DECEMBER 1978 Number Five

## TEK TIMES

# **Long Service Award Luncheon**



Bob Garrett and John Dedman, both from Harpenden, receive 20 years pins at Hatfield



Ron Nott of Hoddesdon, the only person to be presented with a 25 year long service award

On December 15th the traditional long service luncheon was held at the Hatfield Lodge and Ed Morrison presented awards to those people who have been with the company for 10 years and over. As can be seen below, in addition to a number of 10 year presentations we also had a very special 25 year and two 20 year awards.

25 Years Hoddesdon Ron Nott

20 Years Harpenden John Dedman Bob Garrett

10 Year Awards Hoddesdon Ken Aspinell Lucian

Ambrozewski
Alan Ball
Kathleen Brown
John Burrows
Maria Cacuiho
Ivy Mathews
Ken Mathews
Audrey Maynard
Brenda

McCandles Mabel Rayment Louisa Rowley Paula Sarullo Mabel Shelsher

Southgate
William Cane
Terry Dickinson
Roy King
Gladys Lenard
Martin Man
William May
June Parkhouse
Ron Tradgett
Stanley Virgo
Marjorie Ward

Harpenden Les Farndale Steven Gray Vera Lange Richard Rothwell Harold White Peter Wood

# Eds Xmas message

Ed Morrison wishes Tek UK a Merry Christmas and Happy New Year and tells the editor of Tek Times "This has been a year of challenge and success for Tek UK and 1979 promises to be even better. I am pleased to be able to play a part in its future and look forward to working with you all in the New Year".

## **Family Record**



Dennis White and his wife Irene and son Roland, all with 14 years service join other son Harold for his 10 year service presentation



Happy Christmas and a prosperous New Year from TEK TIMES

### PERSONALITY NEWS.

## **Maidenhead Maidens**



One thing I learned very early in my new role as a field secretary for Tektronix was that you had to have a sense of humour – I fitted like a glove!!!

I was acquired in May of this year to accompany Val in the new Maidenhead office. Val joined in the December before, shortly after the office was born, and by the time I arrived had everything well under control.

Val is secretary to Dave Fynn (Regional Manager), Reg Watson and Andy Duncan as well as having to cope with office routine and smooth running in Dave's continuous absence (nothing to do with his new boat).

Last but not least, Debra joined the happy throng, she came to work for John Mills and Dick Collard but has since inherited George Allen and John Collins as well as coping with a very energetic switchboard.

I slave for Peter Bavage, Keith Lightfoot and Mervyn Batten after recently losing Barry Towner to Harpenden where he is now managing Telequipment.

As people we all three are as different as chalk from cheese, and really have nothing in common—except the obvious (our respective partners in life). Debra loves cooking, Val hates it, I nearly always manage to eat out. Debra is a typical wife and motherly type, just

celebrated her first year of married bliss, Val is a dedicated wife, I'm neither. Debra is continually dieting, Val continually househunting, me continually eating (Val made me put that). But funnily enough it works.

Although we all have our own territories it's usually a question of who's available when calls and work come in, being such a small office we need to work as a team and help one another the best we can. There is always a steady flow of work but occasionally one of us will be going berserk and we all have to muck in.

Being such a small office it's really like having a home from home, only—you can't put anything off until tomorrow.





## **Delivery** in two days

Dave Draper, Product Controller based at Hoddesdon has become a proud Dad. His wife Kathy gave birth to a baby girl on 7th September, 1978, two days ahead of schedule – but Dave admits it was not due to his progress chasing.

The consignment weighed 5lb 8oz and has been allocated the 'Part Number' Anna Maria.





Photograph by Chris Astall Product Control, Hoddesdon



## Demo Bus in UK

The Tek Demo Bus visited the U.K. recently. On Thursday, 16th November, it visited the British Post Office for the first time in Tektronix history. It is also the first time the

Post Office have allowed a commercial vehicle of this type in their premises. The day was a resounding success.

Ray Ganderton

### POT POURRI

## Company Cars — How to recognise them

The following found its way to my desk. Not surprisingly it's anonymous and of course it doesn't relate to any of us who have Company cars! Does it?

