

Ed Morrison visits China...

The relatively recent emergence of China as a major world market has brought about a flurry of activity among the industrialised countries in the west. While many companies are visiting Peking today to solicit business, our Export Department has had an effective on-going business relationship with the Trading Corporations in China for some time now.

We have been in contact since the early 1970's and have processed a number of orders for export to China over the past four years. While these were comprised of controlled products subject to possible prohibition by the U.S. Export Control Regulations, they have been a healthy indicator that China is serious in its efforts to industrialise and catch up. The ten year plan (1976-1985) that they have outlined is an ambitious one.



Ed. Morrison and Earl Wantland in China

When we received an invitation to visit Peking early this year, we viewed it with appreciation and as an opportunity to establish friendships through personal contact with business associates in the People's Republic of China. Having gone through the normal scheduling traumas associated with this sort of trip, we arranged to come up with a plan for a visit there in April. Even this caused us a few problems as we had to exclude one of our key players, John Landis, Vice-

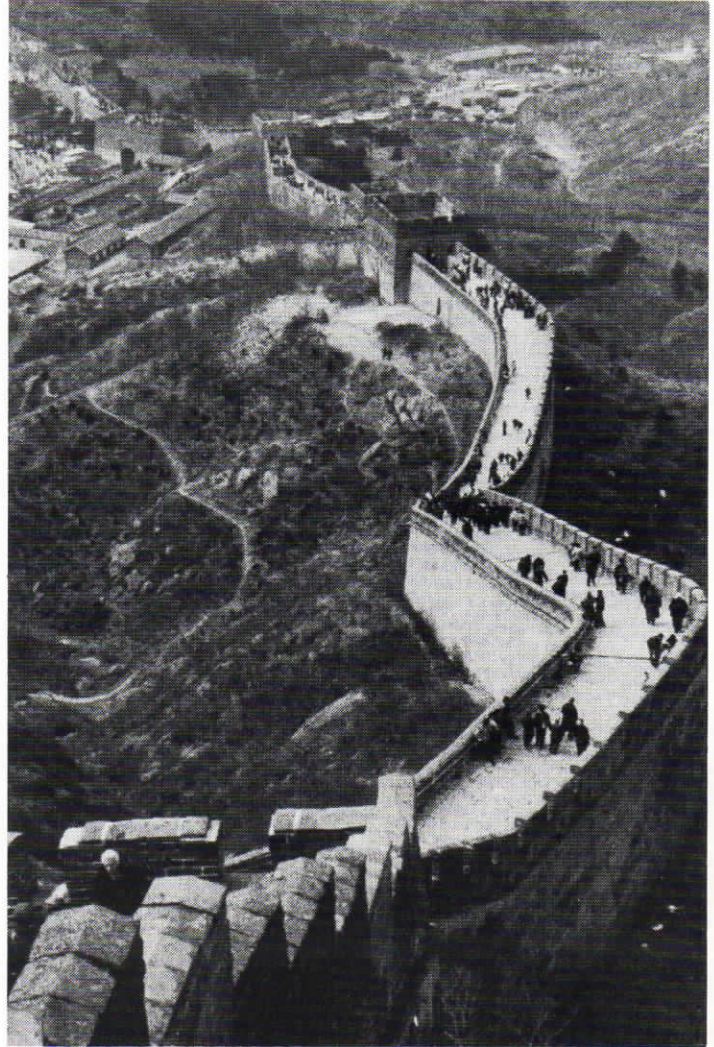
President, International, due to his commitments elsewhere in the world.

As I am resident in London, we decided that Tokyo would be a convenient place for me to meet with Earl Wantland, President and Dick Herdman, Export Manager, both from Beaverton, Oregon, U.S.A., and we would then continue, as a group, on to Peking.

We spent a week in Peking and thoroughly enjoyed every minute of it. We found the people to be friendly in all cases and eager to assist us whenever possible. Our hosts while there, were the China National Instrument Trade Corporation and we found them to be amiable and efficient. This came as no surprise, as in the past they have been regarded as among the most professional of our export customers. It was not difficult for us to gain a favourable impression of their country and it's people, as they went out of their way to make us feel comfortable and show us a few of the many sights to be found in their large and historical country.

We came away feeling that we had accomplished our objective in establishing a mutual understanding, that in the future, will be beneficial to both Tektronix and the People's Republic of China for a continuing successful business relationship.

Ed Morrison Great Wall of China



COVER GIRLS



Valerie Dent, joined the company on the 13th July, 1970 and is Payroll Supervisor at Southgate.



Carol Snow joined the company on the 16th August, 1976 and is Payroll Assistant at Southgate.

Seven happy years for Rita

September 1979 will see the completion of seven very happy years with Tektronix working as Secretary to Keith Retallick, Sales Manager — Test & Measurement Group.

