

# THE FUTURE



## A SPECIAL TELECOM AUSTRALIA REPORT

Presented by The Australian Women's Weekly for Telecom Australia  
The last in a series of reports



# A GLIMPSE INTO THE FUTURE

**"A**llo, allo, M'sieur, I am ringing you from my car on the Champs Elysees. How is the weather there in Alice Springs?"

Today, some Parisians are able to dial a phone call direct from their cars to almost anywhere in the world. Sydneysiders and Melbournites will be doing the same in two years' time.

Around the world and in Australia technology is being put to use to give people better communications.

People connected to new electronic exchanges in some parts of the US have abbreviated dialling for frequently called numbers. When they go out visiting they can have calls automatically diverted from their home to their friend's place. If they are using their phone they can be signalled to tell them someone else is trying to call them.

Manufacturers here and overseas are engaged in continuous research.

Among the next generation of telephones there will be ones that you don't have to hold. They'll act both as microphone and loudspeaker so the whole family can get around the phone for that happy birthday call or news of an engagement overseas.

Special battery operated phones that won't need

cords may be the ultimate in pool-side phoning.

The great feeling of security is not being overlooked. For the aged and infirm and the lonely flat dweller, technology is being developed to make a special alarm call possible. Pushing a single button would cause the phone to ring to a friend, a hospital, a doctor, a security service.

Many flat dwellers use an intercom system to let people into their building. This may be replaced by a device that rings straight into the telephone in the flat and lets the caller talk to you.

Researchers are now engaged in developing an electronic method of speaker verification as another means of controlling entry to buildings.

For people calling into busy organizations like airlines, automatic call distributors will ensure every call will be handled in strict order and no one will jump the queue. In more major hotels people will be able to dial their own overseas calls and get the cost of their calls automatically.

Country people will be able to call an airline or a travel agency in a city for the cost of a local call.

Almost anything is possible with modern technol-

ogy, but the timing of new introductions to Australia will depend on the demands of Australians for special services and whether they can be offered at an economical price by either Telecom or a recognized supplier.

There's a new world ahead, and if telecommunications are used wisely and economically we will all benefit from it.

In planning for the future, Telecom is constantly engaged in asking customer opinions. Surveys include attitudes to various types of directory information. The single volume Yellow Pages in Sydney and Melbourne is the result of such a survey.

Telephonists both in Telecom and in businesses are currently trialing new lightweight headsets.

Simulated trials of new equipment are planned along with interviews with people to determine their real needs for communications at home and at work. People's reactions are sought even for the names of new services and the themes for advertising and information campaigns.

There can be many technical solutions to a customer's needs for telecommunications. Telecom believes the right one is the one that the customer has a hand in choosing.

**COVER:** Optical fibres, tiny hair-like strands of glass, will form the telephone cables of the future, each fibre carrying hundreds of voices. **OPPOSITE:** Part of the chemistry section of the Telecom Research Laboratories (top); inside the Melbourne workshops (right); testing microwave radio systems in a mobile field unit (left); and producing a video-tape for training new staff (inset).

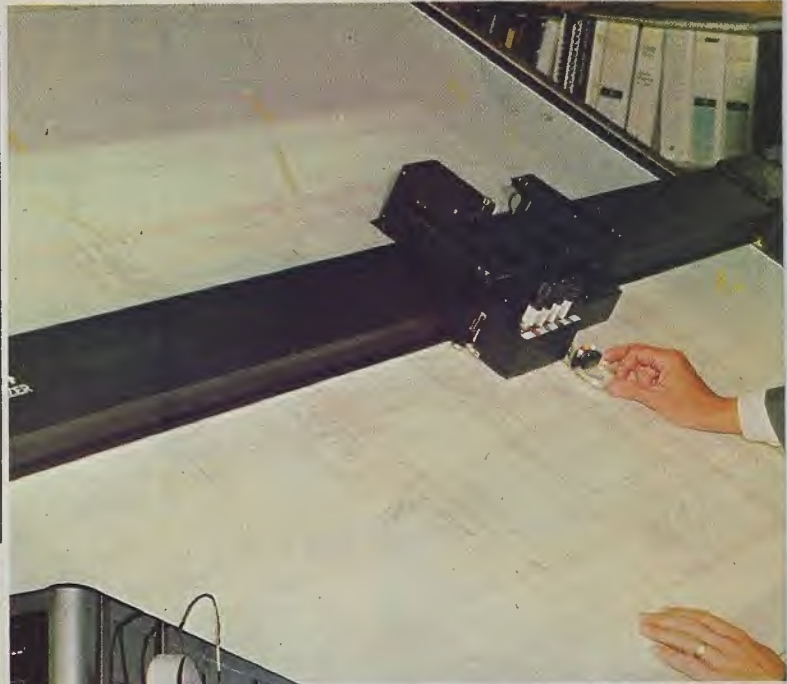
# RESEARCH MEETING THE NEEDS TO

**A**t the modern Telecom Research Laboratories in Melbourne, the world of tomorrow is now. Optical fibres, micro-electronics, new switching and transmission techniques are among the many activities of the 300 scientists, engineers and technical staff there.

But today's world is not forgotten. The pieces of equipment you will use and those which ensure your phone call getting through clearly are exhaustively tested. The "tools of trade" of Telecom staff are also tested to ensure safe working conditions.

A few of the little-known research activities are told here in words and pictures.

