Good morning....it's good to be here and once again have the opportunity to bring you up to date on Control Data.

Marv Rogers has discussed the financial aspects of the various businesses so I'll be focusing my comments this morning on the progress and outlook by major product areas.

**Computer Services**

Let's start with Computer Services in the U.S. Revenue growth has been virtually flat this year -- less than one percent growth. That overall statistic, however, is somewhat misleading as growth rates within this sector range from negative to a positive 25 percent. The lowest growth rate -- or rather the largest decline (Jesus! If I'm not careful I'll begin to sound like an economist and talk about things such as "negative growth") -- has been in Cybernet. This is not, as many would have it, primarily a "micro-affair." The principal
reasons are the decline in large engineering projects due to the recession, the essential demise of the nuclear power industry, and the fact that the most powerful computers today are vector processors to which migration is more difficult than to the previous progressions of super computers.

To be sure, until recent years there has been a lot of relatively trivial computing being done via remote access to large mainframes. This work has been rapidly moving to stand-alone workstations of various sorts -- and properly so. But as far as Data Services is concerned, this is just a matter of redirecting the delivery system and marketing approach for such computing. While that causes short-term dislocation, in a larger sense a greatly enlarged community of computer users will result. So remote computing -- networking -- stands to gain even more in the long run. It's a straightforward -- albeit certainly non-trivial -- matter of providing attractive and cost effective network services to this larger community. Beyond general network services there is the matter of application specific services where customers buy convenience, uniqueness, and indeed better "service" than they could provide themselves. Growth rates for Computer Services of this type have continued at a high level.
The part of Computer Services that will continue to grow fastest is PLATO computer-based education and training. We sell PLATO in three markets:

- business and industrial training
- academic education
- vocation training

Penetration is growing in all three markets through a variety of approaches -- both in terms of product offering and marketing channels.

- The library of PLATO educational courseware is increasingly available for delivery via flexible disks on micro computers -- essentially any MS/DOS or Xenix based system plus some CPM systems and certain others as well such as Apple and Texas Instruments 99/4A.

- With regard to marketing channels, we are using both distributors and independent marketing representatives to reach customers not covered by the direct sales force.

Just as in other areas of Computer Services, computer-based education strategies are industry-specific. In manufacturing, banking, agriculture, and so on, we determine what the training needs are and develop solutions. These new products are then marketed to the industries in the most effective manner.
Business and industry at present is the major market for PLATO training. The growing need for training and retraining of employees displaced by rapid technological change assures a huge market for as long as you want to think about. For example, General Motors this year launched a major effort training workers using Control Data's industrial automation program.

Academic education, on the other hand, is growing in importance. Some 250 colleges and universities will receive Control Data micro computers and pre-engineering courseware for adoption into their programs. This is a cooperative arrangement in which we provide a basic lower engineering curriculum to these schools and also in return get additional courseware developed by them.

With regard to the K-12 market, the Forest City, Iowa project has received a fair amount of press coverage, but it is only the most dramatic of a number of initiatives.

Vocational training is also a strong growth market. The number of U.S. vocational institutes and related learning centers is now 40, and we will continue to expand both geographically and in terms of new vocational disciplines.
All in all, what it nets down to is that computer-based education is on the threshold of becoming a huge market in this country, and Control Data is in a strong position to capitalize on that growth.

Financial Services

Next I'll cover Financial Services. As you know, this area of the company has suffered through some difficult circumstances during the last two years. We have simultaneously been transforming the funds sourcing end of the business and broadening financial services for small business to include consulting, training, and information processing products and services. On top of that has been the task of taking on a major move into real estate services through ERA and absorbing the negative hits to the property-casualty business. That's a full plate in anybody's book, and I don't mind telling you we underestimated the task.

On the other hand, the eventual pay-off -- particularly with regard to small business -- will be enormous. Small business services include consulting and information data base services, micro computer-based applications, management and operations training, factoring, leasing, insurance and other financing services. These are available through Control Data Business
Centers. During the early stages of development, this has involved considerable experimentation in product packaging and marketing technique. There is as well the enormous task of staffing and training. We have learned a lot, we're making some adjustments, and, of course, we have a ways to go. The pre-tax loss for nine months this year has been $25 million. The rate of loss won't lessen in the fourth quarter as we make adjustments but beyond that there will be steady improvement. Break even is a couple years away.

