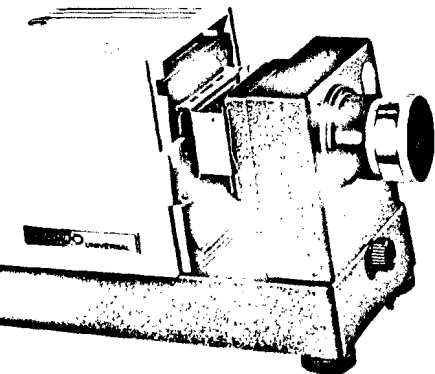
Dimensions: 10x6x8"
UL listed



INTERNATIONAL AUDIO VISUAL INC.

Model: Caralite Mark 3
 Price: \$1800.00
 Projects: 2x2" slides
 Capacity: 80 slides
 Operation: Manual (hand operated); built-in slide changer; automatic (timed), 5-8-15 second intervals; semi-automatic; push button on projector; remote control, forward and reverse; focus
 Lamp: 300 watt Xenon; fan cooled
 Lens: 5", f/3.5
 Weight: 60 lbs.
 Power: 120 V., 60 Hz.
 Notes: Complete with Kodak Ektagraphic Projector AV-315. Accepts all Ektagraphic and Carousel accessories.

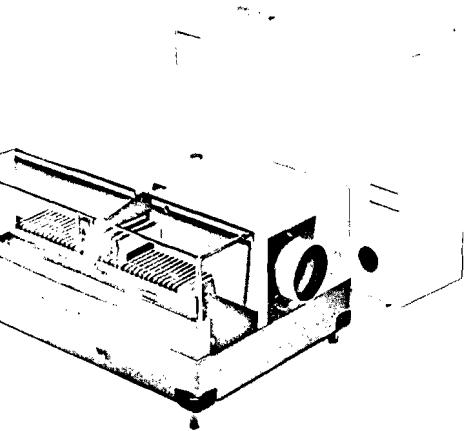
Dimensions: 19x11½x12½"



E. LEITZ, INC.

Model: Prado-Universal 35
 Price: \$249.00; case, \$43.50
 Projects: 2x2" slides; cardboard, plastic, metal and glass mounted slides
 Capacity: 1
 Operation: Manual; two-way slide carrier
 Lamp: 24 V., 250 watt; fan cooled
 Lens: 90 mm., f/2.5
 Weight: 16.9 lbs.
 Power: AC/DC
 Accessories: Lenses from 35 mm. to 250 mm. up to \$54.00 extra. Micro projection attachments, \$410.00 to \$450.00
 Other Models: Prado Universal 2½x2¼" with 150 mm. f/2.8 lens, \$297.00

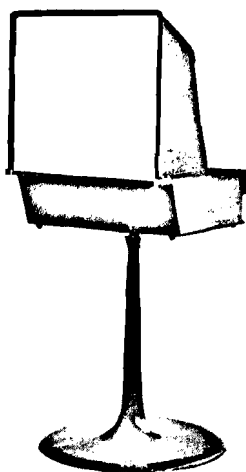
Dimensions: 7.8x5.6x14.6"



E. LEITZ, INC.

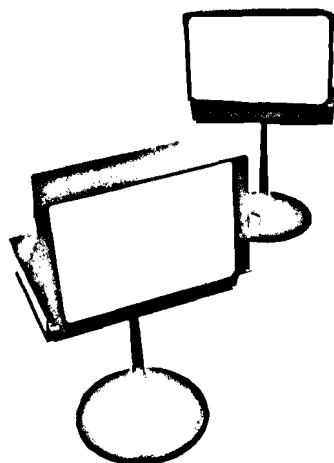
Model: Pradovit-Color 150
 Price: \$246.00; case, \$37.50
 Projects: 2x2" slides; accepts cardboard, plastic, metal and glass mounted slides
 Capacity: 36 and 50
 Operation: Automatic (timed) adjustable 3 to 30 second interval; semi-automatic; push button on projector; remote control forward/reverse; focus
 Lamp: 24 V., 150 watt; fan cooled
 Lens: 90 mm., f/2.5
 Weight: 16 1/2 lbs.
 Accessories: Lenses from 35 mm. to 250 mm. up to \$54.00 extra, lig pointer, \$13.50; 50' remote control cord, \$12.00; sync accessories, \$13.50
 Other Models: Pradovit 250 with 90 mm. f/3.5 lens, \$279.00; Pradovit 150 auto-focus with 90 mm. f/2.5 lens, \$303.00; Pradovit 250 auto-focus with 90 mm. f/2.5 lens, \$345.00