They have the following features rarely found in Private Cars:-

- 1 They travel faster in ALL gears, especially reverse.
- 2 They accelerate at a phenomenal rate.
- 3 They enjoy a much shorter braking

distance

- 4 They have a much tighter turning circle.
- 5 They can take "RAMPS" at twice the speed of Private Cars.
- 6 Battery, water, oil and tyre pressures do not need to be checked nearly as often.
- 7 The floor is shaped like an ashtray. 8 They only burn the petrol with the highest Green Shield Stamp rate.
- 9 They do not require to be garaged
- 10 They can be driven for up to 100 miles with the oil warning light flashing.
- 11 They need cleaning less often, especially inside.
- 12 The suspension is reinforced to allow carriage of roof tiles and other heavy building materials.
- 13 Company cars are adapted to allow reverse gear to be engaged whilst the car is still moving forward.
- 14 The tyre walls are designed to

allow bumping into and over kerbstones.

15 Unusual and alarming engine noises are easily eliminated by the adjustment of the fitted radio volume control.

16 Company cars need no security. They may be left anywhere, anytime, unlocked and with the keys in the ignition.

Contributed by Allan Muncer Transport/Despatch Supervisor

## On the Screen

Now that the winter evenings have reached their lengthiest, we cast our minds back to the sunnier days (if you were lucky enough to find any) when camera shutters clicked and those eagerly awaited holiday snaps returned from the processing machines. Now it is that we relive those happy times, and share them with our lucky friends in that great social event of "showing a few slides."

Who has not suffered one of these happenings which having started interestingly, declined through various stages of disinterest and boredom, to become an evening to remember – for all the wrong reasons.

From dismal failure to glorious success only requires the observation of a few simple rules. My purpose here is to outline some of these for the mutual benefit of slide-show presenter and audience alike.

The number one golden rule is the one most frequently broken and can be credited with more slide show disasters than any other. Don't overdo it! Whether our camera takes 12, 20, 36 or some other number of pictures on each film, we seem to imagine our audience is entitled to view them all. It is not easy to define the "correct" number of slides for an evening's presentation and each occasion will differ from the last. An absolute maximum should be 100 and only then if those 100 meet the other criteria I am about to unfurl. Remember that, unless you intend to project in absolute silence, a slide a minute is a good rule of thumb that allows some commentary and audience participation. After one, to one and a half hours your guests will be becoming restless, especially if the viewing comfort leaves something to be desired. Incidentally, if your standards of comfort are too lavish, you could find your commentary punctuated by an occasional snore.

The second, and almost as important rule, requires the presenter to be ruthless. This is a characteristic that many of us would not admit to,

but in this situation it is a positive virtue. Eliminate all failures, nearly failures and fairly good pictures. "I don't have many failures," I hear someone say. Take another look. Is the focus quite as it should be, was the horizon really at that funny angle, do Uncle's legs stop at his ankles?

Be ruthless, it helps you to obey rule one without trying quite so hard. If you feel that one of your pictures is only "fair", you will not want to be judged by it. Surely you would wish only the best for your viewers.

Duplicates and scenes that are very similar should be eliminated or someone will surely comment that they've seen that one before. The virtue of a good composition or original pose at baby's first bath is lost on repeated showings.

Consider your audience carefully. Nothing starts the yawns quicker than a sequence of Auntie Emily, Uncle Fred, Grandma, your long lost cousins and so on, if these good folk are unknown to most of the viewers. Family portraits are best reserved for family showings.

Under exposures (that's those pictures that started the black cat in a coal cellar jokes) and over exposures (these lack any detail and are always very bright on the screen), must be omitted from your final selection.

Badly scratched, buckled, creased and other technically faulty slides are at best only suitable for the historic record file. Battered pieces may have an enhanced value when buying antique furniture but they have no place in a well-organised picture show.

Now we have a suitable number of slides that we don't mind showing to our most critical audience. Believe me, someone in every audience is going to be critical so let's give them a hard time. How to set about planning the running order. The key word here is planning. Whatever your reason for the get together will be the factor that decides where you

start and where you finish. Often the sequence will be chronological, though many fine presentations adopt a theme which involves assembling a projector full of slides taken over a wide time span. Clearly if your speciality is pictures of flowers or aircraft, time need not be the guiding rule.

