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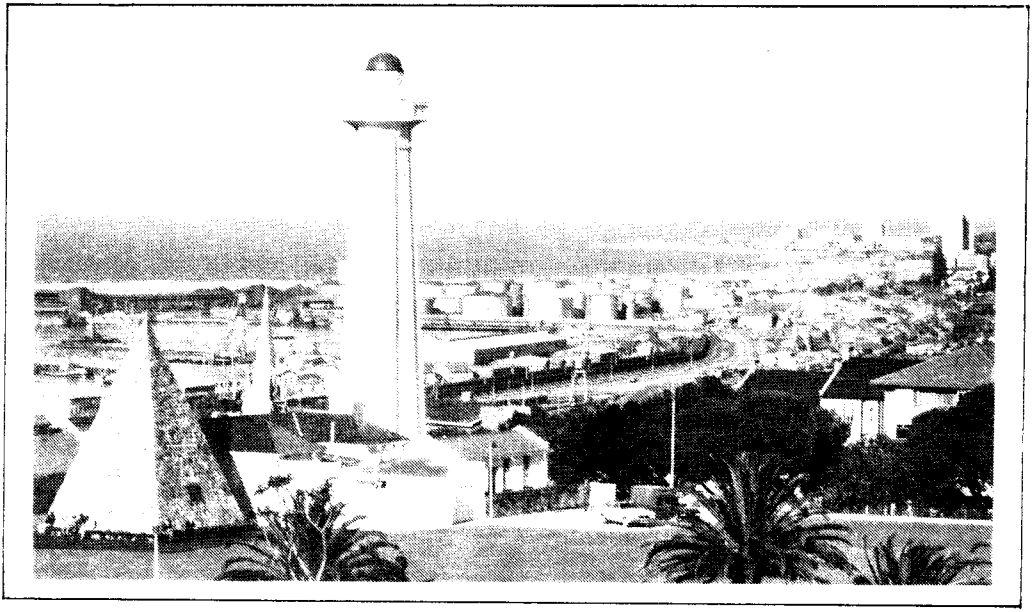

THIS NEWSLETTER IS PUBLISHED BY THE PORT ELIZABETH BRANCH OF THE SOUTH AFRICAN RADIO LEAGUE.

P.O. BOX 10402
LINTON GRANGE
6015

Port Elizabeth Branch
NOTICE OF MONTHLY MEETING

MEMBERS ARE REMINDED THAT THE GENERAL MEETING OF THE BRANCH WILL BE HELD ON FRIDAY 15th APRIL, 1988 AT ST. MARTINS CHURCH HALL, KABEGA PARK, PORT ELIZABETH AT 8.15P.M.
MR. TOM BROWN WILL BE OUR GUEST SPEAKER WHO WILL ENLIGHTEN US ALL ON THE ART OF SUCCESSFUL BRAAI-ING.

COMMITTEE

CHAIRMAN	BRIAN WELLER ZS2AB	30-3498
VICE CHAIRMAN:	LIONEL COOMBE DAVIS ZS2DD	32-1770
SECRETARY:	MARGE WELLER ZS2OB	30-3498
TREASURER:	LYNNE CROTHALL ZS2MM	35-4671
SPECIAL/SOCIAL EVENTS:	BEAVAN GWILT ZS2RL	30-6968
AWARDS:	BILL HODGES ZR2AAN	51-2580
EDITOR QSX-PE:	MARGE WELLER ZS2OB	30-3498
MEMBERS:	DICK SCHONBORN ZS2RS	32-2111
LIBRARIAN: (NON-COMMITTEE POST)	COLIN ASHWELL ZS2AO	31-2471

BULLETIN ROSTER.

DATE	COMPILER	40M NET	2M NET
17 APRIL.	MARGE ZS2OB	ZS2AB	ZS2DD
24 APRIL	LYNNE ZS2MM	ZS2MM	ZR2AAN
1 MAY	BEVAN ZS2RL	ZS2RL	ZS2RS
8 MAY	BILL ZR2AAN	ZS2AB	ZR2AAN
15 MAY	DICK ZS2RS	ZS2RS	ZS2MM

Sunday Bulletin Information

PRIMARY FREQUENCIES FOR BULLETINS AT APPROXIMATELY 08.40
H.F. 7098 KHz IN 40 METRE BAND
V.H.F. 145.650 MHz VIA TOWN REPEATER