CONTINUED ON PAGE 74

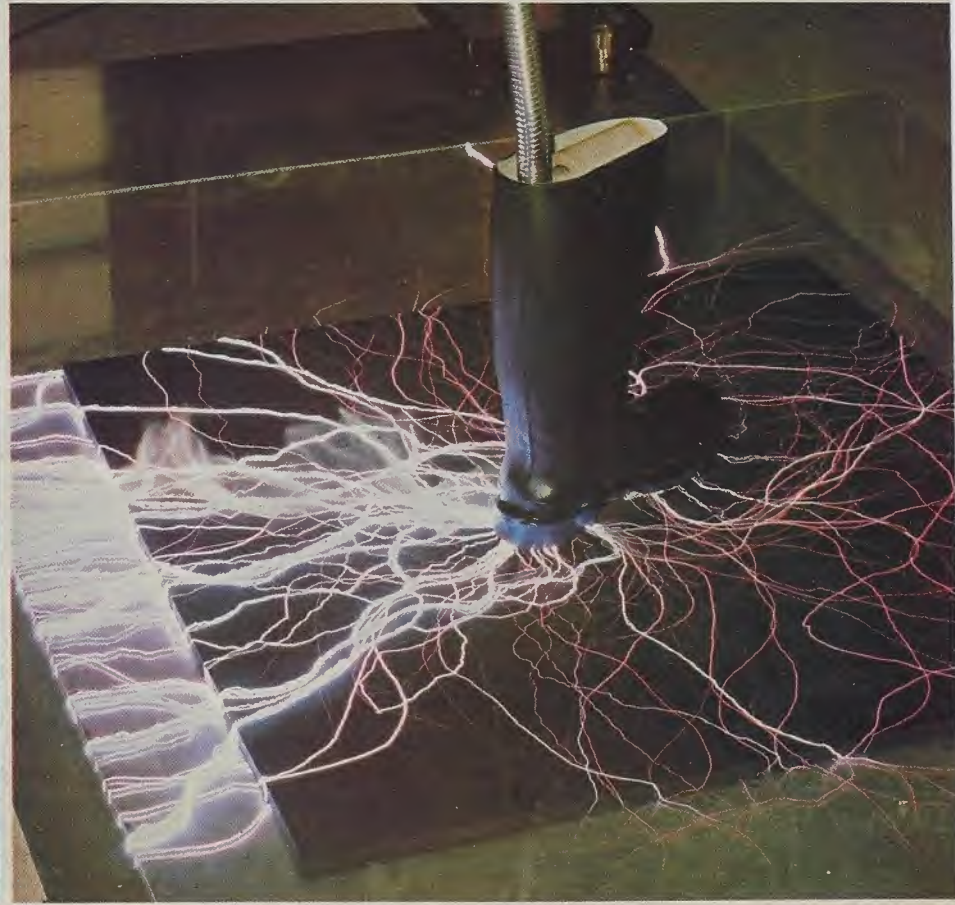


ABOVE LEFT: The old equipment for testing telephones. TOP LEFT: New compact testing equipment being developed. ABOVE RIGHT: Solar cells destined for use in the outback are tested in a weatherometer.

# COME ...



**ABOVE:** The electronic "chip" under the microscope replaces much larger equipment. **ABOVE LEFT:** Computerized drafting of micro-electronic circuits.



**ABOVE LEFT:** Telephone casings in a sunlight test for colour fastness, plastic stability. **CENTRE:** A chilling test for telephone cables. **ABOVE RIGHT:** A simulated lightning test to ensure safety of rubber boots, mats used by lines staff.

# MEETING THE NEEDS ...

## Mastering the machines

**R**emember Charlie Chaplin in "Modern Times" — the ultimate victim of the machine? Many women today work on production lines in factories and know some of the Chaplin frustration of being slaves to the machine.

Telephone testing is a production line job, and in two Sydney factories women carefully check the performance of each of the

half-million telephones Australians need each year.

A team from Telecom's Research Laboratories has asked the women how they can master the machines, and together they are designing a new method which cuts out awkward arm movements, gives a better way of reading test results and makes a more interesting job of testing the telephones that we will use.

Telephone testing in the Laboratories involves both human voice (RIGHT) and mechanical "ear" and "mouth" (BELOW).



## The listening's easy

**I**n Telecom's Research Laboratories there's a very inhuman ear and mouth. Carefully constructed to hear like a human being and sound like a human voice, this machine is used to test telephones so that they will

not fail the user. However, all is not synthetic. A team of girls speak and listen across special apparatus and telephones to set live voice standards that will help in determining future test measurements.



## Helping the disadvantaged

**P**eople have a right to be able to use telecommunications. But some have difficulty in doing so. They have problems with seeing, hearing or using their limbs.

Recognizing this fact, Telecom has people devoted solely to solving the problems handicapped people have with communicating.

It may be a relatively simple thing like the proposed large print dial for people with impaired eyesight. This will be a stick-on that goes around the normal

telephone dial, showing the numbers in large print.

Telecom researchers are developing a prototype telephone attachment for use by people with volume control hearing aids.

Working with the National Acoustic Laboratories, the research scientists envisage a small "cup" that would fit over a telephone earpiece. The "cup," fitted with tiny electronic components, would be carried by the person with a hearing aid and simply clipped on to any telephone.

# WIRED INTO THE FUTURE

Page 131a

## Going Out In London

about things to do  
theatre & opera & ballet  
concerts, lectures  
clubs, dancing, parties  
pubs, wine bars  
cinema, TV, radio  
shopping, restaurants  
hotels, motels  
clubs, dancing, parties  
pubs, wine bars  
cinema, TV, radio  
shopping, restaurants  
hotels, motels

Page 13150a

## Good Food Guide

RECOMMENDED PUBS, WINE BARS and RESTAURANTS in LONDON

Do you want to eat in a restaurant?  
Or in a pub or wine bar?

**0 Restaurants**  
**1 Pubs & wine bars**

Key 0 for Restaurants, 1 for Pubs/bars  
GOOD FOOD GUIDE, LONDON

Page 131501a

## London pubs & wine bars

in the 1977 Good Food Guide

The following apply to all pubs & wine bars listed, unless we say otherwise!