Whatever subject matter you are showing a few little extras can make your task easier and the end result much more enjoyable for all concerned.

Quite often the film processors return the ends of your film and these are usually black. Sometimes one frame of this black opaque film is returned in a mount. Don't throw this away. During the course of your evening's entertainment everyone's eyes have grown accustomed to the low light level of projected pictures. Suddenly, at the end of the show (or of a projector magazine if you are using this type of projector) a blinding white light follows the last picture. How much kinder to the eye is a dark screen indicating that the show is over. That black slide is a gentle way of closing the display and leaving no one, including yours truly the projectionist, in doubt. If your processing company, be it Kodak, Agfa, Boots or whoever, haven't provided the blank picture you can produce one by simply taking a picture with the lens covered.

In similar vein it is worth

sequencing your subjects so that changes in light level occur smoothly. The same blinding effect can be created by following a night scene with the seaside causing much of the mood to be destroyed in this way.

To overcome one of the commonest operational hitches the practice of making each slide mount in one corner is well worth a little of your time. The usual method is a small self-adhesive coloured spot (available at most photographic counters) placed in the corner which will be at the top right when the slide is inserted the right way up and the correct way round, in the projector. If you do this you will never again suffer the mirror image effect or topsy-turvy upside down world in your presentations.

One final practical tip is so obvious that it is often overlooked. If you've ever had a projector bulb blow during a show, and no spare you'll know what I mean. With the ever-increasing cost of electrical parts that spare is a good investment anyway!

As I inferred back at the beginning winter time is when most projectors earn their keep. However, your camera is what keeps your projector in business and a camera doesn't hibernate.

Happy photography!

Derek Smith

## Savoury Mince Pie

Ingredients 12ozs Short Crust Pastry 12ozs Minced Beef 1 Medium Onion 6ozs Cheese 1lb Potatoes

#### Matho

Cook mince and onion, boil potatoes. Line pie dish with pastry, put in mince and onion, slice cheese and layer over mince. Drain potatoes and cover the cheese. Finally add top pastry, brush with egg and cook for approx. 25 mins oven 375°.

Serve on its own as a supper pie or serve with 2 veg and gravy as a main course.

Pearl Brinkley Production Supervisor, Hoddesdon

# Who's that with the Pre































# sident?































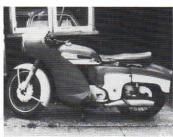
## "Eight Months with a Norton"

About one and a half years ago, a strange desire to own, rebuild and ride a "good old British" motor bike came over me, like the effects of a young boy's first love. I tried to suppress the feeling, as I did not really have the time, the space or the money for such an undertaking – besides this, my wife was violently against the idea. So, being totally fair and rational about the whole thing, I went ahead and bought one

Making the decision to buy an old British machine is one thing, but actually finding one that is worth buying, is another entirely. After seeing numerous examples of what owners described their "immaculate", "entirely original", and "one very careful owner" etc., I began to think that I wouldn't be able to find one after all. As a last attempt at acquiring my dream, I placed a "Wanted" ad in the local paper. Disregarding the several offers of "mint Gold Stars" for incredible prices, I finally spoke to an elderly gentleman who had given up riding his motor bike in 1967 for the safety and comfort of four wheels. His machine was a 1961 Norton Dominator 600 cc and he had parked it in his garage since then. It sounded too good to be true-a one-owner classic for a very reasonable price? £175 pending successful viewing.

Unfortunately he lived in Canvey Island, but, full of enthusiasm, I set off early one evening to see it. Dave Fynn, a fellow field engineer at the the time, went along with me as a second opinion. Dave shared my enthusiasm as he too had a love of old English machines and he had only given up competing in the TT as a side-car passenger in 1971. We were soon viewing Birmingham's racing legend in its original shape and form. It was a little scruffy and wouldn't start, but we took the owner's word that it would do so after minor tinkering. We agreed a price and were soon on our way home with the Norton tied up in the rear of our van. We talked eagerly about the purchase and stopped at the occasional pub to tender our dry mouths with local ale. Once back home, we unloaded and propped up the bike in my leaky wooden garage, where it would stay until restoration was complete.