When I first joined Tektronix, the T & M Sales team comprised Keith, as Sales Manager who also managed the Eastern Region prior to the return of Derek Philpott from Beaverton; Paul Smith who managed the Northern Region, Ted Gibbs — Scotland and Derek Smith who managed the Southern Region from his home at Crowthorne, Berks. We had one Field Secretary in the Livingston Office, one — Beryl Greenwood in the Manchester Office and only four Field Secretaries here at Harpenden. We then had 22 Field Engineers and it was possible for my work to involve the activities of the group as a whole. Now, as a result of expansion which has taken place i.e., 38 Field Engineers, 6 Managers and 20 Secretaries, it has been necessary to regionalise much of the work and I no longer enjoy the close

liaison I once had with the general field force. Also, most of the statistical work which used to fall on me is now undertaken by our Market Development Group so I am left with considerably more time to devote to work which Keith generates and, hopefully, will become more involved with the operations of the company as a whole.

Prior to joining Tektronix it has been my good fortune to experience a wide range of secretarial work which included interesting and demanding positions from 1952 — 1960 in Tanganyika (Tanzania), East Africa, when I worked for the United Kingdom Government as Secretary to the Immigration Control Board and, later, with the United States Information Service (USIS — a branch of the US Information Agency) where I worked with the Cultural Affairs Officer at the American Consulate in Dar-es-Salaam.

Rita Squires
Harpenden



Buying & Training a Pup

John Burrows,
Inspection, Hoddesdon

A pup like a child needs strict routine, good food, a good warm bed and some love and attention. So first of all think about how you would treat a baby of 3 months old and you have a good basis to start on when you get your pup.

Before you set out to buy a pup do a little careful thinking. Yes pups are good for children, teaches them kindness to animals, make good playmates and later good protectors, and only in very rare cases can children "catch" anything from a pup. If you have no children and are contemplating a pup and are out at work all day think this way: you would not expect to leave a 3 month old baby in the house on its own and come home to find it has behaved cleanly and not damaged your home. Besides, this is mental torture to the animal. After all you are teaching it to ask to go out to be clean and now you are doing just the opposite.

Now think! Is our house big enough for a St. Bernard and can we afford to keep it when fully grown or would a Poodle be better? How much time per day can we afford to properly exercise a grown dog? Not come on Fido just outside to lift your leg, because its raining and cold! But are you prepared to spend

a half hour or so per day in all weathers to exercise your animal, for the rest of its life, at something like ten years? If you are prepared to accept these responsibilities, then you can begin to call yourself a dog lover.

To buy a good pup of any breed always buy from a breeder direct, never a puppy farm or Pet Shop. In this way you can get the full history of its parents, and talk to their owners about temperament, habits, diet and routine etc. You will probably pay more for a pup from this source but you most certainly will not sit in the vet's with it for the rest of its life, unless you are extremely unlucky.

Having now bought the pup of your choice let it get used to your habits at home for a few days; that is ordinary comings and goings, meal times etc. It will take about four days to "settle in", but one basic item of training you should start from the moment you get the pup is to put it out every time it wakes up or is fed. This way you will have a clean animal.

Never take it for a walk until it is inoculated against distemper, hard pad, and hepatitis (the vet will advise on these). This is usually done at about 3 months old. Then wait a further 10 days before you take it out,

of course it can run in the garden during this time, but not on the highway. By the way, at this stage make sure if you have a garden that it can't get out, check fences, hedges, gates etc. because if you live on a main road and your dog gets loose and causes an accident you can find yourself in deep trouble with the law. Train your pup to walk on the lead and not pull, teach it to walk at heel, we prefer a choke lead for this purpose, and join a training class. This will help a lot, as it helps the pup to get used to other dogs of all sizes. But be careful which class you join, because if you intend to show your dog then obedience classes are not for you, as obedience teaches, whenever you stop the dog sits, but in the show ring when you stop the dog has to STAND.

Never train your dog to walk off the lead on a main road, this is dangerous as no matter how well a dog is trained. At some time in its life nature asserts itself and will compel the animal maybe to cross the road to a bitch in season and so cause an accident and you lose your dog!

So you continue with training until you feel you and your dog understand one another then you truly enjoy your dog's companionship to the full.

Of course if you have bought a gun dog, then you have the added enjoyment of training it to the gun, even if you do not have a "shoot" you can often find members of a shooting party only too willing to let you go along just to train the dog and you will enjoy this as well.

So there you have it, go ahead and enjoy doggy days.

Just one or two do's and don'ts.

DO
Dry him when he's been out in the wet, ears and paws especially. Let him take a walk during a long car journey.

Let him have free access to clean drinking water at all times.

Feed him only his correct amount of food regularly.

Brush and comb him and keep his coat trimmed.

DO NOT

Keep him in a locked car with all the windows shut, in any weather.

Overlook long claws, get 'em cut.

Hit the dog! Only when caught red-handed doing something wrong, and then only with a rolled newspaper on his backside.

Over feed.

Over exercise.

Thank you for the very interesting series of articles John — great stuff. The Editors.



