THIS NEWLY DEVELOPED GRAPHIC TELECOMMUNICATION SYSTEM PROVIDES INSTANT, ECONOMICAL AND RELIABLE TRANSMISSION OF VOICE AND GRAPHICS WHEREVER TELEPHONE LINES ARE AVAILABLE.

COMING SOON . . . A MAGIC BLACKBOARD

BY STANLEY R. FRAGER

Teleconferencing, a low-cost way of bringing widely scattered audiences together by telephone, is already being extensively used in educational systems, as well as in business. Instructional teleconferencing permits keynote speakers or lecturers to be brought into one or more classrooms or meeting rooms from anywhere in the world, saving time and expensive travel, and in effect, allowing a featured speaker to be in several places at once. Although teleconferencing is valuable in itself, with graphics it has even a stronger impact as a training aid.

Television — closed circuit or otherwise — is the favorite in remote audio-visual communications, but is extremely expensive when used among widely scattered locations. What has been needed is a communication medium that to some degree combines, over distances, the economy of teleconferencing with the ability to show visual aids. Teleconferencing, plus the electronic blackboard, is it!

An ASTD First

The Gemini 100 Electronic Blackboard, a newly developed graphic telecommunication system from the Bell System, provides instant, economical and reliable transmission of voice and graphics among any number of points at any distance from each other, wherever regular telephone lines are available. Its use in the highly successful 1977 ASTD Region 4 Conference in Louisville, Ky. was one of the first public demonstrations of this new training tool.

At the sending ends are specially designed electronic blackboards and conference telephones, or standard telephones and the Darome Conveners. At the receiving ends are additional conference telephones and standard TV monitors. If two-way interactive graphic communication is desired, electronic blackboards can also be used at receiving ends.

The ASTD session included live and audio-visual descriptions of the new system by representatives of AT&T, followed by a two-hour demonstration of the system in use by Dr. Donald Kirkpatrick. Dr. Kirkpatrick's use of the blackboard showed how the device could be useful in meeting training and teaching needs of education, business, industry and government, presenting his entire presentation live from Milwaukee, Wis., using teleconferencing in conjunction with the electronic blackboard. Another blackboard, conference telephone and TV monitor were also located in one of the workshop rooms in Louisville, as well as at the Holmdel headquarters of Bell Labs in New Jersey.

Six other locations in Louisville, where workshop attendees were assembled, were equipped with conference telephones and TV monitors. Each was meant to simulate another "state" on the electronic blackboard system.

In Milwaukee, Dr. Kirkpatrick discussed various aspects of his subject, writing out and diagramming key points on the electronic blackboard. His voice and the graphics on his board were instantly duplicated on phones and TV monitors at all locations.

Meanwhile, participants at each location were responding *audibly*

During the ASTD Region 4 Conference, six various locations in Louisville were equipped with conference telephones and TV monitors . . . each meant to simulate another "state" on the electronic blackboard system.

to Dr. Kirkpatrick on their conference telephones. At the other two blackboard locations — in Louisville and New Jersey — audiences were responding *graphically.*

Here's How It Works

Use of the blackboard is simple and requires no special skills, training or transmission facilities. The board has a pressure-sensitive surface that electronically converts normal chalk strokes into signals that are transmitted over telephone lines. At the receiving end, any distance from the sending end, signals are reconverted and displayed on a standard TV monitor.

The graphics can be written or printed words, numerals, diagrams or drawings used. The user can erase a small portion of the material on the board at any time or clear the board entirely.

The voice portion of the presentation is carried over a second phone line by a portable conference telephone that offers "hands-free" operation. It has a built-in microphone, loudspeaker, and two additional microphones that can be positioned at some distance from the phone.

An entire presentation and the interaction that results from it — both audio and graphics — can be recorded in cassette or reel-to-reel format on a standard two-track stereo tape recorder and later either played back on a TV monitor or transmitted over local or long-distance telephone lines to one or more locations for TV replay. Paper copies of the graphic segments can be made in less than 20 seconds by connecting a commercial hard-copy printer to the video monitor.

