Overseas Telecommunications Veterans Association (Australia)

Bringing generations of communications professionals together...

OTVA Newsletter

February 2017
Volume 17 Page 1

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42 Keswick Street
Georges Hall NSW 2198
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2017 Autumn Function

The Autumn function of the Overseas Telecommunications Veterans Association will be held on Thursday**, 30th March 2017** at

12 noon 99onYork (The bowlers Club)

99 York Street Sydney.

Lunch in the Red Room Buffet $28 non-members – show your seniors card or club membership for a discount.

See **http://www.99onyork.com.au/dining/red-room-buffet**

for more info about the venue.

Email: president@otva.com or SMS to 0411 260 542

In this Issue:

Coming Events:

Autumn Function Thursday 30/3/17

at the Bowlers Club

99 York Street Sydney

2017 AGM Thursday 15 June 2017

11:30 am arrival for a 12:00 noon start for the AGM, - then for those who wish to part take, a lunch at 99onYork.

(The Bowlers Club)

Message from the President

Fellow Members of the OTVA,

I hope that you and your families are in good health and enjoying life and I wish you more of the same for 2017.

Your Committee continues to receive requests for the Contact/Transit DVD from both new and existing financial members which reinforces the Committee's view that these DVDs are of value to our members and are helping to rekindle memories of the people and events from the OTC years. Your Committee continues to receive compliments in respect of the development and content of the DVD.

Your Committee continues to host 2 major functions each year in addition to some informal social gatherings to enable members to socialise and re-establish relationships from their OTC years. The memories create enjoyment and camaraderie that reminds those present of how great it was to work for OTC.

Your Committee considers each year recommendations from members for the Life Membership awards designed to recognise significant contributions made by members to the OTVA. If you would like to nominate a person for life membership please send me an email. For your information the life members of the OTVA are: Ken Theaker; Derek Walker; Tom Barker; Joe Collister; Tony Farrugia; Robert Hall; Allan Hennessy; Keith McCredden; Bernie White; Pam Helps; George Maltby; Peter Bull; David Richardson;

An OTVA Newsletter has not been produced since May 2016 just prior to the AGM. This has been principally due to the fact we do not have a full-time Newsletter Editor. Your Committee seeks a volunteer from our membership to perform this function that is vital to the ongoing viability of this publication.

Your Committee needs you to provide stories from members without which the newsletter could lose value to its readers. If the newsletter stops being produced we lose the ability to record for posterity much of the character and value of OTC which will then be lost to future generations of Australians. If you have a story that can be printed and is assessed by the Committee to be the top story in that edition of the newsletter you could receive $50. You have to be in it to win it!

The OTVA BLOG (http://www.otva.com/blog/) continues to receive a large number of hits each month with regular contact from ex-OTC personnel, their families and members of the public asking questions about many aspects of OTC. It continues to be a valuable source of promotion and access for the OTVA.

I extend my sincere condolences to the families of our ex-OTC brothers and/or their partners who have departed this life since I last addressed you. We are saddened by their passing but are gladdened by the fullness of their rich and long lives. May They Rest In Peace.

Warmest regards,

Peter Bull

0411 260542

president@otva.com

The Secret Agent Affair —

When I was a trainee technician based at the DCA Training School at Waverton and travelling to Nth Sydney Technical College for 1.5 days a week to undertake the Electronics & Communication Engineering Certificate I developed an interest in HF Radio. At one stage in 1973 while doing field training at Paddington ISTC I purchased a No.62 set which was issued by the military from Marrickville Radio. At the time the staff at Marrickville Radio told me that set was old and may not be 100% operational.

They were right and it did not transmit properly. When I rang them to ask for my options they suggested that I could probably fix it if I had a circuit diagram. Marrickville Radio suggested that I should ring someone in the Army Signals Corps and that as I worked in Oxford St Paddington Victoria Barracks seemed like a sensible place to start.

As I walked past VB the next day I enquired as to whether there was a Signals group stationed in VB at Oxford St Paddington. I explained what I was after from the Signals group and the person on the gate rang someone and got me a contact number to someone who was not in his office at that time.