BRANCH V.H.F. SERVICES PROVIDED

TOWN REPEATER (P.E. CENTRAL)	145,050 / 145,650 MHz
GRAHAMSTOWN REPEATER	145,150 / 145,750 MHz
LADY'S SLIPPER REPEATER	145,100 / 145,700 MHz
COCKSCOMB REPEATER	145,000 / 145,600 MHz
R.T.T.Y. BULLETIN BOARD	145,150 / 145,750 MHz
BEACON (C.W. ID ZS2PE)	144,910 MHz

****WE LIKE BEING YOUR BRANCH ****

THIS AND THAT

SILENT KEY

WE REGRET THAT WE HAVE TO ANNOUNCE THE PASSING OF ANOTHER OF OUR MEMBERS, CLIFF WICKHAM ZS2AP. CLIFF BECAME A MEMBER SEVERAL YEARS AGO AND HAD BEEN FAIRLY ACTIVE UNTIL A SHORT WHILE AGO. HE AND HIS FAMILY ATTENDED SOCIAL FUNCTIONS AND A.G.M.s VERY REGULARLY AND CLIFF HELPED OUT WITH COMMS AT RALLIES. HE WORKED IN THE RADIO SECTION OF THE POST OFFICE. HE WILL BE SADLY MISSED BY ALL, AND TO HIS WIFE DECIMA AND FAMILY WE EXTEND OUR DEEPEST SYMPATHY. REST IN PEACE, CLIFF.

CONGRATULATIONS

TO ALLAN ANSELL ZS2AJ WHO SHARED THE FIRST PRIZE IN A CRYPTIC PUZZLE IN A LOCAL NEWSPAPER. ALTHOUGH NOT QUITE ENOUGH TO GET HIM A TRIP ROUND THE WORLD, IT WILL HELP WITH THE HOUSEKEEPING! WELL DONE ALLAN.

HAIL AND FAREWELL.

WE ARE PLEASED TO SAY THAT PETE SMITH, G0ETR (ALIAS ZS2PJ) AND HIS FAMILY HAVE RETURNED TO SOUTH AFRICA AFTER A TWO YEAR WORK STINT IN THE U.K. THE ONLY PITY IS THAT THEY WILL BE BASED IN PRETORIA AND NOT BACK IN PORT ELIZABETH. STILL IT IS NICE TO HAVE THEM BACK AND WE ARE NOT PREPARED TO LAY ANY BETS WHICH WEATHER IS BETTER!

JOHN ST. CLAIR ZS2JR, OUR INTREPID GLOBE-TROTTER IS ONCE AGAIN OFF ON HIS TROTTING, FIRST OF ALL TO AUSTRALIA AND THEN EUROPE AND THE U.S.A. YOUR CLOTHES ARE PROBABLY SUITCASE-SHAPED BY NOW, JOHN. HOWEVER, HAVE A SAFE AND ENJOYABLE TRIP.

OLYMPIC GAMES 1988 CALL SIGNS.

SEVERAL AMATEURS WILL BE OPERATIONAL DURING THE OLYMPIC GAMES TO BE HELD IN SEOUL, KOREA LATER THIS YEAR. SEVERAL CALL SIGNS TO LOOK OUT FOR ARE: 6K88SOG, 6K88KOG, 6K88A. POSSIBLY OTHER KOREAN STATIONS WILL ALSO USE THE NUMBERS '88' IN THEIR CALL SIGNS.

S.S.B. - STEAM RADIO?

IT IS ALWAYS DIFFICULT TO MAKE TECHNOLOGICAL PREDICTIONS. CONSIDER THE COMMITTEE OF THE AMERICAN SENATE WHICH DECIDED IN THE LAST CENTURY THAT THE TELEPHONE WAS AN IMPRACTICAL DISCOVERY AND WOULD DIE AN EARLY DEATH (PITY! ED.) THERE WAS ALSO THE BRITISH WRITER IN PRACTICAL WIRELESS WHO SAID THAT, ALTHOUGH THE TRANSISTOR WAS A VERY GOOD SCIENTIFIC DISCOVERY, IT WOULD NEVER REPLACE THE THERMIONIC VALVE. ON THE OTHER HAND, THERE ARE THE SURPRISINGLY ACCURATE PREDICTIONS OF GERNSBACK AND ARTHUR CLARKE WHO FORECAST RADAR AND GEOSTATIONARY COMMUNICATION SATELLITES QUITE INDEPENDENTLY OF EACH OTHER.