Power: AC/DC
 Dimensions: 6x8 1/2 x 12"



MOTIVA LTD.

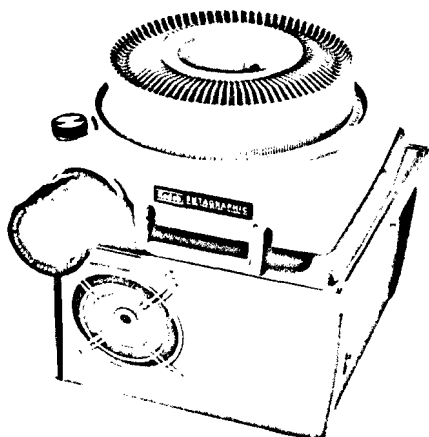
Model: RPT-300 Rear Projection Theaterama/one System
 Price: \$424.00
 Projects: 2x2" slides
 Operation: Automatic; with slide changer, AV343 automatic focus
 Capacity: 81 slides
 Lamp: 500 watt, blower cooled
 Lens: 3" f/3.5
 Screen: 18x18" built-in
 Weight: 30 lbs.
 Dimensions: 24x19 1/2 x 24"
 Power: 120 V., 60 Hz.
 Other Models: RPT-500, includes sound recorder, slide changer, auxiliary speaker, \$577.00



MOTIVA LTD.

Model: RPT-00300 Rear Projection Theaterama/two System
 Price: \$541.00
 Projects: 2x2" slides
 Operation: Automatic; with slide changer, AV340 self-focus
 Capacity: 81 slides
 Lamp: 500 watt, blower cooled
 Lens: 2" Buhl superwide
 Screen: 18x27" built-in
 Weight: 33 lbs.
 Dimensions: 24x28 1/2 x 24"
 Accessories: Dust cover, \$12.00; mushroom pedestal base, \$99.00; deluxe caster base, \$99.00; base adapter plate, \$9.50
 Other Models: RPT-00500, includes sound recorder, slide changer, auxiliary speaker, \$695.00
 Notes: Capable of housing two projectors for split-screen or dissolve presentations

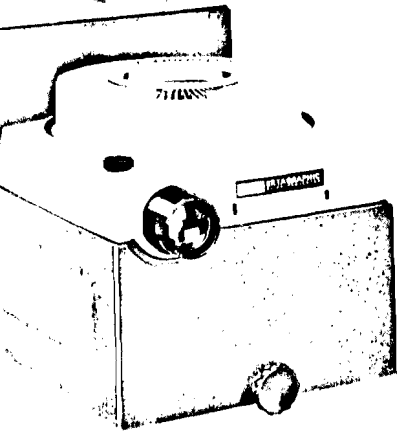
Power: 120 V., 60



PRESENTATION TECHNICAL AIDS INC.

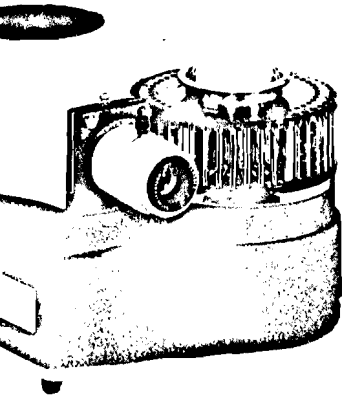
Model: '71 Highlight
 Price: \$595.00
 Projects: 2x2" slides
 Capacity: 80 slides
 Operation: Push button on projector; remote control, forward reverse; focus
 Lamp: PTA HL 1200 watt equivalent
 Weight: 25 lbs.
 Power: 120 V., 60 Hz.
 Notes: Includes Kodak 800 or Ikta B slide projector, slide tray and remote cord; color temperature adjustable to 3400