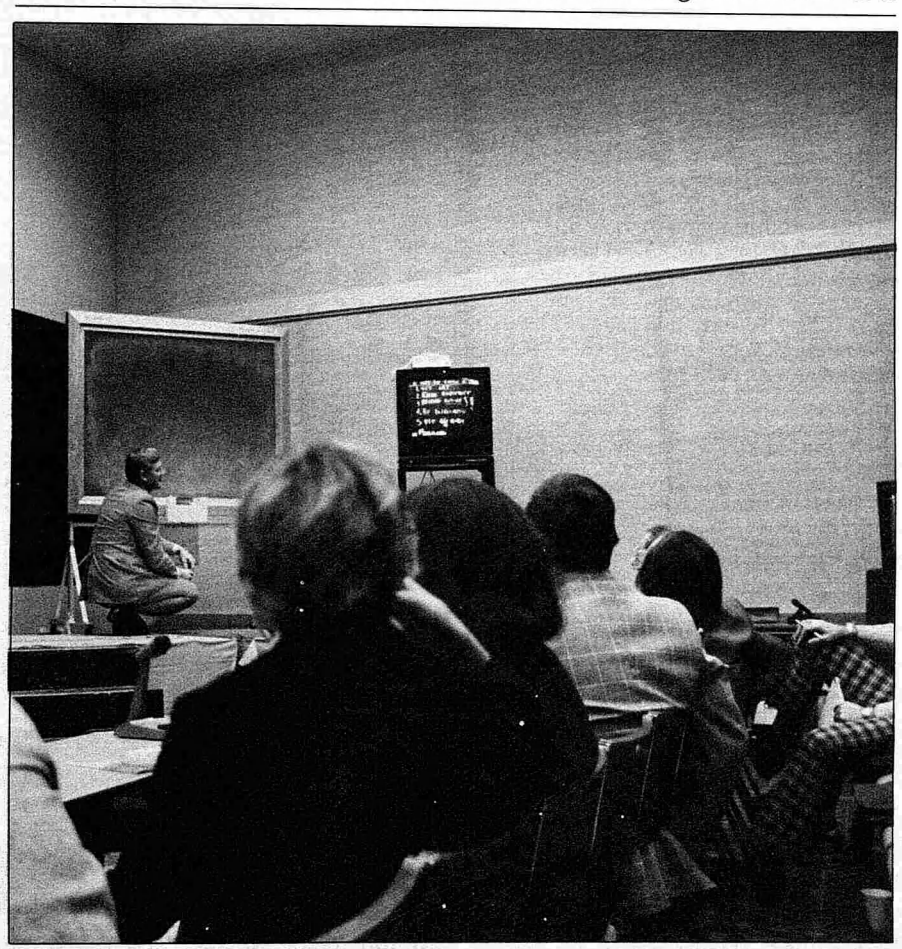
Participants had a chance to do some hands-on experimenting with the electronic blackboard and their reactions were quite positive. Several participants quickly related the technique to their own needs or jobs. It was judged a useful tool for discussions or training sessions where words, figures and diagrams are all involved. Applications in creative assignments were evident: in long-distance brainstorming, design development in the industrial and fashion fields, in accounting and financial discussions, and in many other aspects of training.

Do's and Don'ts

If you are interested in the electronic blackboard and teleconferencing, there are a number of *"do's"* and *"don'ts"* that experience has shown will help you do a better job. Among the *"do's"* are these:

- Organize your material in the presentation carefully so it flows smoothly and logically, both visually and verbally.
- Break the total presentation into manageable segments so the audience can fully assimilate one aspect of the presentation before moving ahead to another.
- Structure your presentation to allow for responses and questions.
- Make provisions for frequent breaks so that attention spans aren't exceeded.

Included among the *"don'ts"* are:



The Gemini 100 Electronic Blackboard System combines, over distances, the economy of teleconferencing with the ability to show visual aids.

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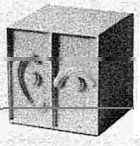

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• Don't confine an interactive technique like teleconferencing or the electronic blackboard to one-way communication.