I rang the number the next day and was told that he could not help me but he knew someone who might. I was transferred to another person who also apologised but transferred me to another person. This happened about 4 times before I reached someone who said that he might be able to help me. He told me that his name was Major Morgaine and asked for my name and contact phone number and said that he would see if he could locate circuit diagrams for a No.62 HF Radio set and could call me back.

I received a phone call to advise that a copy of the circuit diagrams had been found and that I could pick them up from Major Morgaine's home address in Greenacre that following weekend.

I turned up at the nominated address at the nominated time on the Saturday morning and there was a man mowing the lawn and doing some gardening in the front yard. The house was located adjacent to a canal on one side and a single storey premises on the other which was skirted by a busy road. He offered me a cool drink which he obtained from inside the house and we sat on some chairs arranged in the shade on the canal side of the front yard in front of the open garage.

We exchanged pleasantries and the gentleman appeared most interested in my role in OTC and my career aspirations and how this all related to my interest in HF Radio.

I agreed to return the documents to him in a few weeks and to tell him how I had used them to fault-find the set and whether I was able to get the set working. He said that there was no need to return the circuit diagrams but if I wanted to return them he would be home every Saturday morning.

A few weeks later I had given up on repairing the set as I would fix one fault only to find that another fault became evident in another part of the electronics. I returned to the premises and knocked on the front door but there was no answer. The house was locked and there was no sign of life. As I was leaving the woman next door stuck her head over the fence to ask what I was doing there. I explained that I had picked up some papers a few weeks earlier and was trying to return them.

She seemed very wary of me at first but then said that she was bewildered by my story. She explained that although she believed it to be owned by the military it had been vacant for many years. In fact she had been its neighbour for about 10 years and I was the first person that she had seen visit the property other than the gardeners that would work on it from time to time.

I explained that I had met a Major Morgaine several weeks earlier. She asked me when this meeting had occurred as she was home 'a lot' and knew about most comings and goings 'in her street'. I told her and she admitted that she had won a contest to which she had not recalled even entering that resulted in her being away from home that very day of all days. It was a trip to the city and a meal for two.

I was confused but left with my hands firmly wrapped around the circuit diagrams.

Well first thing Monday morning Joe Collister called me into Head Office in Martin Place, Sydney. When I arrived he called me into a room before saying "What the bloody hell have you been up to" (or words to that effect). I said that I did not know what he was talking about. He told me that the 'spooks' had been asking OTC a lot of questions about me and the work that I was performing for OTC. They had asked to see my personnel file but had apparently left empty handed.

I denied that I had done anything wrong and that there must be some mistake.

I heard no more about the matter from either OTC or any enforcement agency so I soon forgot about Major Morgaine and the incident relating to the No.62 set

BUT

23 years later I was working for Optus and was made the manager in charge of the Law Enforcement Liaison Unit (LELU) for which I required an ASIO Security Clearance. During the clearance process the incident with Major Morgaine was brought to my attention as 'I was on file with ASIO'. I relayed the story in detail at least once and as my story checked out with what I had said in 1973 and with the results of their apparent investigation at that time I was eventually given my ASIO Security Clearance which I still enjoy today.

Obviously Major Morgaine was someone I was not supposed to know about let alone talk to.

Since my early days in the Optus LELU I have grown to appreciate the need for physical and information security but I sometimes feel that I am being watched. Maybe I am or maybe I am just paranoid.