Dimensions: 11 1/2 x 12 x 12



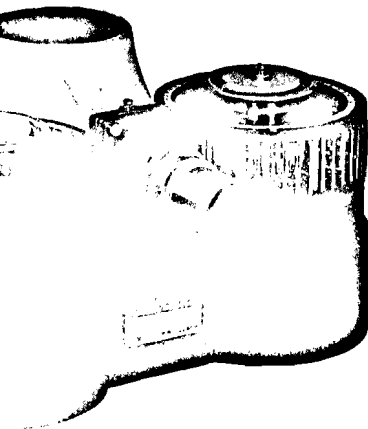
REALIST INC.

Model: Super Light 3402
 Price: \$725.00, plus lens
 Projects: 2x2" slides, glass or cardboard mounted
 Capacity: 80 and 140 Carousels
 Operation: Automatic; remote control, forward and reverse; built-in slide changer; unit uses Eastman Kodak Automatic Focus Ektagraphic projector
 Lamp: 1200 watt tungsten halogen cooled by 3 fans
 Lens: 5", f/3.5
 Weight: 34 lbs.
 Dimensions: 12-5/8x11x18"
 Power: 120 V., 60 Hz.
 Other Models: Super Light 3401, 500 watt Xenon lamp, 20-5/8x11x18" weight 99 lbs., self-contained DC power pack, solenoid activated douser built-in, \$1950.00
 Notes: Power cord, remote control, Carousel universal slide tray and transportation case included. 1.4-11" lenses available



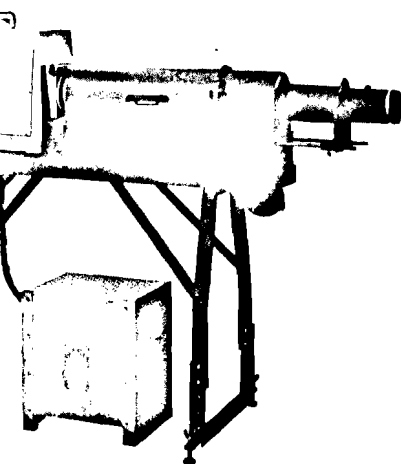
SPINDLER & SAUPPE INC.

Model: Selectroslide SLR-1200A
 Price: \$786.00; case, \$32.00
 Projects: 2x2" slides
 Capacity: 48 slides
 Operation: Built-in slide changer; automatic (timed), 4, 8, 12, 24 second intervals; semi-automatic; push button on projector; remote control, forward and reverse; focus
 Lamp: BRN, 1200 watt tungsten halogen; fan cooled
 Lens: 5", f/2.8
 Weight: 22 lbs.
 Power: 120 V., 60 Hz.
 Accessories: 715 remote focus lens mount, \$96.00; 737 remote control for forward-reverse-focus, \$36.00; 725 forward-reverse remote control, \$13.65; 1½" to 11" lenses available
 Other Models: SLR-1200A (766) Ultrabright Selectroslide, with auxiliary cooling and modified optics for 3000-Lumen light output, \$1050.00



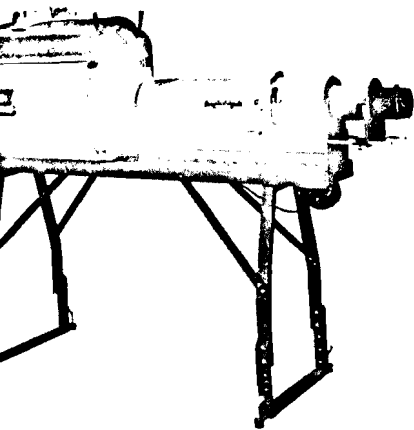
SPINDLER & SAUPPE INC.