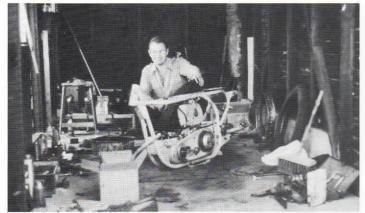
The following morning I raced out to the garage like a child at Christmas-time, to see if the bike was still there. My wife took a quick look and confirmed that she thought I was totally insane. Her opinion was also shared by the majority of our friends and relations, but I was not deterred. Through the rust and grime I could see a sparkling road machine that would be the envy of



Before . .



After . . .



During . . .

every motor cyclist for miles around. In my mind I had begun restoration immediately, but I didn't actually begin until some weeks later. The strip down was a painstaking task, since every part had to be put aside for repair, replating or cleaning. I got down to the basic engine and gearbox before I hit my first set-back. In order to remove the engine and transmission from the frame. I had to remove the crankshaft sprocket. According to my instruction manual this was a simple task involving just a puller and copper mallet. It wasn't like that at all; heaven and earth would not move that sprocket. I tried heating it and cooling it, heavy knocks and light ones, recommended pullers and fabricated ones. It wasn't going to move, and so, realising the consequences of a broken crankshaft, I decided to continue with the engine

During the remainder of the engine strip-down, I encountered one worn-out part after the other; a list of these would only bore you. Needless to say, I soon decided that despite the low recorded mileage (28,765) which I had no reason to disbelieve, it had received the absolute minimum of maintenance, if any at all. This was especially apparent by looking at the condition of the primary and secondary chains, clutch and gearbox. I reconditioned these parts to the best of my ability-Norton spares are not the easiest things to find, and even when a supplier is found the prices tend to be very high.

The next stage was to tackle the cycle parts. Again, more disappointment. New wiring, rear shock absorbers, swinging arm bearing, steering head races, etc. etc. At one point, I almost gave up, but when I stood back and looked at just how far I had gone I decided to carry on and finish. The very last repairs were to the fuel tank, front wheel hub and

Eight months and a lot of work had passed since the Norton had become mine; at last it was time to see if it had all been worth it. On a bright Summer's day I rolled the Norton out of my garage and pulled it onto its stand. Two kicks of the engine and it sprang into life. I can remember sitting back and sipping a cool beer just listening to that rhythmic throb-throb of the 600 twin. It's difficult to describe what makes this sound so attractive, but to my ears it was music. With empty beer can tossed aside, a borrowed crash helmet and a petrol tank full of four-star, I climbed on to the gurgling machinery and coasted down my short driveway onto the main road. Even my wife looked on with a glimmer of interest. The neighbours, too were watching but I think they were more interested in finding the origin of the noise.

With first gear selected, I crept away gingerly, feeling my feet after 12 years of four-wheel motoring. Soon the Norton was motoring smoothly, it felt like a young stallion fresh out of the stable for early morning training. Into top gear and . . suddenly the whole thing died. Was it petrol, ignition or what? The battery was dead due to a miswired alternator, but I was over three miles from home with nearly 400 lbs. of dead machinery to get back. Two hours later, almost at the point of complete physical exhaustion, I arrived home. I won't tell you what my wife said, nor my reply! After a quick rewire and battery charge I was back on the open road, slipping through the gears and breathing in the fresh air. Despite going easy on the tight engine I could still feel the potential of the old thoroughbred. As the engine loosened up during the following weeks I began to understand the reasons why the Norton had such appeal in its day. It pulled powerfully in every gear, and went around corners almost as if it were on rails. This particular performance characteristic of the Norton, a result of its legendary "featherbed frame", would be difficult to equal. even with today's exotic machines.

Each night I used to go into the garage and give it one kick, just to listen to the engine. I even went to the trouble of making a tape recording of me thrashing up the road, playing the gearbox like a fiddle. Unfortunately, my wife later erased it accidentally whilst recording "Magic Roundabout" for my young daughter. As the time passed I realized that my social life did not cater for a motor bike, ten years ago maybe, but not now. Motor bikes are great fun if they can be shared with fellow owners, but I did not know any-in my age group anyway. With a garage in need of repair and a wife who was a constant reminder of the money "tied-up", I decided to sell. The problem was how much to ask. I finally advertised for £385 and accepted £325. Of course there were plenty of people telling me it was worth more, but noone prepared to pay it!