Opening hours given are for weekdays; there are usually shorter hours on Sundays; eg noon-2, 7-10.30pm

Food is served as bar snack or buffet; no restaurant  
Beer in pubs is pumped, not pressurised

**0 = PUB** **1 = WINE BAR**

Key 0 to continue +++ Key 0

Prestel users planning a night out can consult an index on their TV screens to find the type of entertainment they want.

Page 131501a

## GOOD FOOD GUIDE

Pubs & wine bars

What area of London do you want?

**0** the City EC1, 2, 3, 4  
**1** West Central WC1, WC2  
**2** West End W1  
**3** Westminster, Chelsea Knightsbridge SW1, 2  
**4** North West London all NW districts  
**5** South East London all SE districts

**8** other parts of London  
**9** don't know! key for map

Key number for area you want

Page 1315010a

## West Central

Pubs & wine bars in the Good Food Guide

Key number for more details  
0 Brahm's & Liszt, Russell St, WC2  
Trendy, crowded wine bar on 2 floors  
1 Bungalow, High Holborn, WC1  
Mango & sandalwood. Good wines  
2 Cork & Bottle, Cranbourn St, WC2  
Down Leicester sq cellar  
3 Carts, Chancery Lane WC2  
Baked. Eagles. Maine. Good alcohol  
4 Gordon's wine bar, Ulliers St, WC2  
Nice. Cellar. Best. Charming. Good  
5 Salisbury, St Martin's Lane, WC2  
Historical pub. Good wine  
6 Winkles, Litchfield St, WC2  
Quiet. Unpretentious wine bar

or key!  
8 to choose another area  
9 for which? index

Page 13150101a

## WC1 & WC2

Pubs and wine bars in the 1977 Good Food Guide

## Brahms & Liszt

19 Russell Street, WC2  
Trendy, crowded wine bar on two floors.  
On a good day hope for inventive  
salads, runny Brie, leeks, and pilsner  
apple with cottage cheese.  
Key wine by glass or bottle!  
eg Bouquet Royale, 22.10 (37p a glass)  
HOURS: 11.30-3, 5.30-11; closed Sundays  
& public holidays

Key:  
1 to choose another area  
9 for which? index

In some parts of Britain, people in homes and offices are using the telephone network to get all sorts of information — on their television sets.

They use a "key-pad," a cross between a pocket calculator and a touchtone, to ask a computer to provide them with information or to do a calculation for them.

There can be a number of computers storing national, regional or local knowledge linked into the telephone system, and information such as news, weather, where to dine, what to see, timetables for all types of transport, sporting results and general knowledge is available to all users of the Prestel service.

Specialized information such as grain prices in Europe, the bullion market, or industrial land prices is provided, at an extra charge, for business interests.

Prestel users can check on airline timetables and prices, make bookings and have their credit charge arrangements pay for their trips.

A motel or hotel can be booked for a convention

after the Prestel service has listed all possible venues and details of what is available at each.

The computer will help work out mortgage repayments, or seek through the classifieds to find out which cars are available for a certain price.

Children can get information from encyclopaedias or libraries to help them with their studies, or call up a TV game to play.

The weather map is displayed on the TV set, with all details of temperatures, cloud cover and winds.

Messages can be sent to

other Prestel subscribers. These may be, "Will you ring me when you're free," or stylized birthday, anniversary or congratulation greetings.

The Prestel user consults an index on the TV screen, selects which item is wanted and then goes through the sub-indices to the specific information wanted.

For instance, entertainment may be divided into theatre, cinema, restaurants, hotels, concerts, etc.

Under restaurants and hotels, the area south-west of the city is one sub-index. For restaurants there'll be a

division between, say, BYOs and licensed. Another division might show price ranges. And for the final selection the specialities of the house, the type of music, the range of clientele could be shown.

In Australia, Telecom's researchers have been using a form of Prestel under laboratory conditions, and have displayed the system at shows and seminars.

The next step is a large-scale survey to determine what sort of information Australians would want to be included in a Prestel type system.

## Long-distance copy-cats

A number of business and government organizations are using facsimile transmission for the transfer of documents. Machines are attached to the telephone network, and a single page document can be sent across town or across Australia in a matter of three or six minutes.

The document can be typewritten or a graph, a plan, a set of labels, a

newspaper cutting, a drawing — anything that can be reproduced in black and white.

The next generation of facsimile machines will operate at higher speeds. A page will take only a minute or two, or maybe less, to speed over the Telecom network.

Added to this will be automatic controls which will allow a business to have a number of pages sent to

various destinations at a certain time.

A business could arrange for documents to be sent to its branch offices or clients after 9 pm when the economy STD rates apply. A single page could be sent from Melbourne to Perth for 36 cents at this hour.

It would be received by an unattended machine and be available when the office opened the next morning.

# THE EXCITING FUTURE OF

**W**hile there'll always be the need for live face-to-face communications, technology may in the future provide us with many new ways of obtaining information.

Using a variety of equipment connected to the telephone network, people will be helped to shop, learn, solve mathematical and other problems, keep up with the news, exchange views, voice opinions, use libraries and generally keep in touch with the world around them.

Telecom, through its various planning activities and the publication of "Telecom 2000," is continually seeking views of potential customers for new services that may look like the artist's impressions at right.