The 50 pence Swindle

When sitting in a pub with a group of friends secretly palm a 50 pence piece in the right hand and keep it there for a few minutes, carry on with the conversation. Let your eye

wander to a beer mat, look puzzled, pick it up and examine the beer mat placing the 50 pence piece under the beer mat. Look very pleased and bend the beer mat in half keeping the 50p inside the folds, bend beer mat in quarters still keeping the 50p inside the folds, split open one of the fold with your finger and withdraw the 50p piece. (The effect is that a 50p piece was inserted into the beer mat during manufacture and you just split it and withdrew a 50p piece). Put the 50p into your pocket and carry on with the conversation for a few minutes. Excuse yourself by going up to the bar or to the little boys' (or girls') room. When you arrive back you should see your friends ripping up every beer mat in sight trying to find 50p pieces much to the annoyance of the landlord.

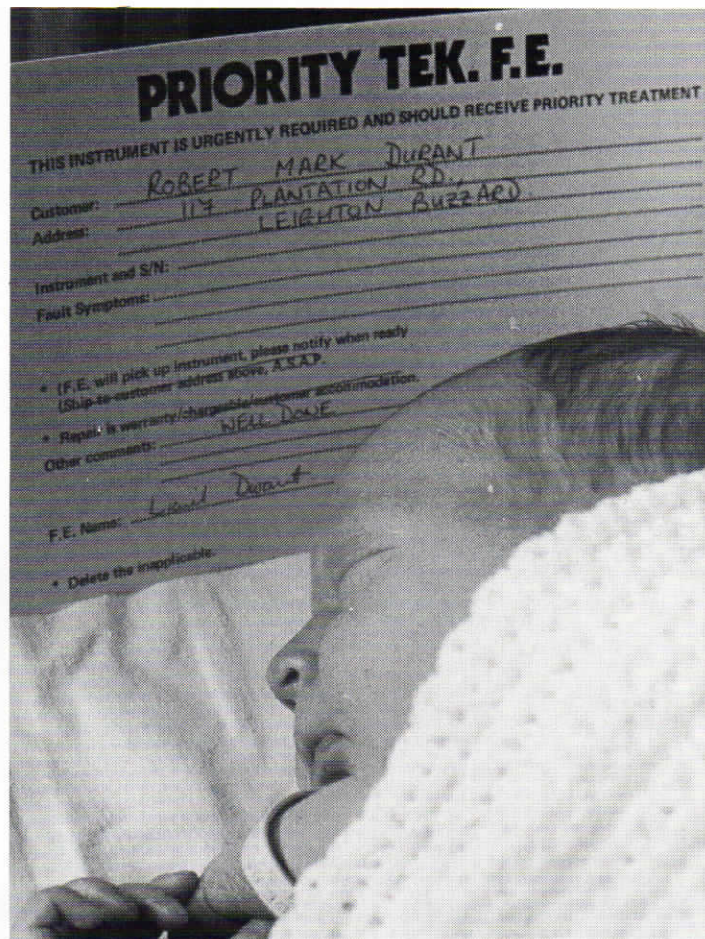
Pete Green.
Hoddesdon

Seminar Sell Out!



Logic Analyser Seminars great success.

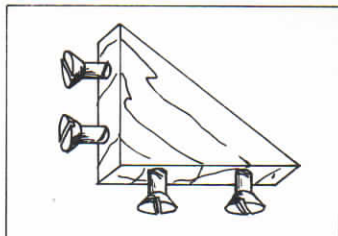
Into the World with Tektronix



Congratulations Lionel and Pauline on a wonderful product.

And now folks a **TABLE** Smasher

For this gag have in your pocket a piece of wood (as per illustration) with 4 screws almost screwed home (have about a 1/4" of screw not screwed right in.)



Whilst sitting in the bar bring the conversation around to something one can get really wound up about like inflation, the government or rates increases. Secretly place the piece of wood on your knee under the table. During the course of the conversation bang the corner of the table with your clenched fist and at the same time move your knee letting the piece of wood fall to the floor, bend down pick up the wooden piece look very surprised and hastily put it in your pocket. It appears that banging the table you actually broke the table.

Scope Joke!

Oscilloscope System MMMMMMMCIV

Bandwidth	DC to 86.4 gigacycles/milliday
Risetime	0.0972 picohours
Input Impedance	0.834 Joule-minutes/coulomb ²
Input Range	16.09 nanojoule-furlong/coulomb to 1.609 μ joule-furlong/coulomb
Vertical Chop Range	3.6 kilocycles/ μ hour
Sweep Rate	0.7825 weeks/magachain to 0.7825 μ weeks/megachain
X-Y Phase Shift	34.9 milliradians from DC to 13.88 cycles/ μ hour (with comp.)
Trace Separation Range	0.0186 fathoms
Screen Size	1.428 μ Acres
Photographic Writing Rate	388 Megaknots minimum with 46° Scheiner film
Power Consumption	2.15 kiloergs/ μ Sec
Net Weight	0.1978 Quintals
System Selling Price	14153 Guineas at 0.512 Guineas/\$
Delivery	2.69 deciyers

[Correct at time of
going to press

from Mike Threds
Harpندن

What is an Oscilloscope?