There is a lot of sentimental rubbish talked about old British motor bikes, mostly by those who have never owned one. However, I did enjoy the eight months spent with my Norton, despite the heartbreaks. If N.V.T. made the Dominator today, I would probably buy one for sunny days only.

The new owner was a middle-aged gentleman of slight build; he barely had the strength to hold the Norton upright. As he drove away I listened to the sound as it faded into the distance. I thought . . . there goes a little bit of me and a lot of motor bike.

# The Spirit of Christmas

that extra special Christmas Dinner spring to our minds, seated around the dining table are our family and friends, there is an air of expectancy as Mother triumphantly carries the roast turkey in from the kitchen, to the hungry throng, dear old Dad stands at the head of the table to perform the ceremonial carving of the unfortunate bird. Cheerful from the onlookers banter encouraging him to do his best and not serve the parsons nose ring in his ears, with carving knife and fork he bends to his task mentally questioning the wisdom of drinking that large double scotch with Uncle Fred ten minutes beforehand. The scene is set, the meal is a masterpiece of culinary art, but only one thing is missing as the last trace of Christmas Pudding and Brandy sauce disappears from the table. Yes dear readers you have guessed correctly, it is the fine liqueur that would have made the perfect accompaniment to the coffee and cigars, but let's be honest you can hardly expect dear old Mum and Dad to spend at least another £7, plus for a bottle of superb liqueur after such a banquet. But you really do not have to, if you spare 20 minutes of your time now, you can easily make it yourself with a minimum of effort. Let me show

All you need is a plastic funnel, a measure jug and a large screw top jar, an empty cider flagon is ideal. You will naturally make sure everything is scrupulously clean. A visit to your local Homebrew shop or a large branch of Boots and you can purchase the essence required which is made by a company called T. Noirott Extracts, it costs about

50p. On your way home buy the cheapest Brandy, Vodka or Whisky you can get, Sainsburys is ideal for this. All you have to do then is follow my simple recipes. I especially recommend the Apricot Brandy, the result are superb, the cost is less than half of its commercial counterpart and you will still have quite a few tots left in the bottle of spirits for Uncle Fred.

#### **Apricot Brandy**

10ozs sugar

10 liquid ozs cheap white wine

18ozs cheap Brandy

½ bottle Apricot brandy essence Put all ingredients into large screw topped jar and shake until all sugar is totally dissolved.

Ready for drinking immediately, but best if kept for about 2 months.

#### Liqueur Whisky

7ozs sugar

15 liquid ozs whisky

¼ teaspoon honeysmoke essence Put all ingredients into 26oz bottle, cork firmly and shake until all sugar is totally dissolved.

Can be drunk immediately but best if kept for at least 2 months.

### **Cherry Brandy**

12ozs sugar

10 liquid ozs cheap white wine 18 liquid ozs cheap brandy

1/2 bottle + 2 teaspoonsful of cherry brandy essence and 1 teaspoonful of almond essence

Put all ingredients into large screw topped jar and shake until sugar is totally dissolved.

Ready for drinking immediately but best if kept for about 2 months.

Cheers, Happy Christmas Dave Higgins Product Control, Hoddesdon



## **Cotton Surprise**

A white thread is seen on the shoulder of your coat, sooner or later someone will say "You have a piece of cotton on your coat' and proceed to pick it off. When they do so they will get quite a shock as the cotton will be a hundred yards long. For this you will need a reel of white cotton and a needle, unwind some of the cotton from the spool and thread the needle, put the reel of cotton into your inside pocket and

push the needle through the jacket so that it comes out at the shoulder. Unthread the needle leaving ½" of cotton showing on the shoulder of your coat. It looks like a short piece of cotton and no one will suspect that it is connected to a full reel. As a result anyone who tries to take the thread off your coat is in for a surprise.