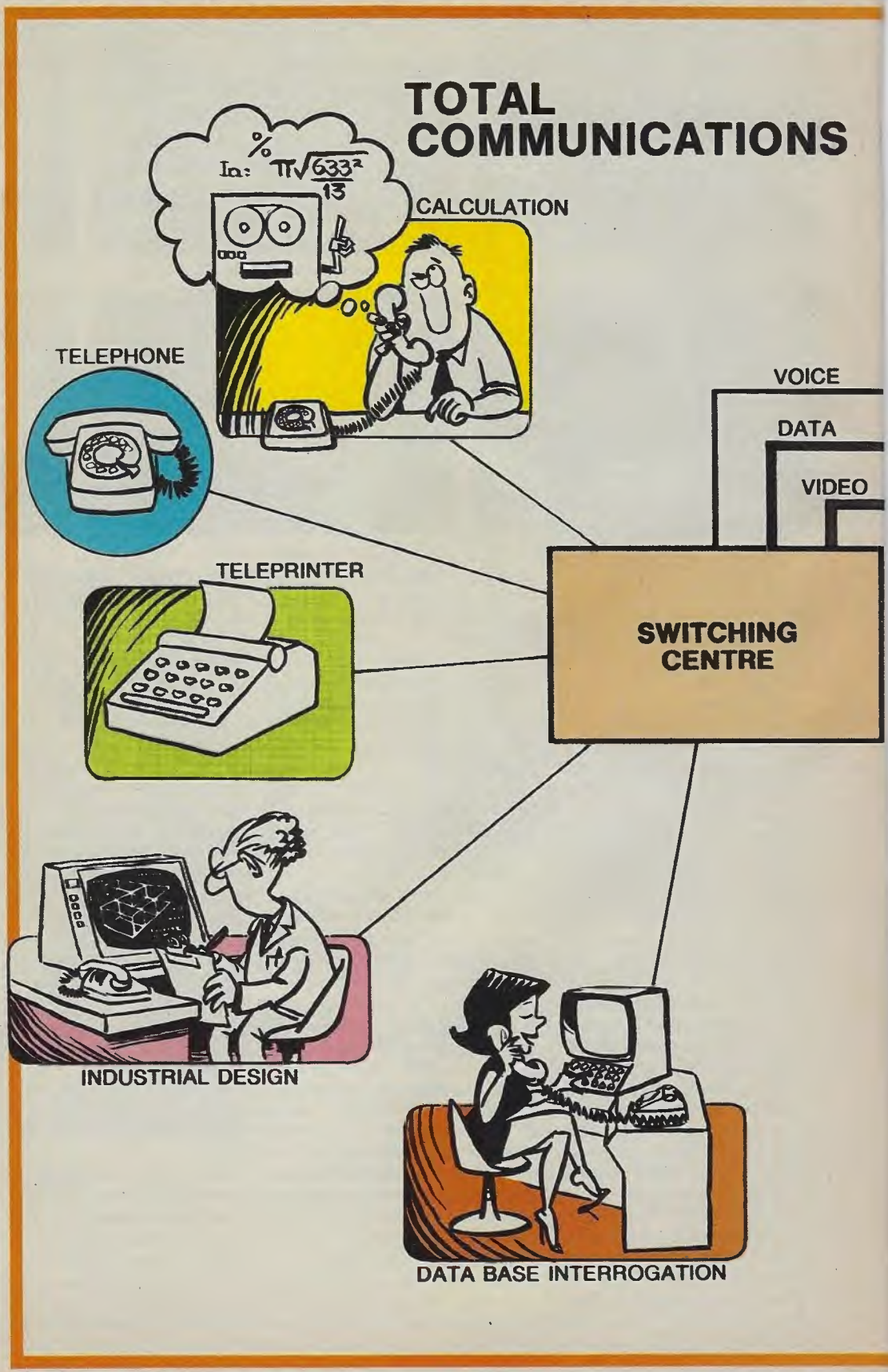
Much will depend on the requirements of people and businesses as to whether a series of terminals or a multi-purpose terminal is used to obtain and transmit information.

Some people may want only a system for passing messages — on a screen, by teleprinter or as a facsimile document. Professional people such as doctors, architects and lawyers may want only to interrogate specialized libraries.

There will be many who will be satisfied with an ordinary telephone service and rely on their newspaper, radio and television for news and entertainment.