IN A VERY RECENT BRITISH AMATEUR RADIO PERIODICAL, G3NRW PREDICTED THE FOLLOWING REGARDING DIGITAL COMMUNICATIONS: "TO THOSE WHO SAY THAT KEYBOARD COMMUNICATION IS UNNATURAL AND NOT AMATEUR RADIO, LET'S REALISE THAT IT WON'T BE VERY LONG BEFORE WE CAN TALK TO EACH OTHER, USING OUR MOUTHS ONCE MORE, OVER DIGITISED SPEECH CHANNELS. JUST THINK, IN A FEW YEARS TIME, WE WILL BE LOOKING BACK NOSTALGICALLY AT THE STEAM AGE OF SSB!"

MINUTES OF GENERAL MEETING OF THE PORT ELIZABETH BRANCH OF THE SOUTH AFRICAN RADIO LEAGUE HELD AT ST. MARTINS CHURCH, KABEGA PARK, ON 18TH MARCH, 1988.

PRESENT: 24 MEMBERS AND VISITORS.
APOLOGIES: ZS2s RB, DT, RS, RU.

THE CHAIRMAN WELCOMED ALL TO THE MEETING AND ESPECIALLY PHILIP ZS1ZR AND XYL SANDRA, TOFF ZR2EY AND RON ZS2R. MEMBERS STOOD IN SILENCE AS A MARK OF RESPECT TO THE LATE CYRIL ZS2KX.

MINUTES: THE MINUTES OF THE 19TH FEBRUARY, 1988 HAVING BEEN PUBLISHED AND CIRCULATED IN OSX-PE WERE TAKEN AS READ, PROPOSED BY ZS2BY AND SECONDED BY ZS2RL.

FINANCE: THE TREASURER SAID THAT AN AMOUNT OF R1315 WAS IN SPECIAL SAVINGS, THE FIXED DEPOSIT STOOD AT R2072,98. AS FIXED DEPOSIT RATES WERE VERY LOW AT PRESENT, SHE FELT IT WOULD BE A GOOD IDEA TO INVEST THE MONEY IN AN EXPANDING RATE CERTIFICATE UNTIL FIXED DEPOSIT RATES INCREASED.
AN AMOUNT OF R1370 WAS RECEIVED FROM THE VOLKSWAGEN/ALGOA RALLY. R803.20 WAS PAID OUT FOR TRAVELLING EXPENSES AND THE BRANCH BENEFITTED BY R422.
R75 WAS PAID TO BILL ZS2BY FOR THE NEW BADGE WHICH HE HAD ARRANGED FOR. HE WAS ASKED TO CONVEY HIS THANKS FOR THE WORK DONE.
CORRES: A LETTER HAD BEEN RECEIVED FROM HEADQUARTERS IN RESPONSE TO A LETTER FROM THE CHAIRMAN OF THE ALGOA BRANCH.
GENERAL: (1)MEMBERS WERE ADVISED THAT COMPONENTS WOULD BE SOLD AT A BOOT SALE TO BE HELD ON 30TH APRIL AT PICK 'N' PAY HYPERMARKET STARTING AT 1 P.M.

