BOB GROOM PRESENTATION

How did Telequipment begin?

Twenty years ago this month, I was working with the UK subsidiary of IT&T (Standard Telephone and Cable), and moonlighting at a TV shop, repairing and installing television sets.

Television programs then were limited to two hours in the evening. The need became apparent for another signal source for TV repairmen. I devised a pattern generator for our use, and it soon seemed there was a need in the market for such a product. Another fellow and I formed a partnership, which lasted only a year, to manufacture the generators.

Then I branched out with two other men (both later Telequipment directors) to market an improved version. We later added a larger version of the generator, for industrial use, plus monoscope picture generators—which were soon installed by most UK TV manufacturers.

I first met Don Alvey 14 or 15 years ago. He was then test equipment engineer with Philco in the UK.

We got into the scope-manufacturing business largely by accident. We'd taken a booth at the then-biggest radio and television exposition in the UK. A couple of days before the show, we decided we were lacking enough gear to fill the booth. So we included a simple home-made scope we'd built for our own use (we couldn't afford to buy one), put it into a box, made up a type number—and we were in the scope business.

My introduction to Tektronix occurred 13 years ago, when Telequipment introduced a small triggered scope, then called a ServiScope.

I was visiting our New York distributor, when Telequipment got a letter from Tek, hinting that we might have infringed some patents. We actually hadn't, but I decided to visit the Tek Sunset plant while I was in the US, to clarify the matter.

Seven years ago Tek suggested the acquisition of Telequipment, because the two companies' product lines complemented one another. This overture eventually (four or five years ago) resulted in Tek's purchase of Telequipment.

We now employ about 520 people, 260 direct and 260 indirect. The indirects include 25 in Engineering (which covers also product support, preproduction, circuit-diagram drawing, etc.).

Our method of work is similar to Tek's. We have parts stores, a kit prep area, assembly, wiring, etc., just as you have.

Typically in the UK, people who assemble instruments earn a salary plus a piece-work bonus. We use that system also. The ratio is about 80 per cent base salary, 20 per cent piece work.

In marketing, we have a commission system. Our FEs earn about 30 per cent above their base salary, on sales they individually make. We'll soon change this system, as the Tektronix field activities in the UK (Tektronix and Telequipment) amalgamate.

We have morning coffee breaks and afternoon tea breaks. Tea and coffee are not free, however, as they are here. Employees generally may smoke at their work benches, if doing so doesn't present a job hazard.

We have no Area Rep activity. Being a smaller company, it's easier for management to keep abreast of employees' concerns than it is here, so we haven't felt the need. But, as we grow, I'm sure we'll have such a system, too.

Sickness benefits, like those in other UK companies, compare with Tektronix'. The National Health Insurance scheme insures minimum sick-pay benefits.

One of your questions mentioned a "Works Council" and its role. That term, and that entity, relate to Tek's Heerenveen operations, not to Telequipment.

Day-to-day company management is done by the Telequipment Management Group—two directors and a number of managers. Our long-term overall strategy fits into that of Tektronix; that is, we're not autonomous. For instance, in most countries, we share a common marketing outlet. And, when we engineer products, we need to consider *all* of Tek's product line. That's one reason for my twice-yearly trips to Beaverton.

We've had a continuous growth rate since we started, growing about 25 per cent per year in product output. In addition, Telequipment instruments are now manufactured on Guernsey (three) and in Heerenveen (three) and at Beaverton (three or four models).

This year, overall product output will probably be up 50 per cent from last year.

What has the acquisition by Tek meant to Telequipment?

A lot of paperwork! Also, it's given us access to a vastly increased market. (For example, our US market is 10 to 15 times that of just five years ago.) And Tek offered us a *worldwide* marketing activity. Also, Engineering has access to your huge store of accumulated Tektronix technical know-how.

In addition, we have access to Tek ICs, CRTs and other sophisticated components. Financially, capital has been made available for us to use for various needs, such as new buildings.

Our marketing strategy is to emphasize the "value for money" of Telequipment instruments. Most of our products go to customers who can't afford, or don't need the full capability of, Tek instruments. In the UK, over half our output goes to the education market; next, to radio, TV and hi-fi. Thirty per cent goes to industry, for production-line testing.

We have harder-sell marketing approach than does Tek. Our "FE"s are called representatives, and are salesmen rather than engineers (although that will change somewhat, with the addition of more sophisticated products).

Our ads *do* mention Tektronix' name. Both Tektronix and Telequipment operations in the UK are part of Tektronix UK Ltd., and our ads so indicate.

We don't make our own printed-circuit boards now, but we will—at Heerenveen and here.