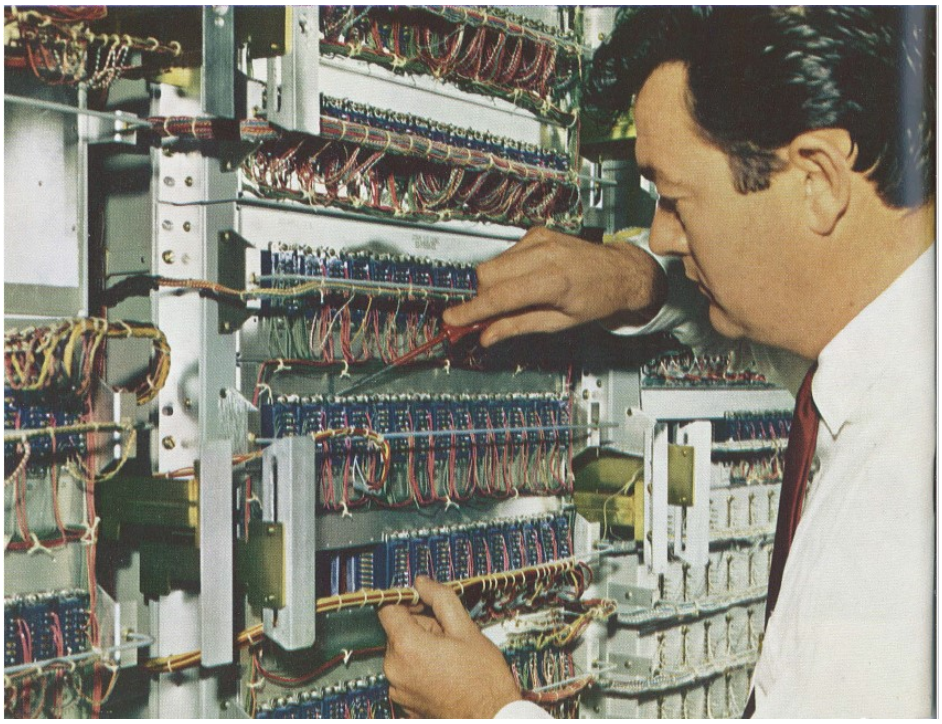
Peter Bull

Major OTC Events - 50 years ago (1967)

- *New logo adopted.*
- ***February 4:** Australia's first satellite communications service opened via Carnarvon satellite earth station.*
- ***March 30:** HRH Queen Elizabeth II officially opened the **SEACOM** cable. Simultaneous ceremonies were held at Cairns, Guam, Madang, Hong Kong, Singapore and London.*
- ***April 14:** OTC headquarters in Sydney moved from Spring Street to new premises at Martin Place.*
- ***April 17**: Harold White, General Manager of OTC, was appointed Chairman of the newly-formed Commonwealth Telecommunications Council at its inaugural meeting held in London 17-28 April.*
- ***May:** New international radio station opened at **Gnangara.***
- ***October:** A new staff magazine, **Contact,** was launched.*
- ***November:** Time Assignment Speech Interpolation **TASI** equipment came into operation on the **COMPAC** cable, increasing the number of circuits from 80 to 100.*

T.A.S.I. To Boost COMPAC Capacity - (1967)

O.T.C. Engineers are over coming the day to day technical problems associated with the installation of this $1 million special switching system known as Time Assignment Speech Interpolation. The system increases the handling capacity of two-way voice circuits on coaxial submarine cables.



Senior Engineer, Mr. B. Dentskevich, flew to London for special talks with British Post Office engineers and officials, who had already installed such a system on coaxial submarine cables. Mr. Dentskevich also visited Montreal for discussions with Canadian engineers, who went with him to New York for special talks with the supplying Company. Paddington technician, Mr. Paul Borg, attended a nine week training course in America on maintenance aspects of the T.A.S.I. system. Later six other technicians took part in a three months course in Australia. They were Messrs. F. Mullins, D. Coutts, J. Godfrey, G. Bertoni, K. O'Brien and J. Lissaman.

Installation of the system is being carried out at Paddington by nine technicians, Messrs. E. Lowe, A. Salmon, B. Anderson, C. Valdes, P. Schoene, J. Rolth, P. Hamersman, P. Beasley and W. Homan, headed by Supervising Technician (Installation) Mr. K. Kearney. T.A.S.I. will be installed and fully operational by November, 1967, on COMPAC after thorough "in station" test.

At present there are seven such switching systems operating in the world. Two more are under construction, one to operate between Sydney and Vancouver, the other between Montreal and London.