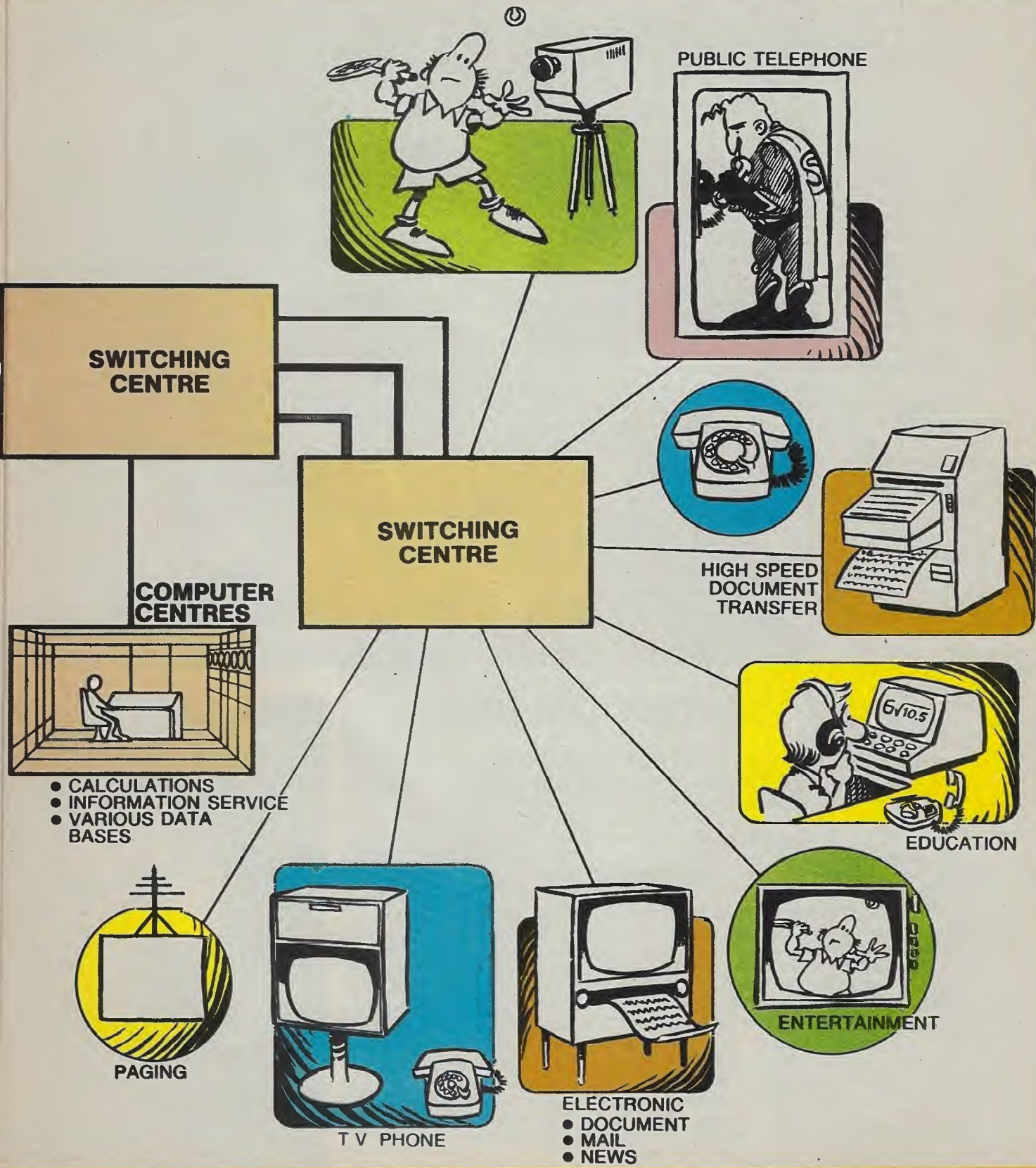
Others may wish to run the whole gamut and regard the telephone network and its attachments as their means of keeping in touch with the world around them.

The Prestel type service described on page 75 could provide many of the services shown in the drawing. The information displayed on a television receiver screen can also be taken out as "hard copy" by using an associated teleprinter type machine which produces a printed record of the item.





# TELECOMMUNICATIONS



## FIBRES SHOW THE WAY

**B**ad luck, Professor Henry Higgins, chauvinist male of "My Fair Lady." There's a glass that no lady's voice will shatter.

Optical fibres, hair-like strands of glass, will soon be carrying your conversations.

The glass fibres are made from silica, one of the world's most abundant materials. They are drawn into hair-like strands and are used to carry a beam of light with a tremendous capacity for carrying electrical signals.

Hundreds of voices can be carried on the signals in a single optical fibre. Each voice is quite separate and there is no interference from the other voices.

Telecom has been testing optical fibres under laboratory conditions, and late last year a 1500 metre length of fibre cable was installed underground in the Melbourne suburb of Clayton. It runs into and out of one of the Telecom research laboratories so that its performance under normal working conditions can be measured. This year an optical fibre cable will be put into service between two Melbourne exchanges.

Optical fibres, the future replacement for costly copper and aluminium cables, have an extraordinary capacity. A fibre cable can carry as much as a copper wire cable 200 times greater in diameter.

They are not subject to electrical interference, even lightning strikes, and can carry voices and signals over greater distances than ordinary cables without fading.

In a Canberra demonstration, Telecom showed how a complete colour TV show could be carried over a single glass fibre.

Eventually, the glass optical fibres will be produced more cheaply than conventional cables. They will occupy less space in the ground and require less equipment to boost voices along their path.



**ABOVE:** Electron microscope used to view fibres. **RIGHT:** A cross-section magnified 1200 times. **BELOW:** Fibre cable (right) carries 10 times the traffic of the copper.



## Number please...

**"M**y mother is 21, my mother-in-law 22, my sister 23 and my sister-in-law 24. You've guessed it, we're a close knit family, but those numbers aren't their ages. They are the numbers I use on my touchtone to call my family.

"No, we're not all on extensions. I've 'told' my local exchange that I call my family frequently and don't want to be dialling seven digits each time."

That's the new sort of telephoning which will be a possibility when Telecom installs its next generation of telephone exchanges.

After calling world-wide tenders, Telecom selected Swedish designed telephone exchange equipment to be

introduced into Australia starting in the early 1980s.

These electronic exchanges are fitted with mini-computer controls which are capable of "taking orders" from a customer — such as abbreviated dialling. While you're talking on the phone they could even signal to let you know someone is trying to ring you.

What they can do and do better than other exchange equipment is to trace calls quickly. Hopefully this will put an end to that unwanted telephone traffic — the malicious and obscene calls which unfortunately some people are plagued with.