Model: Dual Selectroslide SLD-1200A
 Price: \$1082.00; case, \$42.00
 Projects: 2x2" slides
 Capacity: 96 slides
 Operation: Build-in slide changer; automatic (timed), 4, 8, 12, 24 second intervals; semi-automatic; push button on projector; remote control, forward only; focus
 Lens: 5", f/2.8
 Lamp: BRN, 1200 watt tungsten halogen; fan cooled
 Weight: 41 lbs.
 Power: 120 V., 60 Hz.
 Accessories: 715 remote focus lens mount, \$96.00; 721 remote control, \$13.65; 737 remote control forward-reverse-focus, \$36.00; 1½" to 11" lenses available
 Other Models: SLD-1200A (766) Ultrabright Selectroslide, auxiliary cooling and modified optics for 3000-Lumen light output, \$1346.00



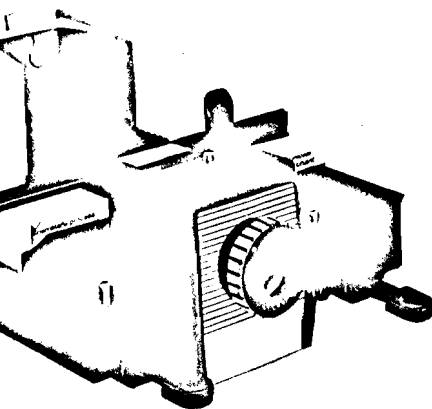
THE STRONG ELECTRIC CORP.

Model: 44060 Universal Mighty Mite Xenon
 Price: \$3500.00
 Projects: 2x2" slides; 3¼x4" slides; 2¼x2¼" slides
 Operation: Manual (hand operated); two-way slide carrier
 Lamp: 1600 watt
 Lens: 4½ to 12"
 Weight: 500 lbs. Dimensions: 54½x67x26½"
 Power: 120 V., 60 Hz.; AC
 Other Models: Model with 14" to 20" lens, \$3600.00



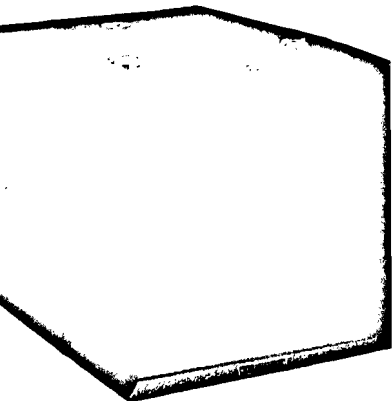
THE STRONG ELECTRIC CORP.

Model: 44060 Universal X-16 Xenon Arc
 Price: \$3975.00
 Projects: 2x2" slides; 3¼x4" slides
 Capacity: One
 Operation: Manual (hand operated), two-way slide carrier; semi-automatic, remote control; forward only
 Lamp: 1600 watt (9000 lumens)
 Lens: 4½ to 12"
 Weight: 300 lbs. Dimensions: 63x27x75
 Power: 120 V., 60 Hz.; AC
 Other Models: Model with 2500 watt lamp, 12,000 lumens, 14" to 20" lens, \$4420.00



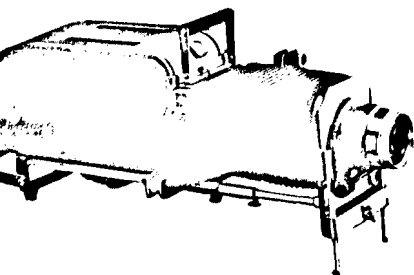
T.M. VISUAL INDUSTRIES INC.