(2)THE QUESTION OF REPEATER LINKING WAS RAISED AND IT WAS STATED THAT THIS HAD BEEN GOING ON SINCE ABOUT 1970 BUT NOTHING HAD YET BEEN ACHIEVED. A TELEPHONIC CHALLENGE HAD BEEN ISSUED TO HAVE THIS DONE BY THE 1989 A.G.M. A LETTER HAD BEEN RECEIVED FROM ZS1BR REQUESTING A MEETING AT THE A.G.M. WITH THE DELEGATES OF THE P.E. AND ALGOA BRANCHES. A LETTER WOULD BE SENT TO AL ZS2U INVITING HIM TO ATTEND OUR NEXT BRANCH MEETING TO TELL US OF HIS PLANS FOR THE PROJECT. THE FEELING WAS UNANIMOUS THAT A LOT OF TIME HAD BEEN WASTED AND THAT IF THE ALGOA BRANCH WAS TO GO AHEAD WITH THE LINKING, THEN THERE WAS NO POINT IF WE DECIDED TO DO SO AS WELL. IT WAS A TECHNICALLY INTERESTING PROJECT BUT WOULD SERVE NO PRACTICAL PURPOSE AS IT WOULD NOT PROVIDE CONTINUOUS COVERAGE WHEN TRAVELLING TO THE CAPE. IT WAS FELT THAT WE SHOULD VOTE WHETHER WE WOULD CONTINUE WITH THE PROJECT AS A BRANCH. IF NOT, THEN WE SHOULD LEAVE IT TO THE ALGOA BRANCH. ZS2AO ASKED HOW IT WAS POSSIBLE TO CONTINUE IF THE LICENCE HAD BEEN CANCELLED AND IT WAS STATED THAT THE LICENCE COULD BE RE-APPLIED FOR. THE NEW SITE DECIDED UPON WAS NOT AT KAREEDOUW BUT ABOUT 40km FURTHER WEST. IT WAS FELT THAT THE SITE WAS VERY DIFFICULT AND POSSIBLY ONLY ACCESSIBLE BY HELICOPTER. A MEETING AT THE A.G.M. WOULD BE PREMATURE AND WE SHOULD WAIT UNTIL WE HEAR FROM ZS2U. THE OTHER BRANCH REPEATERS WERE ALL IN NEED OF ATTENTION AND THIS COULD BE DONE MORE EASILY. BILL ZS2BY ASKED WHAT PRIORITY THE LINKING WOULD HAVE OVER THE OTHER PROJECTS. ZS2AE SAID THAT HE WOULD LIKE THE TECHNICAL CHALLENGE. THE MATTER WAS PUT TO THE VOTE AND VOTING WAS TIED. THE CHAIRMAN FELT IT WOULD BE UNFAIR TO GIVE A CASTING VOTE UNTIL WE HAD FURTHER INFORMATION. THE REPEATER WORKING GROUP COULD BECOME INVOLVED AS A GROUP OR IF INDIVIDUAL BRANCH MEMBERS WISHED TO ASSIST THE ALGOA BRANCH, THEY WOULD BE FREE TO DO SO. IF ZS2U FAILED TO ATTEND THE NEXT MEETING TO PUT HIS PROPOSALS, THEN FURTHER NEGOTIATIONS WOULD BE DROPPED.

AT THIS STAGE TEA WAS TAKEN AND BILL ZR2AAN WAS THANKED FOR THE EATS.
THEREAFTER DISCUSSION OF A.G.M. MOTIONS TOOK PLACE AND THE DELEGATE WAS INSTRUCTED TO VOTE AS FOLLOWS:
MOTIONS 1 TO 5 - YES.
MOTION 6 - FOR.

MOTION 7 - AN AMENDMENT WAS PROPOSED THAT IF MOTION 6 WERE TO BE CARRIED, THE NEXT ANNUAL GENERAL MEETING BE HELD IN 1990 TO ASCERTAIN WHETHER THE NEW COUNCIL HAD BEEN SUCCESSFUL IN SETTING UP NEW HEADQUARTERS IN DIV. 6.
MOTION 8 - NO. MOTION 9 - YES.
MOTION 10 - AN AMENDMENT WAS MADE TO THIS MOTION THAT IF MEMBERS WISHED TO BELONG TO THE LEAGUE, THEY SHOULD STILL PAY FULL MEMBERSHIP FEES, WHICH WOULD INCLUDE THE NORMAL BRANCH SHARE, OTHERWISE BRANCHES WOULD CEASE TO EXIST. THE STATEMENT THAT THE HEADQUARTERS MEMBERSHIP ONLY APPLIED TO R.S.G.B. AND A.R.R.L. WAS NOT CORRECT. FULL SUBSCRIPTIONS WERE PAYABLE WHETHER MEMBERS BELONGED TO A BRANCH OR NOT.
MOTION 11 - AN AMENDMENT WAS MADE THAT THE EMPHASIS BE CHANGED TO MAKE MEMBERSHIP OF THE LEAGUE MORE ATTRACTIVE AND NOT TO TRY AND CHANGE THE POST OFFICE REGULATIONS WHICH WOULD INEVITABLY MAKE LICENSING MORE EXPENSIVE.
MOTION 12 - YES. MOTION 13 - YES.

(3)THE QUESTION WAS RAISED REGARDING THE DELEGATES TRAVELLING FUND TO WHICH ALL MEMBERS HAD SUBSCRIBED VIA THEIR MEMBERSHIP FEES. WOULD THIS FALL AWAY IN VIEW OF THE FACT THAT BRANCHES NOW PAID THEIR OWN WAY. IT APPEARED FROM THE FINANCIAL STATEMENT THAT THIS FUND NO LONGER EXISTED.

(4) BEAVAN ZS2RL WAS THANKED FOR HIS ORGANISATION OF THE COMMS FOR THE VW/ALGOA RALLY. HE THANKED ALL THOSE THAT HAD TAKEN PART AND MENTIONED THAT THE ORGANISERS HAD BEEN MORE THAN HAPPY WITH OUR PARTICIPATION.