Pete Green Hoddesdon

## **Employment?**

If an employee of an employer is taken into the employment of another employer who, at the time when the employee enters his employment is an associated employer of the first mentioned employer, the employee's period of

employment at that time shall count as a period of employment with the second-mentioned employer and the change of employer shall not break the continuity of the period of employment.

John Shafe

## We of the Channel Isles . . .

The History of the Channel Islands' relationship with Great Britain is interesting and proves that England is the oldest possession of the Islanders. Way back in 1066 William, the seventh Duke of Normandy invaded England, won the Battle of Hastings against King Harold and then became William the First of England.

At the time the Channel Islands – Les Iles Normandes – were part of the Duchy of Normandy, and so we all became one. There were twelve Dukes of Normandy half of whom became Kings of England from William the Conqueror (1066) to King John. In 1204 the notorious King John lost nearly all Normandy

but the Channel Islanders remained loyal to the English Crown. We need not have done, but we chose so to do, an important point, and since then the position has never changed.

As the years went by William the Conqueror's successors confirmed by Charter the complete independence of Les Iles Normandes in return for the allegiance of the islanders to the Dukedom of Normandy and to the successors of the Crown who were, of course, the Kings and Queens of England. Not, you will note, to the Government of England, but to the sovereign only.

Our allegiance to the Crown thus started and continues to this day. Her Majesty the Queen is held in the highest esteem throughout the Islands and she wears the combined Crown of Normandy and England and it is, of course, to the Crown of Normandy that our loyalty lies.

After the debacle of King John in 1204 when most of Normandy was lost, the Channel Isles separated from Normandy and we started our own Constitution. King John was angry about this and took hostages from the Islands but all to no avail.

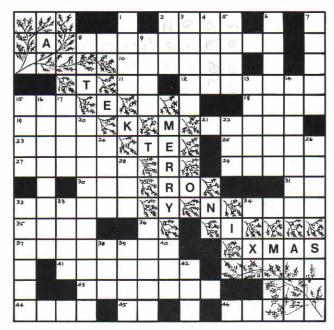
In the Archives in the Islands are the original Charters giving special privileges to the Islanders such as, that we cannot be called for Military Service outside the Islands except to rescue the English Sovereign if captured by enemies or to conquer England again!

Maybe because we are so small we are fanatical in guarding our Constitution and privileges. We have had them for nearly 800 years and this historical position cannot be argued.

We are in the Commonwealth but are self-governed and have our own traditions, characteristics and independence.

We are proud to fly the Union Flag if only to remind us of our oldest possession and we are still, 800 years later, the closest of friends.

### POT POURRI.



ACROSS: 2 Inert Gas (4): 8 Contest of skill for many (10); 10 At the end of the day (6); 11 He prepares this edition for publication (2); 12 Inters the Ancient Egyptian (7); 15 Suitable accommodation for a hog (3); 18 Told of two cities (4); 19 Xmas in Paris (4): 21 Proportion of Magnitude or Quality (5); 23 Composition for eight (5); 25 Instruction for 23 across to "Cool it" (5); 27 Boiled in the kitchen laundry (6); 29 Enables the Guitarist to regulate the pitch (5); 30 Chinese path to moral teaching (3); 31 & 46 Israeli Air Line (2-2); 32 Find GPs' Registers on the door (6); 34 Its very cold down here on the scale (4); 35 Mr. Shariff, I presume! (4); 37 Christian festival on the sixth day of the year (8); 41 Centre for Roman Catholic Pilgrimage (7); 43 Perhaps this American cop's partner keeps rabbits! (7); 44 Outlay (4); 45 Exist (2).

DOWN: 1 It blows with excessive input (4): 2 Fowl (3) (with apologies to Graham Williams, Australia); 3 stand for the painter (5); 4 Prediction (4); 5 Amount of pay left to take home (4); 6 Omit pane, for violent gut reaction (8); 7 Humiliate (5); 9 Coarse mannered (4); 13 Fish eating Amphibian Mammal (5); 14 Absorbs superfluous ink (7): 15 Seasonal airborne flakes (4): 16 Leading light at Talbot House? (3-1-4): 17 Snowman? What an abomination! (4); 20 First or second class (6-4); 22 Ramsey or Garnet (3); 24 Attractive British resident of the duck family (4); 26 It's capital in Norway (4); 28 Coded distress signal (3); 32 Imaginatively expressive (6): 33 Hit on the head, to be exact (4): 36 Upset drane. with the L.S.O. (5); 38 Small cabin (3); 39 Jordanian subject (4); 40 Expresses affirmation (3); 42 At night, with Patrick

## Dave Miller reveals all

As people working at the Hoddesdon site will know, we recently took delivery of a large, somewhat ungainly looking object answering to the name of 'Universal Sequencer'.