Model: TMC Showmatic 2007S
 Price: \$39.95; case, \$7.95
 Projects: 2x2" slides
 Capacity: 40 slides
 Operation: Manual (hand operated); stackloading
 Lamp: CDS, 100 watt; convection cooled
 Lens: 75 mm., f/2.5
 Weight: 1½ lbs. Dimensions: 3¾x2¾x2¾
 Power: 120 V., 60 Hz.
 Accessories: Tripod, \$7.95; table top screen, \$3.95; automatic kit optional, \$5.00
 Other Models: 2007P, same except with Airequipt changer Model \$42.94
 Notes: All die cast aluminum - 3 element condenser lens - H-alpha absorption lens



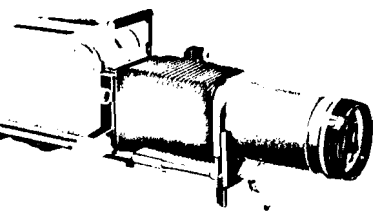
TEL-A-STORY INC.

Model: 12
 Price: \$215.00, case included
 Projects: 2x2" slides
 Capacity: 12 slides
 Operation: Automatic (timed), 5.8 second intervals
 Lamp: DDY or DGH, 750 watt; fan cooled
 Lens: 36 mm., f/3.5
 Screen: 12x12", built-in
 Weight: 26 lbs. Dimensions: 14x14x24
 Power: 120 V., 60 Hz. UL listed
 Other Models: Model 18, 18" square screen, \$270.00; model 24, 24" square screen, \$335.00

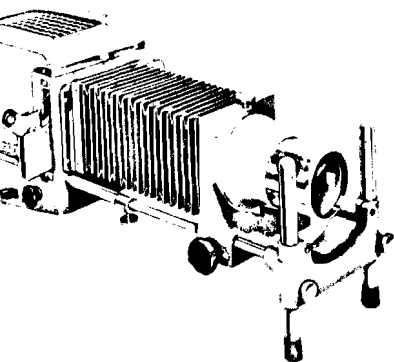


AMERICAN OPTICAL CORP.

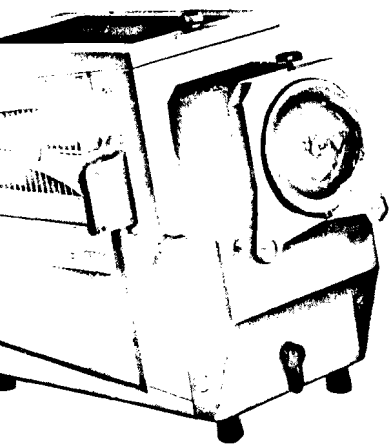
Model: Standard Model GK 3690 SK
 Price: \$313.00, including case
 Projects: 3¼x4" slides
 Operation: Manual (hand operated); two-way slide carrier
 Lamp: DDB, 750 watt; blower cooled
 Lens: 6½", f/5.6 UL listed
 Weight: 25 lbs. Power: 120 V., 60 Hz.
 Accessories: 2x2 slide carrier, \$16.00; 2x2 condenser chest, \$60.00
 Other Models: 28 models available from \$313.00 to \$475.00
 Notes: Projection objectives available ranging from 6½" to 20" focal length

**AMERICAN OPTICAL CORP.**

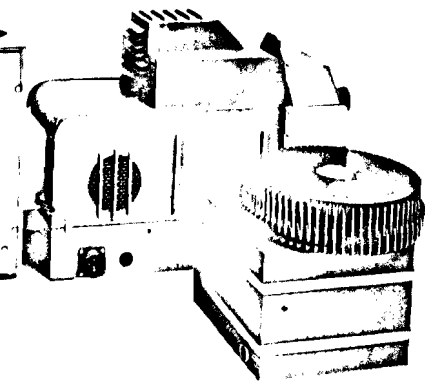
Model: 3690 HU High Speed GK
Price: \$393.00, including case
Projects: 3 1/4 x 4" slides
Operation: Manual (hand operated); two-way slide carrier
Lamp: DDB, 750 watt; blower cooled
Weight: 25 lbs. UL listed
Accessories: 2x2 slide carrier, \$16.00; 2x2 condenser chest, \$60.00
Other Models: 3690 HW as above for projection 2x2 slides, \$393.00
Notes: Other models with 20" focal length objectives available at same price