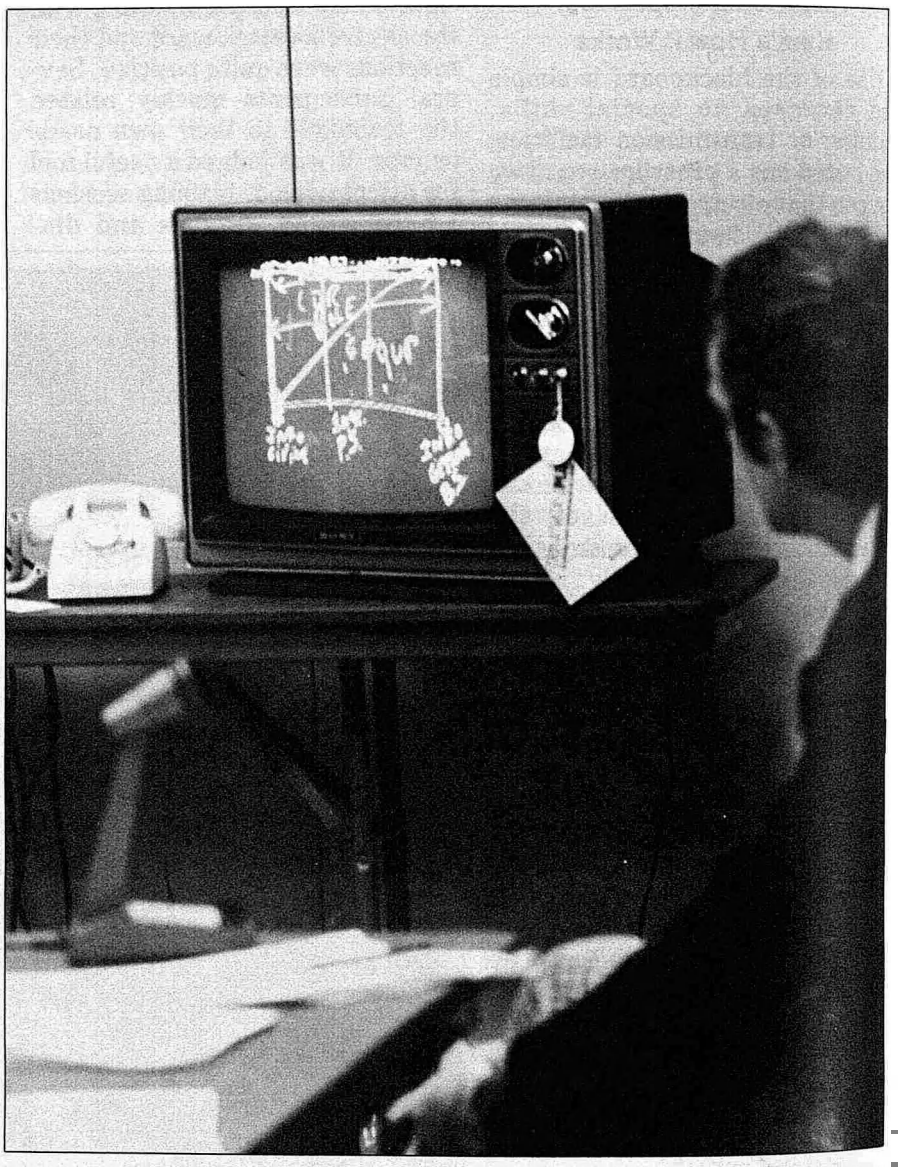
• Don't hesitate to use the blackboard as a constant support for the spoken word, since audio and visual add up to more than the sum of their two parts.

• Don't try to deliver a formal, stand-up speech. Teleconferencing is as informal as a telephone call, so it should be handled accordingly.

• Don't worry about the aesthetics of material written or sketched on the blackboard. It can be as loose as it would be on a conventional blackboard in a regular classroom.

Half of the system — the teleconferencing half — is already available, of course, through local telephone companies. The newly developed Electronic Blackboard System is not yet available on a commercial basis; but rates are currently being established, and service is expected to be available in many states by mid-1978.

Stanley R. Frager, Ph.D., is an associate professor at the University of Louisville, Kent School of Social Work. He directs Instructional Resources and Media Technology. He was program chairman for the ASTD Region 4 Conference and is a board member of the Kentuckiana chapter, ASTD. He is a producer of slide, film and TV productions and has won numerous national awards for his work in these media. He is also a member of the Executive Committee of ASTD's Media Division.



At the receiving end, any distance from the sending end, blackboard signals are received over telephone lines, reconverted and displayed on a standard TV monitor.