The purchase of this machine was essential, in order for our company to remain competitive with other manufacturers using similar equipment.

Ours is a 60 station model, which means it is capable of dispensing up to 60 different axial head components, whether they be resistors, diodes, zeners or capacitors, provided they are supplied on bandoliers. It is also fitted with a plain wire link dispenser. Its function in life is to remove components from these bandoliers in a pre-determined sequence and to retape them onto another bandolier so that they can be inserted into P.L. boards, using automatic insertion machines.

The machine is controlled by a Digital P.D.P.11/05 computer which is housed in a separate console. Communication to the computer is made via a 'Dec Writer

Teletype', and the whole thing will eventually be linked by telephone modem to the main Southgate computer, all of which sounds very grand, but how does it know what to do?

Well, when it is agreed that a particular board will be automatically inserted, a volunteer, who, to prevent escape is chained to a desk. has to go through the board, with a parts list and decide which components can be inserted, and in which order to insert them. He then has the laborious task of compiling a list which gives the part numbers, in order of insertion, the value or type of each component and the P.C. board references. Each component on the list is allocated a head number for the sequencer, where a component appears more than once it will be given the same head number.

When complete, our now much happier volunteer, types this list of head numbers into the computer, and when the correct reels or components are fed into the same appropriate heads, the machine is ready to go. When the same sequence is required at a later date,

## Letters to the Editor's desk

To the Editor of Tek Times Dear Sir.

While echoing the phrase 'Speak up for Britain' in our November issue of Tek Times I feel I must balance the picture for our Transatlantic colleagues by quoting Albert S. Bolles from his 'Industrial History of the United States', published in 1878:

"One of the most imposing spectacles of this or any other age is the calm and impressive manner in which the English writers claim 'the glory of having introduced steamnavigation to the attention of the World' and the coolness with which they say that this invention - having, like daylight, fresh air, and other objects of great utility, been born in England - finally left its inventors 'to irradiate the names of others who reaped the benefit of their labours', the most prominent of the 'irradiated' being Fulton. The first British steamboat splashed its way around a lake at Dalwinston, for the

first time, in the middle of October 1788, the event accruing to the great edification of farmhands of the regions adjacent, who came down to see the boat 'driven by smoke' at the rate of four miles an hour. Yet experiments had then been in progress with Steamboats in America for thirty-eight years; and in 1785, three years before the first English boat was tried, John Fitch had navigated the Schuylkill in a shallop, with a paddle-wheel at the stern, driven by steam''.

Bolles goes on to mention 'One ingenious European had also proposed to propel boats by firing a big cannon from the stern, it being ascertained by experiment that a moderate-sized ship might be driven at the extraordinary velocity of ten miles a day with thirty barrels of gunpowder'.

I wonder if Sir Frank Whittle heard of this experiment?

John Seaman

only the title need be typed in, as all the data will then be stored in the computer memory.

Running at a speed of 17,000 components per hour the computer commands the pneumatic cutting heads to dispense their components onto the conveyor in the predetermined sequence. Should a component fail to drop, a photo cell at the end of the conveyor detects this and stops machine allowing one to be manually loaded. The components are then fed onto pitching wheels and then taped at 5mm pitch to form a bandolier. The

sequence which may have as many as 200 components in it, is repeated over and over again, with a gap between the end of one and the start of another, finally to be fed onto a reel, which is then ready for use on the insertion machine.

It is reassuring when we can see Tektronix making this kind of high capital investment in production equipment, which can only help give us a more profitable and secure future in the face of ever increasing competition.

> Dave Miller, Ind. Eng., Hoddesden