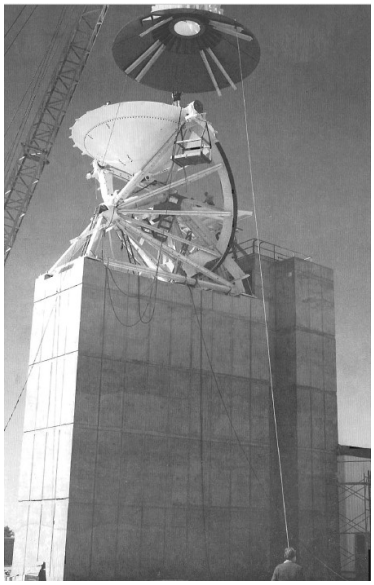
Cost of the Sydney Vancouver project is $2 million, of which Australia will pay $1 million, as the equipment has to be installed at both ends. The equipment increases the utilisation of a given number of telephone traffic circuits by a factor of about two, by interleaving additional telephone conversations between pauses in speech during any given connection. This is achieved by use of special high speed voice operated switch arrangement. Mr. Dentskevich explained how the system would work on the COMPAC cable. He said COMPAC had 80 two-way voice circuits of which about 60 are used for voice telephony.

CAPABILITY

T.A.S.I. would operate on 37 telephone circuits, thereby doubling their handling capability to 74. He said this would increase the overall capability of COMPAC by about 30 per cent. Remaining two-way voice circuits, such as those to New Zealand, would not come under T.A.S.I. The decision to install T.A.S.I. in COMPAC was made in 1966 by the Commonwealth Cable Management Committee after it was determined that traffic on COMPAC had greatly increased and gone beyond the cable's capability to provide "on demand" service.

The alternative to T.A.S.I. was laying another cable, such as COMPAC, but the heavy cost factor went against this decision. COMPAC's total cost was approximately $68 million. Special arrangements were made by Paddington Station Manager, Mr. J. V. Joiner, to have the T.A.S.1. equipment moved into the building.

Antenna assembly at Moree begins (1967)



With work well up to schedule, the first segment of the giant dish antenna of the new Moree earth station for satellite communication was hoisted into place in August.

The General Manager of the Overseas Telecommunications Commission (Australia), Mr. Harold White, made an inspection of the Moree project on the same day that work began on the antenna. The new $4 million earth station will provide a vital communications link when it goes into commercial operation early next year. The 90 foot antenna. weighing 200 tons, is expected to take about eight weeks to complete.

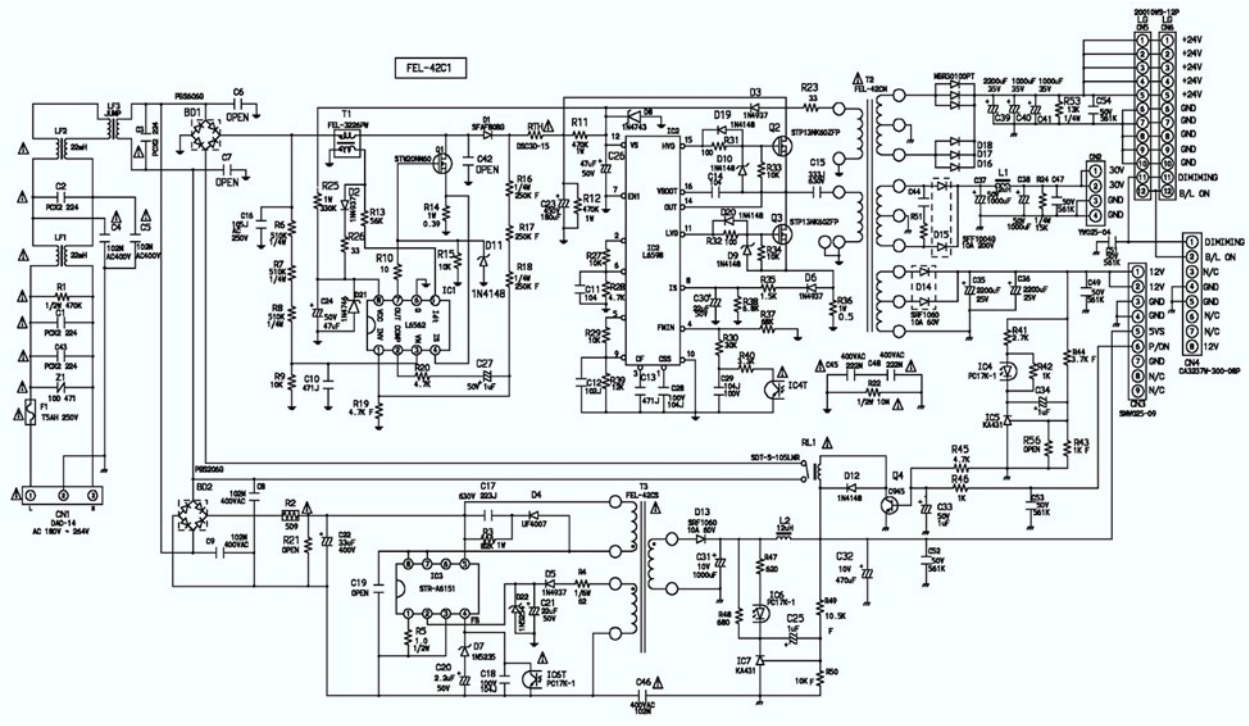
The main antenna reflector will be in the shape of a dish. A sub·reflector seven feet in diameter is to be mounted on a quad tripod in front of the main dish and in a transmit position, is illuminated by radio frequency from a horn. Erection of the antenna and electronic work are expected to be completed in time to have the station formally completed in December.