**Replacing a printed circuit board in the mini-computer.**



## THE COMMUNICATION CORE

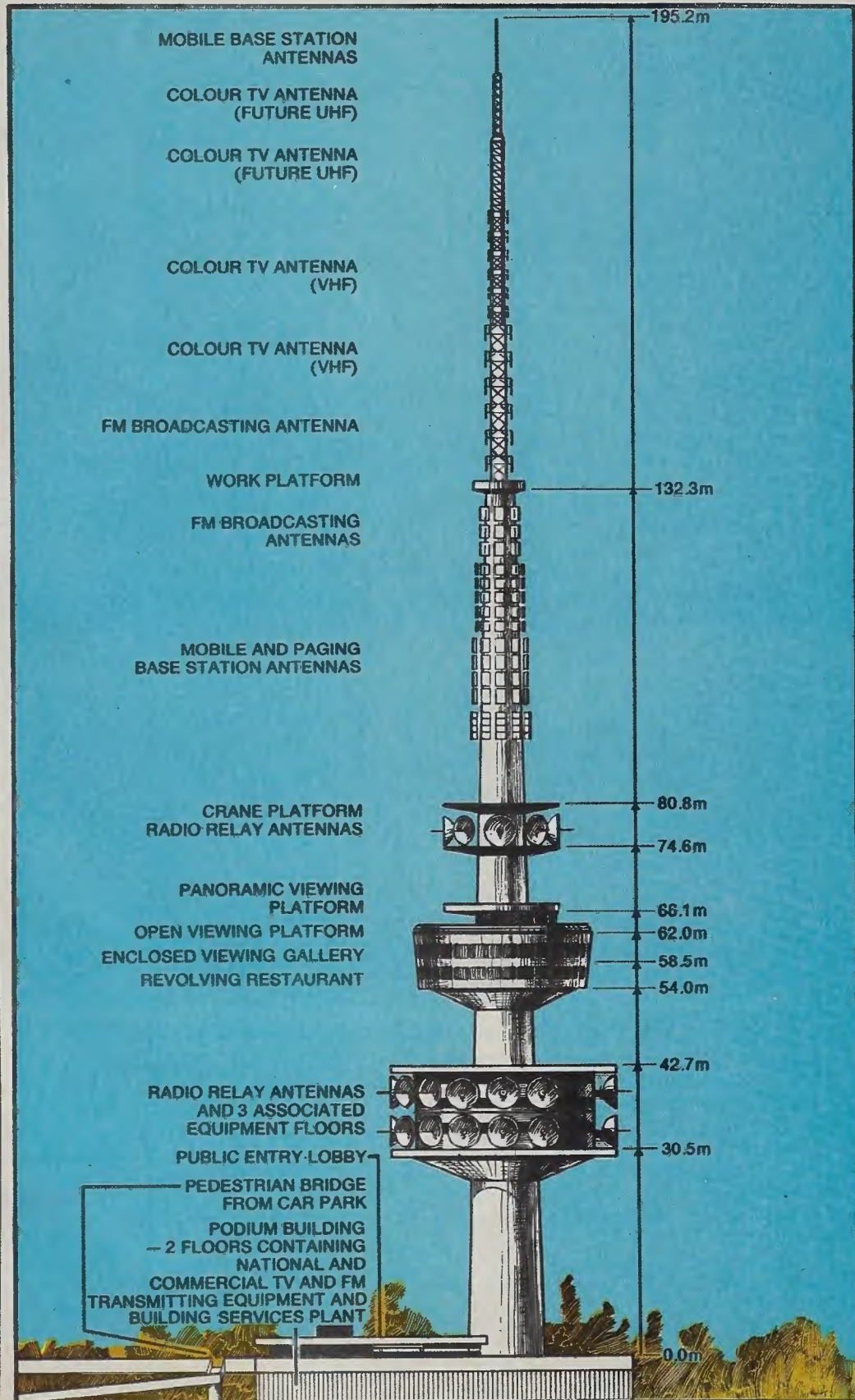
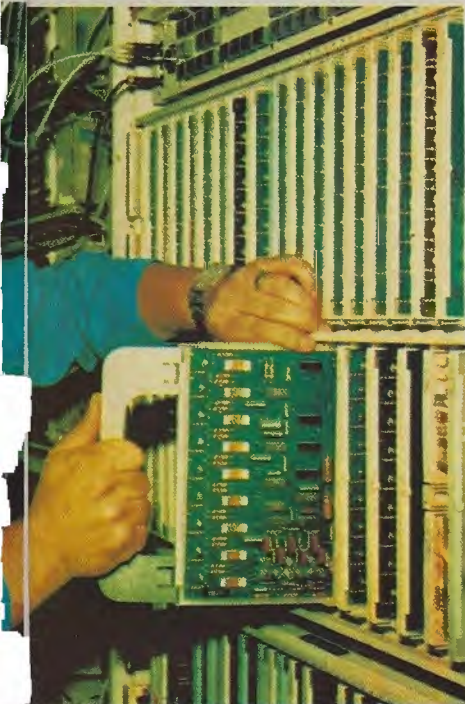
**S**oaring 195 metres above Canberra's Black Mountain is one of the most important links in Telecom's communication chain.

The Black Mountain tower centrally houses some of the most important communication facilities — major trunk line radio telephony facilities; television transmitters for national and commercial services; FM radio transmitters; radio paging (Telefinder) facilities; and mobile radio telephone base station services to vehicles.

The tower has become one of Canberra's landmarks and promises to be a major tourist attraction along with Parliament House, the National Library and the War Museum.

It will feature viewing platforms and a revolving restaurant, all giving commanding views.

In Canada and Europe where telecommunications towers have been built, both locals and tourists have kept up a steady stream of visits. The Telecom tower should be no exception.



# HARNESSING THE SUN

**D**orothea MacKellar's "sunburnt country" is finally waking up to the potential of its greatest asset and curse, the sun, and Telecom is leading the way. By the end of June, the world's first major solar-powered microwave radio trunk system will bring high quality and large capacity telecommunications and relayed TV to Alice Springs.

This new system will link at Tennant Creek into the national STD grid and TV relay network. On its 580km "run" from The Alice it will pass through little known spots such as Bullocky Bore, Tea Tree, Devil's Marbles and 16 Mile Creek, following the route of the Overland Telegraph Line of 1872.

Already 40 small solar systems are powering small-capacity telephone services in isolated areas of Western Australia. But this Northern Territory project is much bigger and a world "first."

More than four years of research and \$100,000 have been spent on developing lower power consumption equipment, powered entirely by solar cells, to provide an economical radio relay system. When completed, the Tennant Creek-Alice Springs system will have cost half a million dollars (which still makes it slightly cheaper than conventional diesel-powered generators).

