

# Phone codes revamped - more extensions needed

By Olen Reid Ashe, Jr.  
All MIT's tie-line codes were changed and tie-line restrictions were removed from all telephones at the beginning of Spring Vacation.

Morton Berlan, MIT's Telecommunications Officer, explained that tie changes were instituted in order to liberate more numbers for tie-line access codes and for new extension numbers.

The access codes beginning with an "8" were changed by the addition of a "1" between the first and second digits. The access code for the Instrumentation Laboratory was changed from "1" to "821" and the code for dialing collect long distance calls was changed from "20" to "820".

The emergency number, "10", remains unchanged, as does the information number, "30".

Berlan said that considerable confusion had resulted in the cases of Instrumentation Laboratory and Lincoln Laboratory personnel whose listings in the MIT directory gave their numbers with access codes included. A person reading in the directory that someone's extension number was, for example, 1184, would not realize that the new number to be dialed is "821184." (In this case the number referred to is IL extension 184.)

Before the change, most telephones in student offices and living groups did not have access to tie-lines to distant points. Berlan said it was felt that there was no good reason for this prohibition, and that the restriction was thus removed. By switching to three-digit access codes, new tie-lines are now pending: one to Wellesley College (pending approval by Wellesley officials), one to Woods Hole (on which work is now in progress), and one to the Middleton linear accelerator (which is itself under construction).

Furthermore, there was a shortage of four-digit numbers for Institute extensions. By eliminating the access codes "1" (Instrumentation Laboratory) and "20" (Long Distance), 1100 new numbers have become available for use.

### Centrex

By the fall of 1972, the present Institute extension system is scheduled to be replaced by a new "Centrex" system. The Centrex system will afford all the features of the present system, plus direct dialing of Institute exten-

sions from outside the system. Centrex is expected to add about \$60,000 to the Institute's \$1.3 million annual telephone bill.

The Centrex system will be built with entirely new electronic switching equipment which will replace the presently-used electromechanical stepping equipment. The exchange will be located in a new building which the telephone company will build for the purpose in an off-campus location.

The new electronic switching equipment will be able to accommodate either the new tone-dialing equipment or the standard pulse equipment.

Berlan explained that a major advantage of the Centrex system will be the need for fewer operators, since calls from outside the system can be dialed directly. MIT now employs 34 operators, and expects to have about 40 by 1972. With Centrex, only about 25 operators will be needed, depending on how long distance calls will be handled.

With Centrex, the function of operators will be only for information (when the calling party does not know the extension he wishes), and for long distance billing.

Berlan said that there will not be a need for firing operators when Centrex is installed, since many of the operators will be ready for retirement by that time.

Although "several people in the administration" want long distance to be handled through an operator "to keep a bit of control over long distance calls," Berlan has been investigating an automatic system which would virtually eliminate the need for Institute long distance operators. Under Berlan's proposed system, a long distance user would dial an access code which would connect him with a computer. He would give the computer his account number by dialing it on his telephone, and the computer would then connect him to an outside line.

### Feasibility verified

Berlan said a computer manufacturer had verified the feasibility of the system, as had the Institute accountants. Only the telephone company's approval is pending. Berlan explained that the telephone company

is slow to approve a system such as this which has not been tried before. A few years ago, before the tariffs were changed to permit the connection of customer-owned equipment to telephone lines, the system would not have been possible.

Another point of negotiation with the telephone company concerns Institute extensions in dormitory rooms. It is planned that Institute extension telephones with access to outside calls will be available in all dorm rooms at the students' expense.

The telephone company says it can offer only the unlimited metropolitan service to these dormitory Centrex lines. Berlan said he hopes to persuade the company to offer a cheaper option to the students, such as unlimited contiguous service. If only metropolitan service is offered, Berlan said, it would be significantly cheaper for a student to get his own outside line with more limited service.

### "Touch-tone"

Since the new switching equipment will be able to accommodate tone-dialing equipment, Berlan is investigating the possibility of making "Touch-tone" available for Institute extension telephones. At the present time, the telephone company is prepared to offer these telephones only at a flat rate of \$1.50 extra per month per telephone.

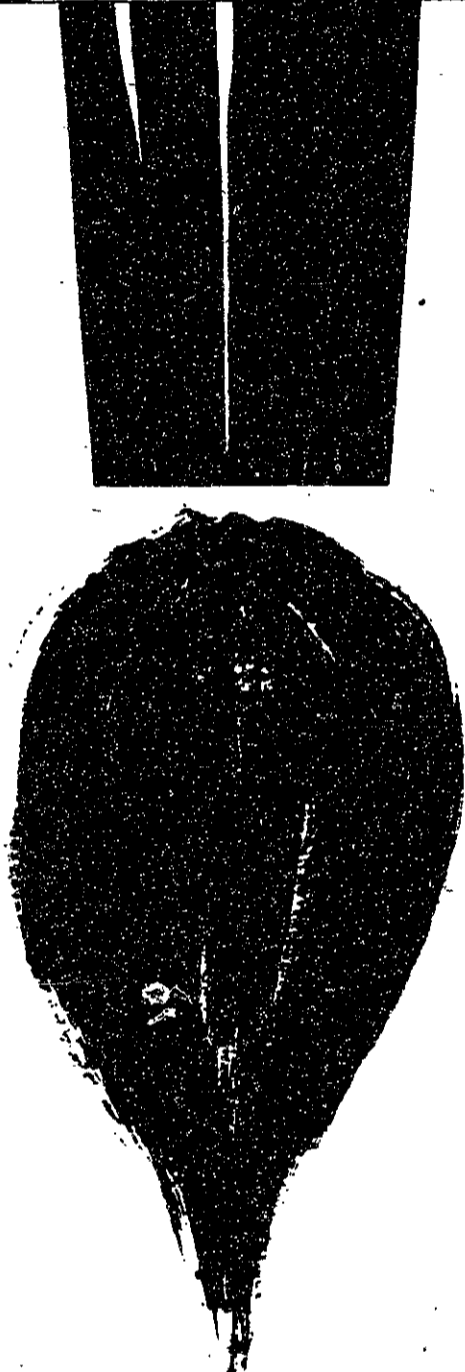
Berlan hopes to work out an agreement such as a one-time fee of the difference in manufacturing cost between tone and pulse dialing units. Touch-tone would be particularly helpful if the automatic long distance accounting goes into effect, in which case a user might have to dial 20 digits to make a call. A three-digit access code, a six-digit account number, a "1" or "0", an area code, and the number called.

Berlan expects that all available Institute extension numbers will have been used by 1972, so there will be a conversion to five-digit numbers when Centrex is installed. Access codes should continue to be three-digit affairs.

### Dormline connection

A more immediate improvement is now pending telephone company approval for implementation next fall. Berlan hopes to be able to connect incoming calls directly into the dormline system, so that students can receive them in their rooms.

Under the present system, an incoming call for a student is connected with the dormitory desk, which calls the student on the dormline. When the student answers the dormline, he is informed that he has a call, and told to call the Institute operator on the hall extension. The Institute operator then connects him with his call on the hall extension.



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