Our more technically-minded readers will already be familiar with Tektronix main product — the oscilloscope. If you are such a reader, then this article is not for you. Your editors feel however, that a few basic words of introduction to the oscilloscope will be of general interest.

The oscilloscope is the most important, and most common, electronic instrument, with an ever-widening range of uses. It is a complex and integrated system that performs a simple-sounding function: To draw a graph of some electrical "event" — or of any phenomenon that has been converted to voltage — so someone can measure the amplitude of that event and its duration.

It produces its graph by "writing" on the sensitive phosphor screen of a cathode-ray tube (CRT) with a focused beam of electrons. The same principle is used to produce the pictures on TV receivers. In the CRT, essentially a bottle with the air pumped out, this electron "pencil" is accelerated to great speeds and fired against the screen, causing the area it hits to glow, a spot of light.

The repetitive, uniform left-to-right movement of this writing beam is controlled by the time-base generator, from speeds as "slow" as

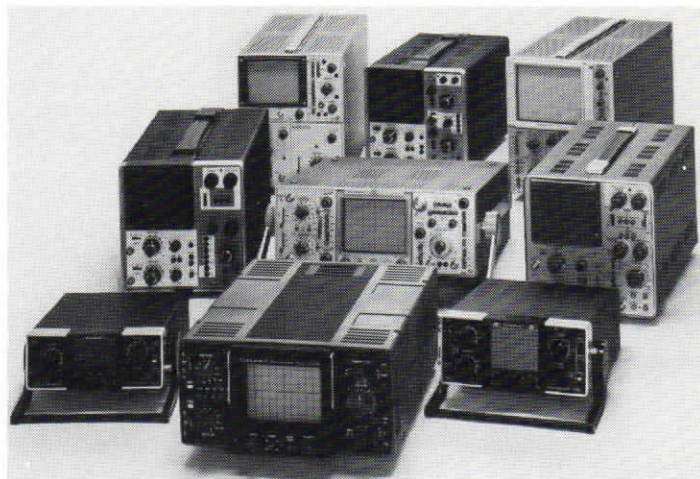
seconds to under a hundred-millionths of a second; then, the moving spot of light looks like a solid line. The wider the range of speeds at which the CRT beam can "sweep", the greater variety of waveforms you can look at. On most of our oscilloscopes, the fastest sweep is several hundred million times more rapid than the slowest one is.

The up-and-down movement of the electron beam, depicting the changing voltage being measured, is governed by the scope's vertical-deflection system.

The CRT screen is ruled off just like graph paper is; you can make each vertical and horizontal division represent however much or little voltage and time you say.

The number of vertical divisions the spot moves tells you the signal voltage, and thus the amplitude of whatever that voltage represents. The graph also tells you whether the voltage is changing positively or negatively, the shape of the waveform and its duration.

Phenomena that rapidly and regularly repeat produce a continuous stable image on the CRT. Storage oscilloscopes can also record events that happen slowly or at random — or only once, like a fracture or an explosion — by retaining the image of that isolated event on the



phosphor screen. Also, our trace-recording cameras can preserve that event photographically.

Oscilloscopes differ in many ways. Some use interchangeable plug-in units to vary their ability to display signals. Most plug-ins are part of the scope's time-base or its vertical-deflection system, controlling either the left-to-right or up-and-down beam movement.

Most vertical plug-ins can either amplify small signals or reduce larger signals, so they may be graphed. Others let the scope draw more than one graph on the screen at a time. Still others do arithmetic, either comparing two points in a circuit and presenting the voltage difference to the CRT, or cancelling out a large unwanted voltage segment and expanding the small portion you want to look at.

Horizontal plug-ins (those that control horizontal deflection) let you widely vary the beam's range of sweep speeds. Some plug-ins delay the waveform until the desired segment of the signal occurs, then trigger a second, faster sweep that fills the screen with the segment.

Other plug-ins enable a scope to perform spectrum analysis, by converting from a time-base to a frequency-base display. Some are counters or meters that digitally measure current, voltage, resistance, temperature and frequency. Some picture the electrical change that occurs too fast for conventional scopes (faster than the speed of light, for example), by sampling successive bits or a repetitive signal and reassembling the samples into a graph of the waveform.

Some scopes offer readout (many of them on the CRT screen itself) like in our 7000 series of oscilloscopes, giving the user signal information in numbers and letters as well as waveforms.

Some scopes are portable, optimized for easy carry-about. We even have some small enough to be hand-held while in use.

"But who uses oscilloscopes?" you may well ask. The short answer is — just about every engineer or scientist who deals with electronics, and many more besides that. To start at home, a scope is very useful for locating faults in TV sets and hi-fi equipment. Soon, when microprocessors become commonplace in washing machines and cookers, you will probably find them used there too. In the factory, the oscilloscope is used to test materials and components and to adjust machines. In the laboratory, it investigates vibrations, the properties of materials and chemicals, measures resistance, change or any physical effect that can be converted into an electrical signal.