Telecom officials add: "With a solar-powered plant, little or no maintenance is required and operating costs are minimal. Use of solar power also excludes taking into consideration costs of all-weather roads, which have to be built if diesels are installed."

Thirteen microwave repeater stations have been installed at intervals of 45km along the route from Alice Springs to Tennant Creek. Each comprises a solar module, a radio mast (maximum



Cleaning the cells on a solar-powered system.

height, 76 metres) and a building to house the radio equipment.

The solar module consists of a standard shipping container, which houses a battery and has three solar arrays mounted on it. Each solar array is made up of about 24 modules filled with silicon cells and each cell converts the light striking it into electricity. This electricity is stored in 36 batteries inside the shipping containers, ensuring a power

supply during the night or on cloudy days. A control panel in each repeater station monitors local conditions and sets off an alarm if the batteries are very low.

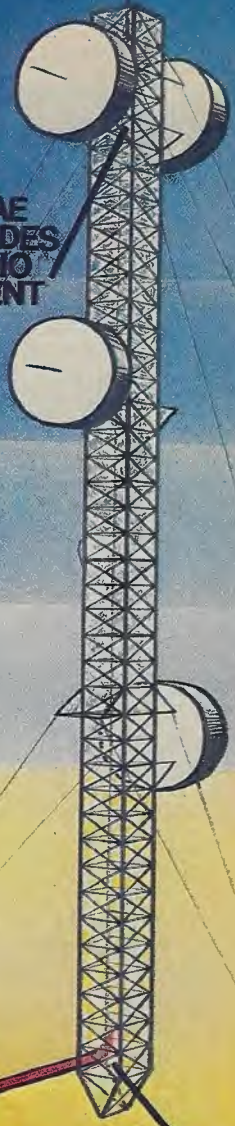
The microwave radio transmits signals on a very short wavelength from one station to the next. Dish-like antennae mounted on the masts focus the signals into narrow beams. (The mast height varies according to location and terrain.) Each mast in the Alice Springs

to Tennant Creek system carries three bearers. One caters for 960 simultaneous telephone and telegraph circuits. The second is an emergency bearer in case of a breakdown. The third will relay television programmes.

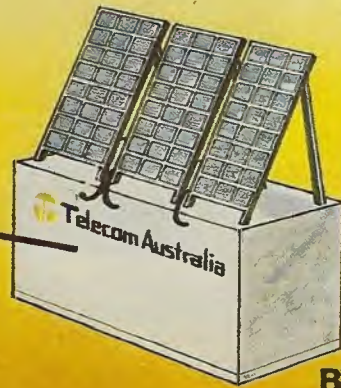
Along the route, microwave signals received at each repeater station are "boosted" by the solar-powered equipment before being transmitted to the next station. The stations zig-zag along the route,



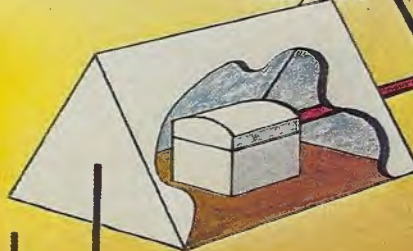
ANTENNAE  
WAVEGUIDES  
AND RADIO  
EQUIPMENT



POWER SHELTER  
AND SOLAR PANELS



WAVEGUIDE  
RUNWAY



RADIO SIGNALS  
RECEIVED,  
AMPLIFIED AND  
RETRANSMITTED

'A' FRAME SHELTER

BURIED POWER CONDUIT

Diagram of the almost finished Tennant Creek-Alice Springs solar-powered system. INSET: A portable solar plant.

about 45km apart, so that signals can't overshoot and interfere with other stations.

Most stations have been completed and final testing is being carried out along the route. The system should be operating by the end of June.

Tomorrow's world is implicit in this telecommunications revolution. Telecom officials point out: "Almost daily we are reminded that the world is facing a shortage of energy. Fossil

fuels — oil, coal and gas — are rapidly diminishing. In the search for alternative sources of non-nuclear energy (such as wind power, tidal energy, gas generation from waste material and gas thermal energy), solar energy appears to hold the greatest promise."

And that's where Telecom's outback solar-powered telecommunications come in. The finish of the Alice Springs-Tennant Creek microwave

radio system will mean a major improvement to television and telex services in the Northern Territory.

At Tennant Creek, the system will connect with the existing national broadband trunk network. It runs for 11,000km from Darwin in the Northern Territory to Port Hedland in Western Australia, and has thousands of kilometres of offshoots serving rural and outback areas.

The broadband network — comprising microwave

radio and coaxial cable — got its name because it can provide hundreds of circuits for simultaneous phone calls, as well as telegraph, data transmissions and a television relay. Telecom officers say that it has transformed Australia's trunk network.

So, what does this half a million dollar telecommunications pioneer mean? That phone calls to and from Alice Springs will be able to be dialled STD after June.

## MEET THE PEOPLE OF

**T**elecom employs 87,000 people and to maintain this high level of employment recruits 9000-10,000 people a year. Both school leavers and professional staff are included in the year's intake. A sizeable proportion are recruited as apprentices or trainees, and at the end of June, 1978, there were nearly 4000 full-time apprentices and trainees employed. Here we introduce some of the people who are making their careers in Telecom.

**Lynda Roels, 30**, joined Telecom last December as a food services manager and is responsible for overseeing the day-to-day operation of the 14 staff cafeterias in the Sydney area.

She is qualified to train staff and is involved in budgeting and purchasing, reviewing safety and hygiene conditions.

Her interest in food started early; at the age of six she was cooking excellent sponge cakes. After completing her school education, she studied for Britain's National Diploma in Hotel-keeping and Catering.