ERA was acquired in the summer of 1981. The recession in the housing market, to say the least, did not make the transition of ERA into Commercial Credit any easier -- and such a transition for ERA would not have been easy in the first place. But much of that is behind us now. We are providing new financial and information processing products to ERA member brokers. ERA is a growing source of first and second mortgage business for Commercial Credit, and it is once again growing in member brokers and business volume as well. 1984 will be a year of very rapid growth and improving profitability.

As I noted, the property-casualty insurance business has been absorbing higher than normal underwriting losses so instead of being a source of financial strength to help offset the development expense of other strategically important areas of the business, it has been struggling to hold its own.
On the funds sourcing side of things, as Marv Rogers said, we have been acquiring savings and loans as well as converting some Commercial Credit offices into savings and loans. These moves are improving Commercial Credit's capital formation capability. Thrift funds will expand to more than $7 billion by 1988 -- a five-fold increase.

The total picture presented by today's situation in financial services is not, one might say, a "smiley face," but we are confident of significant improvement in 1984. And longer term there is in areas such as small business services, real estate services, and leasing, a strategic synergism which makes the short-term problems well worth the effort.

**Computer Systems**

Let me move on to Computer Systems.

Control Data's Computer Systems business, which includes government systems, is having an excellent year in units produced, revenue and profits.

The Cyber 170 series 800 product line which was introduced last year, has been expanded with the introduction this year of the model 845. That line spans a range from super mini to very large scale, scientific systems -- a very broad performance range.
System shipments probably will exceed 225 this year, an increase of about 40 percent. With the entry-level system shipments up the most, new system accounts, which numbered about 40 in 1982, will nearly double this year.

In the super computer area, the major recent news was the formation of ETA Systems -- a move which will keep Control Data a solid force in that end of the systems business. I'll tell you more about ETA and some computer related technology endeavors in a few moments.

In October we also announced a new parallel processing system called Cyberplus. The true potential of parallel processing lies some distance in the future, but Control Data's Cyber plus technology is a proven outgrowth of a decade's work in certain classified applications and offers some exciting, if somewhat esoteric, near term prospects.

Government Systems is a solid growth business with good position in military processors, subsystems, and peripherals. Major contracts this year include supplying the Navy with airborne computers, and the Army with weapons control systems. PLATO, by the way, is also enjoying good success with the military services.
As you know, competition is fierce in the systems business --
both from U.S. companies and those abroad. So that just
doubles my pleasure in giving you a good report.

Peripheral Products

In the Peripheral Products business, we indicated that 1983
would be a year of improvement following the revenue and profit
decline in 1982. The OEM business is steadily improving.
Order rates are up some 25 percent after nine months, there is
a growing backlog, and there are good prospects for a higher
rate of increase in orders by year end. All this is indicative
of a solid recovery and good performance in 1984.

The end user business, on the other hand, has been worse than
expected this year and the outlook for next year is no better.

Looking at some underlying long-term factors of the peripherals
business there is the all important matter of technology.
Control Data's investments in technology and new product
development have begun to pay off. In the past 18 months we
have introduced 16 new disk drive and tape drive products. At
the national computer conference this year we introduced
five new disk drives that feature thin-film head technology.
These new products will allow us to maintain a strong market
share in the medium-to-high performance systems segment. But what is more significant is the rapid strides we have made in entering the growing micro and personal computing market segment. The industry rates Control Data's 5 1/4" flexible disk drive as one of the most reliable on the market.

Success of the flexible disk drive and its future, as well as that of new rigid disk products, in the micro and personal computing market, have led to the decision to expand the channels of distribution by marketing disk drives and media, under the Storagemaster brand name. This will be done directly to end users through such outlets as Sears and Computerland.

Being competitive in the peripherals market requires great economies of scale in research, development and manufacturing. Fortunately, through cooperation, Control Data over the past 20 years has built the necessary economies of scale to compete with the likes of IBM and Japanese companies. The viability of the joint venture concept was further evidenced this year by Sperry's investment in Magnetic Peripherals, Inc. Other key cooperations will keep the momentum going so the outlook for Peripheral Products is very good indeed.
Cooperation

Having touched on technological cooperation, let me elaborate on that subject for a moment. The pattern began in Control Data 11 years ago, when we joined with NCR to establish Computer Peripherals, Inc., to develop and manufacture unit record peripheral equipment.