(5)THE MODEL AIRPLANE NATIONAL CHAMPIONSHIPS WERE BEING HELD HERE OVER THE EASTER WEEKEND AND COMMS WERE NEEDED BETWEEN UITENHAGE AND PORT ELIZABETH. SEVERAL MEMBERS VOLUNTEERED THEIR ASSISTANCE.

(6)MEMBERS WERE ALSO REMINDED OF THE CARAVAN RALLY TO TAKE PLACE AT JEFFREYS BAY OVER THE WEEKEND OF 26/27 MARCH. ALL MEMBERS WERE INVITED TO COME AND SPEND SUNDAY AND BRAAI FOR LUNCH.

THE MEETING WAS THEN CLOSED.

SGD: B.A. WELLER ZS2AB
CHAIRMAN

SGD: M.T. WELLER ZS2OB
SECRETARY

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WHO'S WHO -

OR THE BRANCH ROGUE GALLERY.

A NEW FEATURE WHICH WILL BE PUBLISHED WHEN SPACE (AND INFORMATION) PERMIT, WILL INTRODUCE READERS TO VARIOUS BRANCH MEMBERS. EVEN IF WE TALK TO EACH OTHER REGULARLY, WE VERY OFTEN KNOW LITTLE ABOUT THE PERSON WE ARE TALKING TO. CLIVE ZS2RT HAS TAKEN MUGSHOTS OF VARIOUS LOCAL MEMBERS WHOSE PROFILES WILL BE PRESENTED FIRST AND WE INVITE OTHER LOCAL OR OUT-OF-TOWN MEMBERS TO SUBMIT INFO ABOUT THEMSELVES TOGETHER WITH A BLACK AND WHITE PHOTO, PASSPORT SIZE OR A BIT LARGER IF POSSIBLE, AND WE WILL INCLUDE THEM IN THE LIST.

HIGH TECH COMES TO CHIP MAKING
(This time, the potato kind)

EVERYBODY KNOWS HOW TO MAKE CHIPS, OR FRENCH FRIES AS THEY CALL THEM IN THE UNITED STATES. PEEL A POTATO, CUT IT INTO THE DESIRED LENGTH AND FRY THEM IN OIL UNTIL THEY TURN GOLDEN BROWN. IMAGINE FOR A MOMENT THE TREMENDOUS TECHNICAL CHALLENGES IN HAVING A MACHINE DO ALL OF THIS INSIDE THE SPACE OF AN AVERAGE-SIZED SOFTDRINK VENDING MACHINE AND AVOIDING SUCH PROBLEMS AS SPOILAGE AND VENTING HEAVILY POLLUTED AIR FROM THE COOKER.
WHILE MAN WALKED ON THE MOON MORE THAN A DECADE AGO, THE FRENCH FRIES PROCESS HAS NEVER REALLY BEEN AUTOMATED, DESPITE ALMOST 60 YEARS OF TRYING BY VARIOUS ENTREPRENEURS. NOT UNTIL WILLIAM BARTFIELD DECIDED TO GIVE IT A TRY. THE BRITISH-BORN ACCOUNTANT-TURNED-ENTREPRENEUR HAS TAKEN FIVE YEARS, COUNTLESS BAGS OF POTATOES AND CLOSE TO FOUR MILLION DOLLARS OF PRIVATE FUNDS TO OVERCOME THE MANY OBSTACLES TO PRODUCE THE WORLD'S FIRST COMMERCIALLY VIABLE AUTOMATIC FRENCH FRIES VENDING MACHINE.

TO MOST CONSUMERS THE $6500 VENDING MACHINE MADE BY PRIZE FRIZE IN UNION CITY IN SILICON VALLEY, WILL SEEM LIKE JUST ANOTHER VENDING MACHINE ADDING TO THEIR CONVENIENCE. MOST LIKELY, AS THEY AWAIT THEIR 33 FRIES TO DROP INTO AN AWAITING PAPER CUP, THEY WILL NEVER STOP TO THINK ABOUT THE ENORMOUS AMOUNT OF TECHNICAL EXPERTISE AND INNOVATION WHICH WENT INTO THE DEVELOPMENT OF THE MACHINE. BUT AMONG VENDING APPARATUS, THE PRIZE FRIZE SYSTEM, IN ESSENCE A ROBOTISED MINIATURE KITCHEN, UNDOUBTEDLY WILL BE THE MOST SOPHISTICATED AND COMPLEX OF ANY VENDING MACHINE EVER PRODUCED.
THE SYSTEM, WITH NEARLY 1000 SUB-SYSTEM COMPONENTS AND THE ENTIRE FRIES-MAKING PROCESS, ARE UNDER CONTROL OF A PC-XT CLONE MADE IN TAIWAN BY MOSTRON, AND SOME 100 PAGES WORTH OF SOFTWARE INSTRUCTIONS EMBEDDED INTO A NUMBER OF EPROM CHIPS.