**CHARLES BESELER CO.**

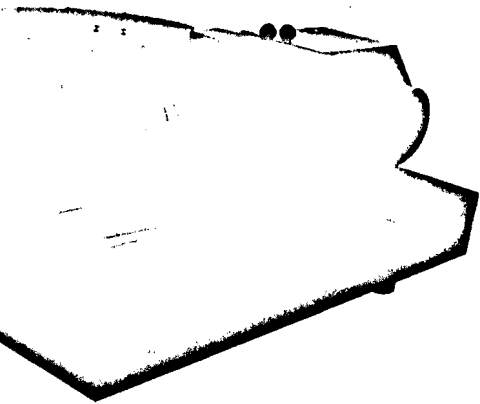
Model: Slide King 3610
Price: \$299.00, including case
Projects: 3 1/4 x 4" slides
Operation: Manual (hand operated); two-way slide carrier
Lamp: DDB, 750 watt; blower cooled
Weight: 24 lbs. Dimensions: 10x7 1/4 x 27 1/4"
Power: 120 V., 60 Hz., 115 or 220 volt UL listed
Accessories: 2 3/4 x 2 3/4" (reflex 2 1/4" square size) carrier 3631, \$16.50; 3 1/4 x 3 1/4" English carrier 3751, \$22.50; Polaroid 2 1/4 x 2 1/4" carrier 3752, \$22.50
Other Models: With lens from 6 1/2" to 26", \$299.00 to \$536.00
Notes: Built-in mechanical pointer, metal carrying case, front and rear elevating legs, lens caps, bellows support, interchangeable components

**CHARLES BESELER CO.**

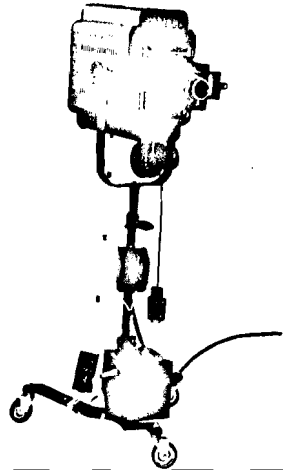
Model: Slide King II 34612
Price: \$399.00, including case
Projects: 3 1/4 x 4" slides
Operation: Manual (hand operated); two-way slide carrier
Lamp: BTA, 1000 watt quartz halogen; blower cooled
Weight: 30 lbs. Dimensions: 13x8 1/2 x 18"
Power: 120 V., 60 Hz.
Other Models: Other models available accommodating from 2x2" to 3 1/4 x 4" slides; lenses from 6 1/2" to 26"
Notes: Lamp ejector, double blower cooling system, front elevating legs

**CHRISTIE ELECTRIC CORP., Xenolite Division**

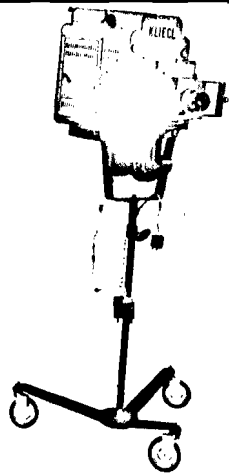
Model: BFT900-6300E Xenolite with Telepro 6000 and Model 300 changer
Price: \$5450.00
Projects: 3 1/4 x 4" slides
Capacity: 65 slides
Operation: Built-in slide changer; semi-automatic; remote control; forward only
Lamp: 900 watt Xenon; blower cooled
Lens: 5", f/1.9
Power: 120 V., 60 Hz.
Other Models: BFT900-6300EG with customer furnished projector, \$2775.00
Notes: Brightness about 2 times that of standard lamp; dichroic cold mirror; approx. 5400° K (daylight) color temperature; 2000 hour lamplife.