Lynda migrated to Australia from Wales at the age of 21, lived in Queensland for four years, then returned to Britain to marry an Australian. She worked in the catering service of the Post Office before returning to Australia a year ago.

**Patricia Feodosiu, 32**, is White Russian by birth. As a child, she came to Australia with her parents and sister as a refugee from China.

After matriculating, she attended business college, and became secretary to a corporation executive. Fascinated by the world of finance, she decided to study accountancy.

Patricia worked as an accountant for several companies, and began studies for admission as an Associate of the Chartered



**ABOVE:** Lynda Roels, a food services manager. **ABOVE RIGHT:** Patricia Feodosiu, an accountant.



Institute of Secretaries and Administrators. She hopes to complete these in the next six months, and has enrolled for a degree in business administration.

She joined Telecom as an internal auditor about a year ago and after seven months was promoted to a position in the accounting development section of the Finance and Accounting Department.

**Bob Cain, 24**, is senior demographer in the New South Wales Marketing Branch, and his chief responsibilities are to identify long-term population, labour and housing trends and to interpret their significance for future demand for telecommunications services.

This work is vital in the estimation of equipment and manpower that will be required at any future time to provide a satisfactory and comprehensive telecommunications system.

Bob completed an honours degree in applied sciences at the University of



**ABOVE LEFT:** Demographer Bob Cain. **ABOVE RIGHT:** Engineer Les Niezabitowski. **RIGHT:** Apprentice welder Raymond Burns.

NSW, majoring in geography and economics, then spent three years as a research assistant in the NSW Department of Main Roads before joining Telecom in February last year.

**Les Niezabitowski, 24**, has been employed as a Telecom engineer, based at Bathurst, for seven months. His section takes in almost the entire north-west corner of NSW, and Les and the other engineers spend about 30 percent of their time away from Bathurst supervising projects such as the laying of the co-axial cable from Ceduna to Cobar.

Les, who is of Polish

descent, specialized in communications at the University of NSW. He undertook a double degree in science and engineering concurrently, doing the bachelor of science because of his interest in mathematics and computing science.

He is one of the most qualified engineers in the computing field in Bathurst.

**Raymond Burns, 17**, topped his metal work class in his second and third years at high school, and his interest in the subject led him to apply for a Telecom apprenticeship in welding. He joined the Commission in January last year and was

# TOMORROW



ABOVE LEFT: Trainee draftsman Sue Howie. TOP LEFT: Apprentice electrical fitter and mechanic Michael Lee. TOP RIGHT: Typist Sue Way. ABOVE RIGHT: Clerk Paul Hogan.

among the top apprentices in his first year.

To date Ray has already been involved in a variety of welding jobs for the Commission, including welding man-hole ladders and safety frames, and the steel frames for the bases of STD telephones.

**Michael Lee**, 21, is a second year apprentice electrical fitter and mechanic, on duty with the Buildings Branch engineering services section which is responsible for the maintenance and installation of all electrical equipment in Telecom buildings and installations.

Michael came to Australia

from Burma with his family three years ago.

**Sue Howie**, 20, joined Telecom as a trainee draftsman a year ago, after working as a draftsman for a private firm. She is now in the fourth and final stage of the Land and Engineering Survey Drafting Certificate.

Sue is attached to the metropolitan and country operations group, which is primarily concerned with the provision and maintenance of the comprehensive network of cables and wires which form the basis of the telecommunications system.

**Sue Way**, in her late teens, has been working as a

typist in the Directories Branch since last November. Her work includes general typing, and operation of the telex machines.

**Paul Hogan**, 21, joined Telecom as a clerk a year ago, and works in the sales and contracts unit at the District Telecommunications Office in Chatswood, NSW.

Some of his duties involve processing applications for telephones, switchboards and related equipment, interpreting customer requirements and issuing telephone orders.

Paul attended Macquarie University for two years before joining Telecom.

# A NUMBER OF ANSWERS

## Emergency Numbers

Fire \_\_\_\_\_ Police \_\_\_\_\_ Hospital \_\_\_\_\_  
Ambulance \_\_\_\_\_ Doctor \_\_\_\_\_ Chemist \_\_\_\_\_  
Doctor (after hours) \_\_\_\_\_ Dental Emergency Service \_\_\_\_\_  
Poison Information Centre \_\_\_\_\_ Dentist \_\_\_\_\_  
Other Important Numbers \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Other Numbers

Butcher \_\_\_\_\_ Veterinarian \_\_\_\_\_ Electricity \_\_\_\_\_  
Supermarket \_\_\_\_\_ Carpenter \_\_\_\_\_ Gas \_\_\_\_\_  
Greengrocer \_\_\_\_\_ Electrician \_\_\_\_\_ Water Supply \_\_\_\_\_  
Newsagent \_\_\_\_\_ Painter \_\_\_\_\_ Local Council \_\_\_\_\_  
Service Station \_\_\_\_\_ Plumber \_\_\_\_\_ TV Repairs \_\_\_\_\_  
School \_\_\_\_\_ House Repairs \_\_\_\_\_ Dry Cleaner \_\_\_\_\_  
Handyman \_\_\_\_\_ Cleaning Service \_\_\_\_\_ Hairdresser \_\_\_\_\_  
Husband's Office \_\_\_\_\_ Landlord \_\_\_\_\_ Barber \_\_\_\_\_  
Wife's Office \_\_\_\_\_ Baby Sitters \_\_\_\_\_  
Taxis \_\_\_\_\_ Bank \_\_\_\_\_  
Department Stores \_\_\_\_\_ Railway Station \_\_\_\_\_  
Insurance \_\_\_\_\_ Solicitor \_\_\_\_\_  
Telecom Business Office \_\_\_\_\_  
Other Numbers \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Fill in this handy chart, cut it out and keep it near your phone.