They don't make electronics like they used to…

Our Palsonic 105cm LCD HDTV died recently, it was only 10 years old. While watching TV one night the TV switched itself off, I picked up the remote control and turned it back on and heard a loud bang, saw a puff of smoke, and the set died.

A visual inspection of the Switch Mode Power Supply (SMPS) board revealed a blown mains fuse and the main regulator MOSFET had a large piece blown out the side. I Googled the SMPS Board Part No and found they were no longer available. Just my luck!

So the only way to repair this not so old TV was to repair the SMPS. I managed to find a circuit diagram of the faulty board on the internet which would be critical to have any chance of repairing the faulty board. We had a spare TV to watch in the meantime so there nothing to lose and I was feeling up for the challenge. Why throw out a bloody good TV?



Never having worked on SMPS before I began googling SMPS design and methods of repair. I was amazed by the volume of useful information I found on the internet particularly Youtube. Youtube really is a wonderful source for Do It Yourself (DIY) videos. I watched several SMPS "Design" videos explaining the basic design and the advantages of SMPS over traditional large transformer type power supplies, and several "How To Repair" videos.

The first great trick I learned was to replace the blown mains fuse with a 100w incandescent globe. The reasoning being that while a short circuit existed in the power supply the globe would glow brightly and prevent any further damage to the circuitry while fault finding. Pretty cool idea eh, so simple!

From the Youtube videos I learned there was a "hot" side and a "cold" side to the SMPS. I also learned that most SMPS faults were due to hot side electrolytic capacitors drying out and going short circuit. A common problem in lots of old electronic equipment indicated by bulging or leaking caps. While I could not visually identify any obvious bad caps I went about testing the hot side for short circuits and open circuits using my cheap $12.95 multimeter bought online.

I replaced these two parts in the "hot side" and the incandescent globe, which previously had remained permanently lit, now pulsed on/off at 2 second intervals. I then decided to conduct a detailed resistance check of all the components on the hot side. Not finding any obvious issues I reverted to Youtube again.

One of the Youtube repair videos started with the need to check the mains rectified voltage applied to the MOSFET switch. This sounded like a simple enough procedure but where I was expecting to see 400vdc I found minus 25vdc. I found this quite weird, how could I have a negative voltage? I finally reasoned the only way that could happen was if the earth was somehow "altered".

This prompted me to search the Internet for earthing systems in SMPS. The next valuable piece of information I leaned was that SMPS's have two earths a hot earth and cold earth. Only the cold side earth is connected to the chassis. So any measurements on the hot side must reference the hot earth, which is usually the negative side of the main filter capacitor. By moving the negative probe of the multimeter to the correct earth I found the +415vdc I wanted. One step closer but still not working.

I next started to investigate the two integrated circuits on the hot side, the L6562 PFC and L6598 Resonant Controller. One of the Youtube videos discussed how these chips output a variable duty cycle square wave to the MOSFET effectively "chopping" rectified DC before applying it to a transformer and subsequent rectification back to the required DC supply voltages. The video called for the use of an oscilloscope to check the chip output.