Technological cooperation is nothing more than ordinary common sense applied to the geometrically expanding cost of technology development, required economies of scale, and the nature of international competition. It is an absolutely necessary fact of life for all U.S. industry if we are to maintain any semblance of the system that has served our country so well -- namely free and open competition among a large number of competitors.

This common-sense approach is no secret to the Japanese. There is, of course, in addition, industry and government team up to target specific industry opportunities, and they doggedly pursue them through a variety of tactics. All the tactics employed by Japan are neither possible nor desirable in the U.S., but the one thing we can and must do is better exploit our technological powers through cooperation.

Two of Control Data's most recent cooperative initiatives have garnered a great deal of national attention.
MCC -- the Microelectronics and Computer Technology Corporation -- is getting under way with 13 companies participating. As you know, Control Data provided a major part of the initiative to get MCC organized and launched.

As I noted earlier, we recently established ETA Systems, Inc., for the purpose of developing and manufacturing a new generation of super computers. Initial availability is planned for 1986. ETA Systems will be partially owned by Control Data (less than 50 percent) with the remainder coming from other investors. Through ETA, Control Data will continue to be a key player in the super computer market -- partners with the small, energetic group of entrepreneurs.

In another development, United Telecommunications and Control Data have announced an agreement in principle to form a joint venture with regard to data communication network development. We expect to complete this arrangement by year end.

At the present time, Control Data is engaged in more than 50 cooperative projects -- including some old familiar names such as Magnetic Peripherals, Inc.; Computer Peripherals, Inc.; Centronics....and some newer and for some of you less familiar ones. For example: Optical Media Laboratories and Optical Peripheral Laboratories are ventures with the Phillips Company related to optical disk memory systems development.
Control Data – General Strategic Position

Technological cooperation, in short, is a cornerstone of Control Data's basic business strategy. And in that more general vein of overall business strategy, let me add several other comments. The relative strength of Control Data's business strategy is evident when you stop and think that in all the economic and technological thrash of the past two years, we have had a relatively modest reduction in return of invested capital in the computer business (1981: 10.2 percent, 1982: 7.7 percent, 1983: estimated 8.5 to 8.7 percent). To some degree, that is due to considerably improved operational effectiveness, but it also means that strategically we are positioned so as not to be quite so vulnerable as others to the vagaries of the general market place.

That is because another cornerstone of our strategy is "value added" as opposed to "commodity." Peripherals, as I have already noted, is an exception to this in that economies of scale are critical to success. But "value-added" has been a strategic guideline for Control Data since the decision in the late 1960's to make Computer Services the major thrust of the company. Although such a strategy frequently involves a longer product gestation period than that for commodity-like hardware products, experience has proved that -- given the structure of
the information industry -- it is well worth the effort. In such areas as health services, education, agriculture and information services, we have renewed and expanded this value added approach. Some five years ago as the micro computer market began to unfold, we again chose to pursue such a course -- concentrating on services, applications, education, (and of course peripherals) rather than going after the CPU market. And while we certainly haven't made the progress in this area as I would have liked, there is no doubt that in the long-run we will participate in this part of the industry in a far more profitable way than if we had spent our efforts on yet one more micro computer system.

In financial services we have not yet achieved the kind of strategic stability that there is with regard to the computer business. Our basic business concepts in this regard are sound but there is much to do in both strategy and implementation before we reach an equivalent level of strength. That's a matter of time and effort -- the fundamental synergy of financial and information services is unmistakable. Also there is, as everyone knows, a great deal of change in the whole financial industry. Commercial Credit will evolve over the next five years into a quite different business than it has been in the past -- one which reinforces and complements the computer business.
Outlook

Let me conclude with a few words to add to Marv Roger's earlier comments about Control Data's outlook beyond this year.

For 1984, we fully expect to report increases in revenues, earnings and profitability.

We're looking for technological development efforts to continue to pay off. Increases in OEM orders and levels of backlogs for computer systems and OEM equipment bode well for shipments next year.

With both Financial Services and Computer Services returning to higher growth rates, the outlook for next year is encouraging. And, assuming that the business climate is reasonably favorable, growth in 1985 will continue at a rapid rate.