**HOPPMANN CORPORATION**

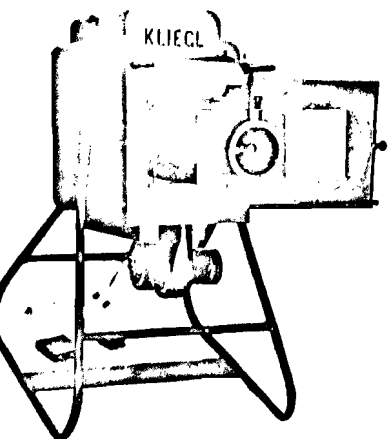
Model: HC34-FR1000, Reversible Slide Changer
 Price: \$5216.00
 Projects: 3 1/4x4"
 Capacity: 60 slides
 Operation: Built-in slide changer; push button on projector
 Lamp: 1000 watt, tungsten-halogen, blower cooled
 Lens: 6.5", 8.5", 10"
 Weight: 160 lbs. Dimensions: 17 1/2x30x36"
 Power: 120 V., 60 Hz.
 Accessories: Random slide selection, \$543.00; digital readout, \$309.00; remote focus adjustment, \$247.00
 Other Models: 1000 watt Xenon light source, \$2568.00
 Notes: Other light sources and lenses available

**KLIIEGL BROS.**

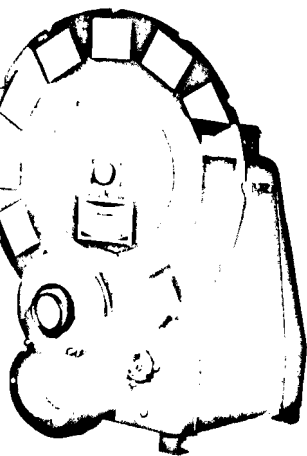
Model: 1674A
 Price: \$1428.00; case, \$425.00
 Projects: 3 1/4x4" slides
 Capacity: 2 or 7 slides
 Operation: Manual (hand operated); two-way slide carrier; semi-automatic; remote control, forward only
 Lamp: 2100T24/8 (60V); blower cooled
 Lens: 4.5", f/1.9 Dimensions: 61 to 81" high x22x18"
 Weight: 140 lbs.
 Power: 2100 watt, 120 V., 60 Hz.
 Accessories: Semi-automatic slide changer, \$321.00; long film drive, \$1000.00; short film drive, \$700.00; slide glass, \$4.00 each; slide painting colors, \$42.00
 Other Models: 1674 Standard Objective Lens Model, \$992.00; 6.0", f/3.0; 8.5", f/3.0, 12.5", f/3.3 lenses available
 Notes: Slide carrier rotates 360 degrees.

**KLIIEGL BROS.**

Model: 1676A
 Price: \$1755.00; case, \$425.00
 Projects: 5x5", 4x5" and 3 1/4x4" slides (adapters included)
 Operation: Manual (hand operated) two-way slide carrier; semi-automatic; remote control, forward only
 Lamp: 5M/T32/1; blower cooled
 Lens: 4.5", f/1.9 Dimensions: 66 to 88x24x18"
 Weight: 120 lbs.
 Power: 120 V., 60 Hz.
 Accessories: Semi-automatic slide changer, \$395.00; long film drive, \$1000.00; short film drive, \$700.00; slide glass, \$5.00 each; slide painting colors, \$42.00; 6.0", f/3.0; 8.5", f/3.0; 12.5", f/3.3 lenses available
 Other Models: 1676 Standard Objective Lens Model, \$1307.00
 Notes: Slide carrier rotates 360 degrees

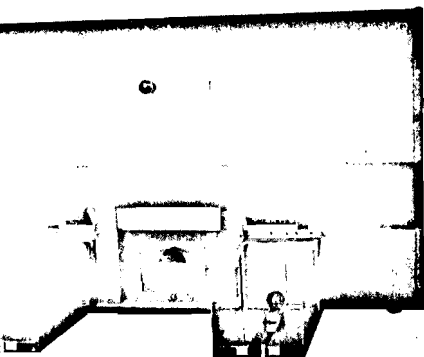
**KLIIEGL BROS.**

Model: 1679A
 Price: \$3666.00; case, \$425.00
 Projects: 7x7", 5x7", 5x5", 4x5" and 3 1/4x4" slides (adapters included)
 Operation: Manual (hand operated); two-way slide carrier
 Lamp: 5M/T32/1; blower cooled
 Lens: 6.0", f/3.0 Dimensions: 36x40x18"
 Weight: 120 lbs.
 Power: 120 V., 60 Hz.
 Accessories: Slide glass, \$9.00 each; slide painting colors, \$42.00; 8.5", f/3.0 and 12.5", f/3.3 lenses available
 Notes: Slide holder adjustable through 30 degrees.