Most of the CRTs we use are glass, largely made in the UK, with some bought from Philips. Some new instruments will use some Tek ceramic tubes. We're using the 564 storage tube now. When it's possible (and economical), we'll use other Tek CRTs.

We are introducing a new probe, which will be built on Guernsey and at Beaverton.

We use some delay cables, control knobs and other components made by Tek—but no ICs at present.

There is very little to choose between the reliability of Tektronix and Telequipment scopes. However, some simpler Telequipment products probably are more reliable, simply because they have fewer pieces to go wrong. (In the London Science Museum, an exhibit has included one of the original Telequipment scopes. It's operated 10 hours a day, daily, for 11 years, and has never needed servicing.)

Now, we're limited in bandwidth to about 25MHz, but at the IEA exhibition this week we're introducing a 50MHz scope.

Price of Telequipment scopes ranges from 30 pounds sterling (about $80) to 450 pounds (about $1100).

Our chief competitor in the UK is Advance Components, a rapidly growing company.

You've asked about the standard of living in the UK. Life is different there, so it's hard to compare. There's less emphasis on material possessions. In general, however, even with a Conservative government, the UK is more socialist than the United States. A large share of our dollars goes to our very good education service, the National Health service and so on.

But living standards are very much the same as here, although the houses and the cars are smaller. But, then, we're a smaller island, and we don't have the need, or the room, for cars 30 feet long and 15 feet wide.

The UK has recently been going through a recession. We've had a continuous wage/price spiral, and unemployment is at a record figure—1¼ million. The last budget, in April, injected a lot of pounds into the economy, and things appear to be looking up.

The recession has had no effect on Telequipment, however. We had a record year this past year.

Our company comprises an Engineering group, an Assembly/Calibration/Test activity, some component-manufacturing groups, a Marketing activity (in the UK), Marketing Support (for overseas subsidiaries and distributors), plus Finance, Advertising and other such overhead.

We have three locations—two in Southgate, a suburb in the north part of London, including 40,000 and 10,000 square feet of leased space; and 40,000 owned square feet in Hoddesden, a small town 20 miles northeast of London. There we also have 6½ acres on which to expand.

Factory work is on a 39½-hour week, office work on a 37½-hour week—both typical of the UK.

We have a cafeteria at Hoddesden, none at Southgate, which is 100 yards from a large shopping center with many restaurants.

(Bob then showed slides, depicting scenes at various Telequipment locations, plus some views of London.)

DON ALVEY

How did we wind up with Telequipment here at Beaverton?

We had some US customers who were concerned about products not being made in this country. Our decision was made in order to help them—and to help Telequipment rapidly increase its output. As Bob noted, Telequipment scopes are also made in Guernsey and Heerenveen now.

What is the cost difference between disassembled and assembled instruments coming through Customs?

The cost difference depends on how much of the product is disassembled. Unfinished instruments result in lower import duty. We're not at present shipping partly finished instruments into this country.

How many people do we have here at Tek in Telequipment, and how many do they have in England?

As Bob said, there are 520 in Telequipment. At last count, we had about 55 here.

How did Tek become aware that Telequipment was willing to join this company? Did we do this to get a better hold in the European market?

Bob has already answered this. Incidentally, at that time, one of the first advantages I saw was to gain an edge in the South American market. It now turns out that wasn't the market with the largest growth potential.

Is our services organization (product backup) in US for Telequipment pretty much the same as for Tek?

Yes.

Do we have field engineers for Telequipment?

Bob has already answered this question. The two UK field forces, as he said, are soon to be amalgamated. In the US, a Tek FE sells Telequipment to customers in his area if they have a need for this line of products.

What goes into managing an overseas company?

Each subsidiary is a corporation, with all the corporate responsibilities. The operating manager is responsible for carrying out all the business functions of Manufacturing, Engineering, Marketing, Finance and Administration.

The subsidiary lives under local laws, and files its tax returns with the fiscal authorities in that country. All subsidiary operations must also be coordinated with one another, and with Tek Inc. at Beaverton.

Why don't they run Telequipment scopes through an environmental test similar to what Tek scopes must pass?

Telequipment doesn't try to cover the same environmental capabilities as Tek scopes. The products have different markets and different buyer needs, and they differ in economy. If we went to higher environmental specs, we'd soon have one more *Tek* scope. Value is the main goal for Telequipment products.

Is Telequipment contributing substantially to the prosperity of Tektronix?

Yes. Telequipment has shown a non-stop growth rate. It's very profitable, worldwide.

How do UK corporate taxes and payroll taxes compare with those in the US?