In medicine, it helps the doctor to check heart and brain conditions, blood flow and muscle activity. In pure science, the oscilloscope observes nuclear phenomena, chemical reactions, analysis of light from the stars or shows the profile of the bottom of oceans. The uses are virtually unlimited.

Smile for Plessey



Phil Carrington arranges exhibition at Plessey Research, Cadwell. Judging by the smiles it was a great success. Left to right: Steve Tunstall, Chris Thomas, Phil Carrington, Mike Nottle.

Hi-fi: A Simple Explanation

Part 2: Amplifiers

Last month we discovered how the cartridge, with the aid of arm and turntable, could extract the recorded information from a vinyl disc in the form of minute electrical signals. Ultimately, a facsimile of these will be required to operate on a pair of speakers, in order to turn the signals back into sound. Speakers used in hi-fi systems need powerful signals to operate correctly and the purpose of the amplifier is to change the cartridge signals into a suitable level to do this.

In correct electronic parlance, the term 'amplify' does not automatically infer increase. However, a hi-fi amplifier does amplify the cartridge signal several thousand times, but it does other things too. Before proceeding it may be enlightening to see what signal levels are involved. A magnetic cartridge produces about 5-25mV from a normal record. (1mV is one thousandth of a volt.) A hi-fi speaker, at normal listening level, requires about 5-10V to operate. Our amplifier, therefore, must amplify by at least this amount. Unfortunately, straight arithmetic amplification is not good enough. The signal from the cartridge is sadly lacking in energy and whilst the hi-fi speaker may operate on 5-10V, energy must also be available. In other words, the power content of the signal is also amplified. One function is thus clearly specified. The control provided to alter the amount of amplification is normally called 'volume' although some manufacturers use the term 'gain'. Stereo amplifiers (two channel) are simply two amplifying circuits housed in one box. Quadrophonic amplifiers have four.

Volume and Balance

The volume control is normally just a single control but it actually adjusts each internal channel separately. To compensate for any inaccuracies in the circuit, a balance control is provided to nullify any differences. In practice, the differences usually lie in the cartridge and speakers.

Frequency Response

An important specification of a hi-fi amplifier is its 'frequency response'. This term relates to how the amplifier responds to signals of different frequency across the audio band. The audio frequency spectrum is usually assumed to cover 20Hz to 20kHz. (Hz is equivalent to cycles and the prefix 'k' means X1000.) The average human ear, for instance, at the peak of efficiency, can

only cover 30Hz to 16kHz. Frequencies above and below these values are felt rather than heard. Remember the old T.V. sets working on 405 lines and how they emitted a very high-pitched whistle? Well, that was generated by a 10.12kHz scanning circuit.

The amplifier, for instance, should amplify equally the sound of a bass drum when played at the same level as a piccolo. If it fails to do this correctly, the tonal quality will suffer tremendously. Incidentally, up to the point of recording the disc, great effort is given to obtaining correct frequency response. However, for reasons we will not consider, the record manufacturers modify this response characteristic before the groove is cut. This results in an initial attenuation of low frequencies rising across the audio spectrum to a final amplification of high frequencies. When the cartridge (magnetic) decodes the disc signals it produces this false response unless the amplifier has a circuit to restore the original flat response. This is called equalisation and only applies to magnetic cartridges. The curve of the response follows an international standard called RIAA.

Anyway, back to the amplifier. In the domestic setting the final reproduced sound can be far from what the original artist intended, despite the finest reproduction equipment. Room dimensions, speaker position, floor type, carpet, curtains and positioning of furniture can all change the sound. In an attempt to compromise this alteration, manufacturers supply two tone controls — bass and treble. These adjust the relative levels of low and high frequencies to suit the listener and environment. To provide flexibility, manufacturers supply many other facilities to enhance the usefulness of the amplifier. For instance, a tape recorder will require different input circuitry from the magnetic cartridge, and this also applies for other ancillary devices like radiotuners and microphones, and other cartridge types. Connections for more than one pair of speakers may be supplied and always a socket for headphones. Amplifiers come in all shapes and sizes, with only one or two controls to several dozen. Illuminated power meters, rotary and sliding controls and a multitude of input and output sockets are just an example. Exterior facilities above those needed for basic requirements do not indicate amplifier performance. Neither do paper specifications unless (a) the manufacturer is reputable or (b) they can be proven.

To conclude: the amplifier con-



POETS CORNER

By Dave Fynn, Maidenhead

The Liberator

I laughed the day they burned their
bra's
Therefore I wield my pen
In answer to this wench who thinks
Equality with men
Is something that may be achieved
Through female liberation
When woman's own inanity
Establishes her station.

We legislate in Parliament
To give them equal pay
We let them smoke we let them vote
We let them have their say
About the things which men know
best.
They're even tolerated
In pubs and clubs and all the rest
Now are they liberated?

To possibly attempt to give
A comprehensive list
Of all the comforts men provide
And ensure none were missed
Is well beyond the limits of
This humble dissertation
But still we are compelled to bear
Their claims of deprivation.