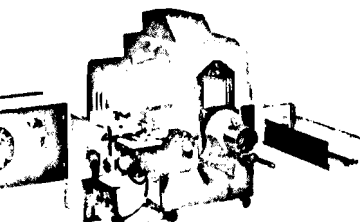
GEORGE R. SNELL ASSOCIATES, INC.

Model: SA 3/6
 Price: \$2173.75
 Projects: 3 1/4 x 4" slides; glass mounted or Polaroid (2x2" slides with adapters)
 Capacity: 6 slide disc (12 or 18 slide discs available)
 Operation: Automatic (timed) intervals: 5, 7, 10, 20 seconds; remote control
 Lamp: 3MT 32/2, 3000 watt; blower cooled
 Lens: 4-26"
 Power: 120 V., 60 Hz.
 Other Models: SA 3/12, 12 slide disc, \$2267.50; SA 3/18, 18 slide disc, \$2292.50; SA 2/6, 12-18, 2000 watt quartz iodine lamp, 5200 lumens, \$2173.75



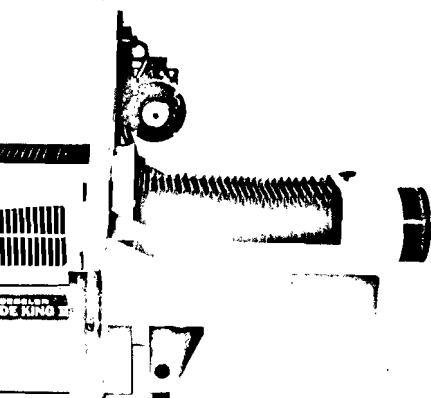
GEORGE R. SNELL ASSOCIATES, INC.

Model: SA-65
 Price: \$812.50
 Projects: 3 1/4 x 4" slides
 Capacity: 70
 Operation: Automatic (timed) 1/2 second intervals; remote control; forward/reverse
 Power: 120 V., 60 Hz.
 Accessories: Adapter kits available for Beseler, AO, TelePro, Boddie, Translux
 Notes: Adapts to any appropriate light source.



GEORGE R. SNELL ASSOCIATES, INC.

Model: SA 6000
 Price: \$3140.00
 Projects: 3 1/4 x 4" slides, Polaroid slides, 2x2" slides with adapters
 Operation: Remote control pushbutton, 300 electric slide changer, 1/4 second slide change without black-screen interval; "Z" pattern removable slide tray feed; 65 slide capacity; remote variable lamp intensity, 50' control cables
 Lamp: 3M/T32/2, 3000 watt, blower cooled
 Lens: 5", f/1.9
 Weight: 52 lbs.
 Power: 120 V., 60 Hz.
 Accessories: Supply kit, \$136.00; random access slide changer, \$3200.00; TeleFader single douser, \$666.00
 Notes: Wide angle lens provides short throw distance for front or rear projection; slides reprojected without sorting; Xenon light-source optional.



GEORGE R. SNELL ASSOCIATES, INC.

Model: Satellite I
 Price: \$910.00
 Projects: 3 1/4 x 4" slides; glass mounted or Polaroid
 Capacity: 70
 Operation: Automatic (timed) 1/2 second intervals
 Lamp: BTA, 1000 watt quartz; blower cooled
 Lens: 6 1/2"
 Weight: 83 lbs.
 Power: 120 V., 60 Hz.
 Other Models: Satellite II forward and reverse sequence remote control, \$1297.50
 Notes: Lamp ejector, double blower cooling system, front elevating legs