I recalled my old BWD-539D dual trace 25meghz CRO was down in my shed and had been stored in various garages for the last 35 years. I wondered whether it would still work? Would it suffer from the leaky and bulging capacitors so often found on old electronic devices?

I located and removed the old green vinyl dust cover and dusted off the screen, plugged in it to the mains, and switched it on. To my complete amazement the two trace lines slowly appeared! It still worked after not been switched on for some 35 years! Good old Aussie made gear, made when things were designed to last.

Over the years I had lost the 2 CRO probes originally supplied with the unit so I ordered a new 1:1/10:1 probe online from RS Components for $39 and keenly awaited it's arrival from Germany! When the probe finally arrived I tested the Resonant Controller IC output with the old BWD-539D and found a square wave signal of sorts, but very spikey and malformed. Subsequent testing of the resonant controller IC output identified an open circuit resistor in the final MOSFET switching stage. Obtaining a 0.5 ohm 1 Watt metal film resistor proved quite a challenge but Ebay eventually delivered with parts ordered from Germany.

So our 10 year old HDTV was eventually restored to operation with the assistance of a 35 year old BWD oscilloscope and the World Wide Web! The total cost of the parts was under $80.

It's sad that we've become a toss away society with equipment designed to fail and made cheaper to replace than repair. The feeling of accomplishment when the TV sparked to life reminded me why I became a technician. I still love fixing things!

Impressed by the BWD Oscilloscope's longevity I Googled the manufacturer on the internet. BWD Electronics was an Australian company founded in mid 1955 by John Beesley, Peter Wingate, and Bob Dewey. The name BWD was derived from the first letter of each of their surnames. The first premises was rented in Auburn Rd, Auburn, Victoria near the Geebung hotel in 1956. In 1966 BWD employed around 80 people and moved to 333 Burke Road, Gardner and remained there until the building was to be demolished to make way for the South Eastern [Monash] freeway in 1972 when BWD moved to Miles street in Mulgrave.

In 1977 BWD released the 880 Powerscope, an oscilloscope designed for working with mains power. The oscilloscope subsequently won an Australian design award. Beesley was awarded a patent for this in 1980, and a Prince Phillip design award in 1981. Another of Beesley's achievements was the Minilab which many electronic engineers were brought up on. Its handy collection of power supplies, amplifiers, oscillator etc were ideal for educational and research purposes. This instrument was designed in collaboration with the Telecom Australia school in 1970. John Beesley remained involved in the company until 1989 when he "retired" to work part time for Cochlear Ltd. BWD Electronics was purchased by the Australian company McVan Instruments which on December 1st, 2014 changed its name from McVan Instruments Pty Ltd to Observator Instruments Pty Ltd part of the Observator B.V. group of the Netherlands.

As an aside here I mention that many of the parts I ordered from Ebay came from overseas and while they did take several weeks to arrive they were all delivered with free postage. As for RS components, they offer free delivery for all online orders. On one occasion I ordered two Zener diodes for $4.78, they were delivered by courier to my home in two days! Amazing service!

OUT ON A WING

Old Time Radio Operators had it Rough.

By STAN C. GRAY. La Perouse Coastal Radio Station.

In the early 1930s I was a radio operator in the Fleet Air Arm, operating from the carrier `Eagle' in the China Seas. One of our jobs was to go after pirates-of whom there were quite a few about at that time. I well remember trans-mitting "spotting" messages back to the carrier after we had located the lair of some pirates who, in classical fashion, had boarded, as passengers, the Butterfield and Swire ship `Shuntien' (of some 3000-4000 tons) and then, in the middle of the night, had taken over the ship, robbed all the passengers, and abducted some European and Japanese hostages. Excitement was great as, after many fruitless sor-ties, the pirates' hideout was eventually located on a desolate, uncharted coast. We radioed for fighter support, and the Hawker Nimrods soon arrived to bomb and machine-gun the pirates into submission - incidentally almost killing the hostages into the bargain.