They fantasise of arduous days
Embroiled in household chores
Those hackneyed cliches often
phrased
Hot stoves, greased sinks, scrubbed
floors
Though once inclined to sympathise
The facts induce some doubt
For the cleaner's still as good as new
But the sun lounger's worn out.

Addendum to my fellow M.S.Ps.

Pleasures come in different ways
To different kinds of men
Some not suitable to print
Some quite beyond my Ken
Though wine and song are so much
fun
There's nothing I crave greater
Than this lone opportunity
To be a Libber Irator.

For a Travelling Man

This Winter in the Icy Snow,
It seemed to me I should not throw
My F.E.'s out without a care
To sleep at night I know not where.
With strikers causing loss of power
It growing colder by the hour,
The traditional role of the travelling
man

Is to gather harvest where he can.
But what chance to hit the target
chosen

If they, poor chaps, are all but
frozen.

It seemed to me that someone should
provide for them, if someone could,
A means whereby they could
perform

Quite in accordance with the norm.

With this in mind I set about
To scour the country and find out,
If any aid could be enlisted
Establishing such things existed.
To no avail my time was spent
I realised at length it meant,
That I must take myself and knit
With wool the ideal F.E. Kit,
Those articles I had in mind
Which all my searching could not
find.

So seven weeks of ceaseless toil,
And burning of the midnight oil,
Foresaking food and sleep at nights
Foresaking all conjugal rights,
Produced them comforters at last.
And now their days of woe are past
For woollen hats, wool gloves, wool
boots

Attached to one piece woollen suits.
In powder blue and on the back
COMMITTED TO EXCELLENCE
in black

Means in their smart new winter gear
They make their target for this year.

N.B.

If other regions see on you
The answer to their problems too,
It would be possible to knit more,
Patent has been indented for.



verts the weak cartridge output into powerful signals able to drive hi-fi speakers. It does so without modifying (at least to a minor degree) the information content of the cartridge signals. Bass and treble controls are provided to adjust for domestic surroundings, and personal musical preference. Other controls cater for various inputs and outputs and vary from the very minimum to absurdity. The power requirements of an

amplifier will depend on the size of the particular system and its application. A minimum would be 10W and a maximum (for household use) 100-200W. In the average living room with average efficiency speakers, 25W would be uncomfortably loud. Amplifier power is only one indication of sound capability. Others are the subject of another story.

Ray Ganderton
Harpenden

It's wheels, for Wendy



I was born at the Harpenden Memorial Cottage Hospital (then called the Red House), at a total weight of just 3 lb and was educated at the local schools.

From 1964 I spent six years at the Midland Bank in St Albans working as a secretary to three Bank Managers. In 1970 I decided it was time for a change and came to work at Tektronix for the European Operations Centre (EOC) which was headed by Frank Doyle at Beaverton House in Station Approach here in Harpenden. The group comprised at that time of Gale Kingsbury, Lew Kasch, Dick Montag and Warren Clark. When EOC relocated to Guernsey in 1971, I then moved on to working for Harry Sellers and Bob Garrett for a while. When Harry retired in 1972, I then worked with Jimmie Moglia who headed the Cintra Calculator Group comprising of two salesmen, Brian Davies in the south — Alan Wilkinson in the north, and a software analyst, Nigel Smith. When the Cintra Calculator Group folded, I then worked for a number of people, among whom were Derek Denyer/Fred Rose who both handled all the U.K. Marketing Sales Support and the correspondence relative to the Telequipment Export Sales. I then worked with Peter Wilde and his Tektronix Programmable Calculator Group which has since been incorporated into the Information Display Group. I now work in Harpenden for John Dedman who is Marketing Services Manager and Ed Morrison our Managing Director. Working with so many different people has most certainly kept me on my toes and each one of them meant a different job and a new challenge for me! I can honestly say that I have thoroughly enjoyed every minute of my career with Tektronix.

I have many interests outside of my job which includes cooking,

needlework, walking, travel, badminton, swimming, going to the sauna at Picketts Lock in Edmonton and last but not least, cycling.

Although I am never out riding my own "bike" now, I still take a keen interest in most of the local road events, as my husband is one of the officials in the North London Division of the British Cycling Federation (BCF) and as such, a large percentage of his free time is taken up with this activity, and of course, I get asked to give a helping hand. (Hello Ken Livermore — Tek Times Issue No. 4 — November 1978).

I guess what I found much more challenging and exciting was the involvement I had in the Tour of Britain Cycle Race which is sponsored by the Milk Marketing Board. In the past, I have been out driving the 2000 miles around the country with the race director, Phil Liggett, working out the route for the next year's event. You can imagine just how many miles you need to drive in a day to work out the race stages before you come up with the final route. This must be acceptable to all concerned, including the Milk Marketing Board, the Town Councils, the International Cycling Union (UCI) the cyclists themselves, as the stages must not be too long, and of course, as a good road surface and width is essential, especially at the finish line of each stage.