IT WAS IN 1981 WHEN BARTFIELD WAS RESTING AT HIS HOME IN PALM SPRINGS WHILE RECUPERATING FROM OPEN HEART SURGERY THAT HE SAW A CLASSIFIED AD IN THE LOCAL PAPER FOR A USED FRENCH FRIES MACHINE. ON SEEING THE MACHINE, BARTFIELD BECAME INSPIRED WITH THE IDEA OF DEVELOPING A COMMERCIALLY VIABLE AUTOMATIC FRENCH FRIES VENDING MACHINE. BARTFIELD SOON FOUND HIMSELF TALKING ABOUT POTATOES IN IDAHO, THE SILICON VALLEY OF THE POTATO INDUSTRY. HIS OBJECTIVE WAS TO FIND A SUBSTITURE FOR EITHER FRESH OR FROZEN POTATOES WHICH WERE BEING USED IN THE FRENCH FRIES SYSTEM THAT HAD BEEN AROUND SINCE 1928 WHEN ENTREPRENEURS FIRST STARTED TINKERING WITH AUTOMATIC FRIERS.

HE IMMEDIATELY RECOGNISED THAT FRESH OR FROZEN POTATO-BASED SYSTEMS WOULD NEVER BE COMMERCIALLY VIABLE AS THEY REQUIRED REFRIGERATION. BESIDES BEING BULKY AND EXPENSIVE, A SINGLE POWER OUTAGE COULD RESULT IN CATASTROPHIC SPOILAGE. BARTFIELD WASN'T GETTING ANYWHERE UNTIL HE WAS CHATTING ONE DAY WITH A STRANGER IN THE BAR OF HIS HOTEL. THE STRANGER HAPPENED TO BE A POTATO SALESMAN AND TOLD BARTFIELD: "WHAT YOU'RE LOOKING FOR IS THE SUBMARINE POWDER". IT TURNED OUT THAT THE U.S. NAVY HAD A DEHYDRATED POTATO PRODUCT DEVELOPED FOR ITS SUBMARINES. BECAUSE IT CAN GET HOT INSIDE SUBMARINES WHICH HAVE LITTLE ROOM FOR LARGE-SCALE REFRIGERATION, THE NAVY HAD BEEN LOOKING FOR A POTATO PRODUCT THAT COULD BE STORED ON SHELVES FOR LONG PERIODS OF TIME.

THE PROCESS THAT WAS DEVELOPED INVOLVED COOKING POTATOES, THEN DEHYDRATING THEM AND FINALLY CHOPPING THEM UP INTO PELLETS. ADDING WATER CREATED AN INSTANT POTATO MASH. ONCE HE HAD HIS POTATOES, BARTFIELD SET OUT TO BUILD A PROTOTYPE OF HIS MACHINE. TODAY, THE HUGE PIECE OF MACHINERY SITS IN A CORNER OF THE SHEET METAL SHOP IN UNION CITY WHERE PRIZE FRIZE MANUFACTURES ITS VENDING MACHINES. HAVING PROVED HIS CONCEPT, BARTFIELD MOVED TO THE EAST COAST IN AN EFFORT TO DEVELOP A MORE COMPACT VERSION THAT COULD BE MARKETED COMMERCIALLY. BUT A LONG AND COLD WINTER IN NEW HAMPSHIRE TURNED INTO FRUSTRATION AS THE VARIOUS MECHANICAL ENGINEERS HE HIRED WERE UNABLE TO MAKE MUCH PROGRESS IN REDUCING THE SIZE OF THE SYSTEM.