(Don) Corporate taxes are slightly lower there—40 per cent, compared with 48 per cent here. Payroll taxes? That's hard to answer. All social services are provided in the UK through taxation. So, in general, payroll taxes are substantially higher there.

What is a typical Telequipment salary, say of a development engineer and of an assembly worker?

(Bob) A development engineer would earn $5000 to $10,000 a year. A line operator, say age 20, would take home about $60 a week.

How much is a loaf of bread?

(Bob) About two shillings, or 25 cents.

What's the average wage of a skilled tool-and-die maker?

(Bob) It depends on the industry. In the auto industry, a high-salaried field, he might make over $6000 a year. In a bread-and-butter industry, about $3000 to $5000 a year.

I seem to see more and more Telequipment scopes used at Tek. Why is this?

(Don) It's a good idea, I think. We use too many Tek scopes here, often when that much capability is not needed.

Are these instruments handled on rotation?

(Don) I hope so.

Do we still sell Telequipment scopes largely to supplement the lower end of the Tektronix product line?

(Don) Yes. Some customers want to do business with Tek and get Tek support, but still need less product than our normal bottom-of-the-line products offer.

Our alternative would be to engineer our own lower-performance products. Twice we've tried that, and failed both times.

I notice an increasing overlap of the 5000 series, first with the D-67 and now with a 50MHz Telequipment scope. Is this intentional?

(Don) Yes, because some people do want the Tektronix name and reputation.

Does the average Telequipment employee own his own home? Car?

(Bob) I don't know what "average" is. The last figures I saw said 30 per cent of UK people are renters, 70 per cent are home owners. I don't know if this ratio applies to Telequipment employees or not.

As to cars, I'm not sure. I know a large percentage of our employees *do* own cars. I think the "average" Telequipment employee would own both house and car. However, a lot of our employees are married women, who come to work in the family car. But there are also an increasing number of two-car families.

Are there day nurseries in the UK?

(Bob) Some. They're free—that is, tax-supported, and provided by the state. Also, you'll see an increasing number of private nurseries.

Are the 55 Telequipment people at Beaverton paid by Tektronix or Telequipment?

(Bob) *We* don't pay them, and someone has to, so I assume Tektronix must.

Does Telequipment still make pattern generators?

(Bob) No. Not since about 10 years ago. We quit largely because TV programming came to offer continuous test-signal transmissions.

Did the recent coal strike slow you down?

We were fortunate. Last year a series of power cuts occurred because of over-demand. So, we then bought our own diesel generator—which paid off in the recent crisis.

There were some mandatory no-power days, but they were staggered as far as our two locations were concerned. So we put the generator onto a trailer and ran it from plant to plant. We lost very little production.

Will the slides you've shown be available for Area Rep meetings?

(Bob) Yes.

What's the average rental cost of a house in the UK?

(Bob) It depends on the area, and on whether it's furnished or not. There are few private unfurnished accommodations available. The Rent Act gives security of tenancy to renters of unfurnished quarters. Landlords, thus unable to easily eject undesirable tenants, don't offer unfurnished accommodations, and thus discourage such renters.

Typically, rental for a small Council house (municipally subsidized housing) runs from $5 to $15 a week. Private furnished accommodations range from $25 for a small furnished apartment in the outskirts of London to $50-$100 closer in, with four bedrooms. One person from Beaverton is renting in suburban Southgate and paying $75 a week, furnished.

Would you characterize your association with Tektronix as a happy one?

(Bob) Yes, by and large, very happy indeed.

We had rejected offers to purchase us, made by other UK companies, before we accepted Tek's offer. We valued our independence. We wouldn't have joined Tek unless we'd had an appreciation for the type of people Tek breeds.

How close does the piece-work bonus approximate our profit share?

(Bob) We have profit sharing plus the piecework bonus—not one instead of the other.

Do the salary figures you've mentioned represent income before or after taxes?

(Bob) Before.

What percentage of wages is paid in taxes?

(Bob) It depends on the salary, and on other factors. A single person earning up to 20 pounds ($52) per week pays no tax; nor does a couple earning up to $70 a week. Then it depends on the family size. An engineer earning 2000-3000 pounds a year who has two children will probably pay between 0-10 per cent tax.

What percentage does a person earn for piece work, above standard?

It varies, and is complicated to explain. A good operator could earn 25 per cent above the standard rate. It depends, of course, on the complexity of the job he's doing.

What is the tax rate for a person, say, with a job like yours?

(Bob) A person like me, with three children, would pay 30 or 35 per cent of his income in taxes.

BOB GROOM

DON ALVEY