The event normally starts at Brighton during the weekend of Spring Bank Holiday every year. Each daily stage consists of roughly 100 miles which totals some 1100 miles covered throughout the fortnight event. These guys who participate and who come from all over the world, sure need to be pretty fit



to compete and finish each stage. The long hard gruelling slog takes them all over the country, usually ensuring they spend a day in the Welsh Mountains, one over the Pennines and another over the Yorkshire Moors to end up in Blackpool on the last stage. That sure takes staying power. The event is usually televised some time during the fortnight and every evening the stage result is reported on the radio during the sports programme. Every

day the route is lined with spectators, as this is the most important annual cycling event in Britain and I am proud to have been given the opportunity to play an active role in the organisation of an international event such as this. These few photographs will give you a better idea of what I have been talking about and prove how popular cycling still is in this country.

*Wendy Gray
Harpenden*



Into Tektronix feet first



Into Tektronix, feet first, at an early age — ZOË GANDERTON

A Star Is Born

Linda and Simon took the leading roles in the recent presentation by the Green Room Operatic Society at The Intimate Theatre, Palmers Green.

An appealing performance by Linda as Charlie, the Tomboy, collected rave reviews from many of the local papers, a chorus line from the show epitomising them aptly — "what a turnout, what a roll-on, what a show."

The Green Room Operatic Society was formed in 1952 and presents two

shows a year at The Intimate Theatre, Palmers Green and one show a year at the Abbey Theatre, St Albans.

Linda joined the society in 1972, met and subsequently married Simon, also a keen and active member.

Rehearsing twice a week at Tufnell Park, Linda has taken major roles in *Carousel*, *Calamity Jane*, *Pyjama Game* and others.

Linda joined Tektronix as Personnel Co-ordinator at Southgate.

Sporting Challenge to all our readers

Challenge the Systems Department to Your Favourite Sport

We can field a team of seven or so players and are prepared to accept challenges at most sports. If you are interested contact Steve Emslie on Ext. 254 at Southgate.

Tektronix Knockout Snooker Competition

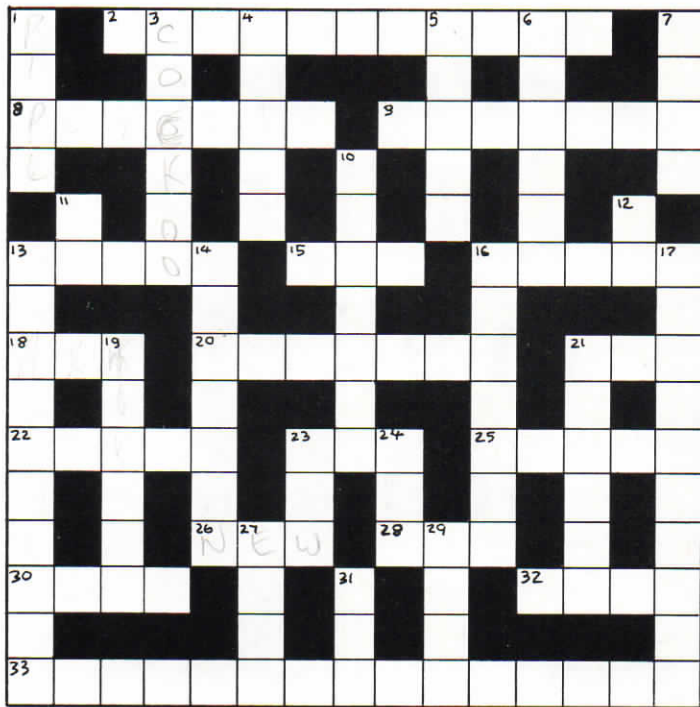
Enter the Tektronix Snooker Competition. Entry fee 40p. One frame per match. closing date for entries 31st May 1979. Try your skill against the best and worst in the Company. If you are interested contact Steve Emslie on Ext. 254 at Southgate.

*Keith Patterson
Southgate*



Linda and Simon Wener on stage in Charlie Girl.

Musical Crossword



ACROSS: 2 Probably the most popular Classical Composer (11); 8 Did he write "The Trumpet Voluntary"? (7); 9 A bad tempered note (7); 13 Singer (5); 15 Signature (3); 16 Happily, Master of the Queen's music (5); 18 The Academy (3); 20 A dance (7); 21 Becoming softer (3); 22 Bellini's Priestess (5); 23 Does this happen in poor man's opera? (3); 25 Mahler's song planet (5); 26 Dvorak's world (3); 28 Children's symphony? (3); 30 Jimmy isn't first (4); 32 Chevalier was thankful (4); 33 Traveller in France (8,2,5).

DOWN: 1 Essential in a church organ (4); 3 Did Delius hear it first?

(6); 4 Harmonica virtuoso (5); 5 Operatic Mastermind (5); 6 Mozart's numbers (6); 7 Musical memo? (4); 10 Where to find a musical (7); 11 My tonic (2); 12 Before Bach (2); 13 Another dance (10); 14 After each Stanza (7); 16 Collective term for percussion instruments (7); 17 Major works (10); 19 English folk dance (6); 21 Antal, conductor from Hungary (6); 23 Found in the string section (3); 24 In contact with 23 down (3); 27 Many good scores in a film one (4); 29 Not stopped (4); 31 A Number or on operatic vocalist (3).