IN 1984, BARTFIELD RAN INTO MICHAEL JANTO, WHOSE ELECTRONICS CONSULTING FIRM HAD HELPED SEVERAL SILICON VALLEY START-UP COMPANIES GET OFF THE GROUND. JANTO, WHO ONCED HEADED THE SHUGART DIVISION THAT LAUNCHED THE REVOLUTIONARY 8-INCH FLOPPY DISK DRIVE, IMMEDIATELY PERSUADED BARTFIELD TO MOVE HIS OPERATIONS TO SILICON VALLEY. "IT WAS OBVIOUS TO ME THAT THE ONLY WAY TO GET THE SYSTEM TO WORK AND REDUCE THE NUMBER AND SIZE OF THE VARIOUS COMPONENTS WAS THROUGH ELECTRONICS AND COMPUTER CONTROL. AND SILICON VALLEY IS THE BEST PLACE TO WORK ON THINGS LIKE THAT," JANTO SAID. BARTFIELD APPOINTED JANTO AS HEAD OF THE DEVELOPMENT PROJECT. LESS THAN TWO YEARS LATER, PRIZE FRIZE HAD ITS FIRST TWO WORKING PROTOTYPES BUILT JUST IN TIME FOR THE VENDING MACHINE INDUSTRY'S MAJOR 1986 TRADE SHOW IN CHICAGO. TO THE AMAZEMENT OF VENDING MACHINE SPECIALISTS, THE PRIZE FRIZE MACHINES TURNED OUT MORE THAN 5000 PORTIONS OF FRIES IN JUST THREE DAYS.

"A LOT OF PEOPLE SIMPLY REFUSED TO BELIEVE THE MACHINE WAS DOING WHAT WE SAID IT DID," JANTO RECALLS. "THEY SAID WE SOMEHOW HAD PUT PREMADE FRESH, OR FROZEN FRIES INTO THE COOKING BASKETS. BUT THE END PRODUCT IS THE RESULT OF A COMPLEX AND DELICATE PROCESS CONTROLLED BY THE PC XT AND THE MASSIVE AMOUNT OF EPROM-BASED SOFTWARE. WHEN A CONSUMER DROPS HIS COINS INTO THE MACHINE, A PRECISELY MEASURED AMOUNT OF DRY POTATO PELLETS DROPS INTO A CHAMBER WHERE HOT WATER IS SPRAYED ONTO IT. THE RESULTING MASH IS THEN PUSHED THROUGH A SLICING MECHANISM WHICH PRODUCES 33 3-INCH FRIES. A MINIATURE CONVEYOR BELT DROPS THE FRIES INTO THE FIRST OF TWO FRYING BASKETS. AFTER 30 SECONDS, THE FRIES ARE DROPPED INTO THE SECOND BASKET, ALLOWING THE MACHINE TO HANDLE A PORTION EVERY 35 SECONDS, RATHER THAN THE FULL 70 SECONDS IT TAKES FOR THE ENTIRE PROCESS.

AT THE TOP OF BARTFIELD'S PRIORITIES IN DEVELOPING THE MACHINE, OF COURSE, WAS THE QUALITY OF THE END PRODUCT. HE SPENT HUNDREDS OF HOURS DETERMINING THE RIGHT AMOUNT OF WATER TO BE ADDED TO THE PELLETS, THE RIGHT COOKING TIME AND TEMPERATURE, AND HE GOT A PROGRAMMER, MIKE CUTLER, TO TRANSLATE THE INFORMATION INTO COMPUTER INSTRUCTIONS. CUTLER, WHO CALLS THE PRIZE FRIZE MACHINE A "LITTLE ROBOT CHEF" IS PROUD OF THE ACHIEVEMENT. "WHAT CAN I SAY.....I PROGRAM POTATOES FOR A LIVING."

SOME OF HIS PROGRAMMING EVEN BORDERS ON ARTIFICAL INTELLIGENCE, AS THE SYSTEM HAS A 'LEARNING MODE' THAT ALLOWS IT TO ADJUST ITSELF FOR DIFFERENT SITUATIONS AND ENVIRONMENTAL CONDITIONS. AS FOR THE COMMERCIAL POTENTIAL FOR PRIZE FRIZE MACHINE, JANTO AND BARTFIELD ARE RATHER OPTIMISTIC. "THERE ARE MORE THAN TWO MILLION SOFTDRINK VENDING MACHINES IN THE UNITED STATES ALONE. IF WE CAN PLACE ONE PRIZE FRIZE MACHINE FOR EVERY 30 SOFTDRINK MACHINES, THAT'S 70 000 MACHINES RIGHT THERE," SAID JANKO.