I was flying in open-cockpit Fairey 3F aircraft at this stage. Odd duties often meant the car-riage of unwieldy equipment which was secured (not always scien-tifically) to the outside of the air-craft. One of these pieces of ex-traneous apparatus, carried from time to time, was a "stannic pot". This was a fairly large cylindrical canister, containing chemical, which could be released from the cockpit by tugging on a long piece of wire which ran outside the fuselage to the cylinder. By flying in different directions over this re-leased cloud of chemical, the speed and direction of the wind could be calculated-all essential before starting out on a mission across the sea. H.T. for the aircraft radio transmitter was obtained from a wind-driven generator, located on a rotatable arm, which allowed the small propeller and generator to be wound into the slipstream or, if necessary, withdrawn back into the cockpit for easy servicing.

Exercising one day between Hong Kong and Chefoo we ran into bad weather, became lost for a while, and the pilot was soon singing out for radio bearings. These were obtained successfully at first, but all of a sudden things went wrong; contact with the ship was lost and quick investigation showed that there was no H.T. to the transmitter.

Upon looking over the side of the fuselage I was horrified to see that the wire which released the chemical had come adrift from the cockpit and was stretched taut between the "stannic pot" canister and the propeller of the wind-driven generator, around which it was wrapped several times. This locked the generator in its "in flight" position, making it incapable of being wound into the cock-pit where the fault could be cleared.

The weather was deteriorating fast. Heavy rain reduced visibility to almost nil, and the pilot began to show obvious uneasiness: our petrol reserve also worried him. I was soon urged in no uncertain terms to get the radio working.

There was only one thing for it, so, with the pilot pulling back on the throttle, I secured my parachute harness by its safety wire to the floor of the aeroplane as a precautionary measure and climbed apprehensively outside the aircraft. The intention was to gingerly edge my way forward and down about four feet to a point where, with pliers, I could cut the offending wire and release the generator.

Although our speed, with the throttle eased back, was not much more than about 80 knots, my goggles were almost immediately whipped away from my face and disappeared somewhere over the tail and the leather helmet soon went the same way. Before many minutes my face felt like a hot pincushion, stung and hurt by the driving rain. With whitened knuckles I hung on to the edge of that cockpit like grim death and pulled myself forward inch by inch.

At last, with the wire severed and generator free, I tumbled thankfully back into the cockpit. but only to receive an even greater shock! The safety wire-in which I had implicit trust whilst out in the slipstream-had somehow become detached from the tail of the parachute harness and I realized that the trip over the side had been made without any reliable support. Although any danger was now past, I broke into a violent cold sweat, trembling all over, and remained that way for a considerable time.

Some 24 years later, whilst operating in Comets, when both the radio aerials on one occasion came off and wrapped themselves round the aircraft tail, my mind went back to the time when I had chanced my luck outside the fuselage. Even had it been possible. I wouldn't have ventured outside that Comet for all the tea in China.

Financial Member?—One Easy Transfer and that's it Forever!

Secure your "Enduring" Membership of the OTVA for the one off payment of $50.

The OTVA is dedicated to organising reunions to maintain valuable friendships forged while working in the telecommunications industry. The regular meetings provide a great networking opportunity for those still in the workforce and reconnect with some of those who have since retired but were instrumental in helping those still in work with their career and career aspirations along the way. Our 250 plus members have a common desire to preserve the history of international telecommunications in Australia.

To ensure that the OTVA can continue to preserve your part in Australia's history—become a financial member — it is easier than ever!

Enduring Membership — One-Off $50 Transfer!

Enduring Membership is open to any person wishing to join the OTVA. You will secure a full membership for the rest of your days or as long as the OTVA exists as an association without having to pay any future membership fees.

Two Easy Steps:

1. Transfer Funds from your bank account to:

ACCOUNT NAME: **OTVA**

BSB NO: **802155** (Bankstown Credit Union)

ACCOUNT NUMBER: **102081862**

Remitter: **'SUBS: '** plus *your* ***surname*** *followed by your* ***firstname***.

2. Email the Treasurer and President

If possible, take a screenshot of your transfer confirmation and send it to:

treasurer@otva.com cc **president@otva.com**

If you can't take a screenshot—please email the treasurer (cc President) anyway to let them know that you have paid your subscription.

Annual Membership remains at $10—please use the steps above to transfer your annual membership fees.

If you do not have access to funds transfer you can mail a cheque to OTVA

2 Tirrabeena Place, Bangor, NSW 2234 .