Devised by Ted Shirkem Harpenden

Last month's puzzle — no longer puzzling

Each Number 0 and 9 appears. No 1 appears 10 times, No 9 only once.

				D	E	F	G	H	
A	B	C	E	D	E	H	F	F	E
			F	H	J				
			A	K	E	H			
			A	A	C	E			
			A	A	D	F			
			A	J	K	K			
			A	H	D	F			
			A	H	A	B			
						B	H	E	
						B	H	E	



"THANK GOODNESS THE CROSSWORD WAS EASY IN THE LAST ISSUE"

Cartoon by Bill Godfrey. Southgate

As you may have guessed we printed last month's crossword with the

answers. For those who didn't notice here they are again.

RESULT OF ISSUE 7

E	C	H	E	L	O	N	B	E	L	L	S
B	O	E	A	L	E	I	P				
B	A	L	L	A	S	T	Z	E	B	R	A
S	E	V	T	I	E	E	C				
H	S	T	I	E	N	L	A	R	G	E	
G	A	N	R	A	A						
U	L	L	A	G	E	U	N	P	L	U	G
I	A		H	O							
S	H	Y	L	O	C	K	M	O	P	E	
L	E	V	I	A	I						
N	O	I	A	M	A	D	O	N	N	A	
N	O		L	O	B	I	U	I			
G	E	N	E	S	B	C	C	I	P	U	T

Editor's desk

Dear Ed,

Thanks for yet another entertaining edition of *Tek Times*. I wonder if A. J. Hobson realises what she may have started with her verse "Liberation", surely some of my fellow M.S.P.s will not let that go unanswered.

Maybe this could initiate a poetry column for the next few issues of *Tek Times*. I happen to know there is no shortage of poetic talent within the Company. To get things moving I would like to enter a reply to A. W. H.

My best wishes for the continued success of the magazine.

Dave Fynn, Maidenhead

The Warminster Dresser

Andy Duncan, one of our new field engineers invariably appeared on his office day wearing his ex army mufti cavalry twills, hacking jacket and flat cap. On one recent occasion he appeared wearing a lounge suit, the reaction and hilarity and the derision from his colleagues must have made an impression for on his next day Andy set out in full evening dress, bow tie, fancy shirt, everything except his wallet. By the time he got to Swindon he needed petrol. It was not until he had pulled into a garage that he realised his wallet was missing.

If you have even tried to con a garage hand into loaning you a tank full of petrol at 7.30 in the morning whilst standing there in full evening regalia with no identification then you will understand why Andy did not get to the office that morning.

Dave Fynn, Maidenhead

STARTER

BACON & SWEETCORN NESTS

To serve 4
4 empty scallop shells
4 ozs bacon
1 small onion
1 small can of sweetcorn kernels
½ pint cheese sauce
1 lb potatoes — mashed
1 oz butter
Seasoning

Method

- 1 Make cheese sauce in usual way and put to one side to cool.
- 2 Gently fry onion and bacon in butter until cooked. Drain well in kitchen paper.
- 3 Drain sweetcorn kernels and add with onion and bacon to cheese sauce.
- 4 Divide mixture between scallop shells.
- 5 Pipe mashed potato around the edge of each shell.

To serve:

Place on baking tray in hot oven (400°F at Gas Mark 6) for 15-20 minutes until golden.

Tasty Tek

MAIN COURSE

SWISS STEAK

2 ozs butter
1 packet onion soup mix
2 lbs of good quality braising steak
Little black pepper
3 tablespoons red wine
4 oz mushrooms
Clove garlic (optional)

Method

Spread 1 oz of butter over the centre of a piece of foil (double) thicknesses, halve garlic, if used, and rub over foil. Sprinkle half packet of soup mix over butter. Place steak on this. Sprinkle a little black pepper on steak, then remainder of soup mix and butter. Pour wine over. Slice mushrooms over steak. Fold foil and make into a parcel to prevent juices running out. Bake in centre oven for 2-2½ hours 300-325°F, Gas Mark 2-3. Serve with boiled rice and vegetables or salads.

SWEET GALA RING

2 oz of margarine
2½ oz of plain flour
2 whisked standard eggs
¼ pint water
½ double cream
2 tablespoons brandy
1 tin Mandarin oranges
4 ozs icing sugar

Method

Heat oven to 400°F (Gas Mark 6). Put 2 oz margarine in pan with ¼ pint cold water, bring to boil. Remove from heat and add the sifted flour. Beat for 2 minutes, cool slightly and gradually beat in whisked eggs. Spoon into a neat ring on a greased baking sheet. Bake in centre of oven for a further 20 minutes. Split ring across and cool. Drain mandarin oranges and spread over bottom of cake. Lightly whisk cream and stir in brandy. Spread over mandarins add top of cake. Mix 4 oz of sifted icing sugar with tablespoon of mandarin juice and pour over ring. Decorate with nuts and cherries.