THE FRENCH FRIES MARKET IS NOT SMALL POTATOES. IN 1986, AN ESTIMATED $10 BILLION WORTH OF THE FOOD WAS SERVED IN FAST FOOD OUTLETS IN THE UNITED STATES ALONE. BARTFIELD HOPES HIS VENDING MACHINE WILL BE ABLE TO TAKE ONE OR TWO PERCENT OF THAT MARKET OVER THE NEXT FEW YEARS. SO FAR, PRIZE FRIZE SEEMS WELL ON ITS WAY. IT HAS ALREADY PRE-SOLD MORE THAN 2 000 MACHINES AND HAS JUST NEGOTIATED A CONTRACT FOR MORE THAN 2 500 SYSTEMS WITH A CANADIAN SOFTDRINKS BOTTLING COMPANY.

DESPITE THE $6 500 WHICH VENDING MACHINE DISTRIBUTORS MUST PAY FOR THE MACHINES, THERE IS PLENTY OF OPPORTUNITY TO MAKE A PROFIT. ACCORDING TO JANTO, THE GROSS PROFIT ON EACH PORTION OF FRIES IS ABOUT 70% AND IN MOST LOCATIONS THE MACHINES CAN PAY FOR THEMSELVES IN LESS THAN A YEAR. THAT OF COURSE WILL ALL DEPEND ON WHETHER CONSUMERS WILL ACCEPT THE HIGH-TECH FRIES. AS FOR BARTFIELD, HE PROBABLY WON'T BE EATING TOO MANY OF HIS FRIES FOR A WHILE. BUT AFTER FIVE YEARS OF RESERACH, WHO CAN BLAME HIM?

(FROM 'COMPUTING S.A.')

THE HISTORY OF TELEPRINTERS.

IT WAS IN 1837 THAT SIR CHARLES WHEATSTONE WITH WILLIAM FOTHERGILL COOKE INVENTED THE FIRST PRACTICAL TELEGRAPH SYSTEM, KNOWN AS THE FIVE NEEDLE SYSTEM. IN THIS SYSTEM A COMBINATION OF FIVE NEEDLES WAS MADE TO POINT TO THE LETTER SIGNALLED. AS THIS METHOD REQUIRED FIVE SIGNALLING WIRES AND WAS DIFFICULT TO USE, IT WAS SOON REPLACED WITH A DOUBLE NEEDLE SYSTEM AND THEN A SINGLE NEEDLE SYSTEM OPERATING ON MORSE CODE INVENTED BY SAMUEL F.B. MORSE IN 1844.

DURING THE FOLLOWING DECADES MANY IDEAS WERE PUT FORWARD, MANY EXPERIMENTS TRIED WITH VARYING DEGREES OF SUCCESS AND IN 1874 A FRENCHMAN EMILE BAUDOT OF THE FRENCH TELEGRAPH SERVICE, WORKED OUT A SYSTEM OF PRINTING TELEGRAPHY USING A FIVE UNIT SELECTING CODE WHICH IS STILL IN USE AND IS KNOWN AS THE BAUDOT CODE.

THE MAIN FEATURE OF THE IDEAS WHICH HAD BEEN TRIED UP UNTIL THE TURN OF THE CENTURY WAS THAT THEY REQUIRED TWO SKILLED OPERATORS TO SEND AND RECEIVE A MESSAGE AND THAT THERE WAS NO DIRECTLY PRINTED COPY. IT WAS NOT UNTIL 1902 THAT TWO AMERICANS JAY MORTON AND CHARLES L. KRUM DEMONSTRATED A PRACTICAL MACHINE CAPABLE OF DIRECT PRINTING A MESSAGE ON A PAPER TAPE. IN 1907 MORTON AND KRUM FORMED A COMPANY, THE MORKRUM COMPANY, LATER TO BECOME THE TELETYPE COMPANY WITH A CAPITAL OF $150 000.

AT ABOUT THAT TIME A TELEGRAPH OPERATOR WITH THE CENTRAL AND SOUTH AMERICAN TELEGRAPH AND CABLE COMPANY IN PERU THOUGHT OUT AN IDEA THAT WOULD ENABLE COMPLETE MORSE CODE SIGNALS TO BE PUNCHED IN A TAPE BY OPERATING THE KEYS OF A TYPEWRITER-STYLE MACHINE INSTEAD OF THE SLOW AND LABORIOUS 'STICK' PERFORATOR METHOD THEN IN USE. THIS OPERATOR WAS F.G. CREED AND HE LEFT HIS JOB AND SET SAIL FOR BRITAIN, DETERMINED TO PUT THIS AND OTHER IDEAS INTO PRACTICE. AFTER EARLY DISAPPOINTMENTS HE DEVELOPED A COMPRESSED AIR-DRIVEN KEYBOARD MORSE TAPE PERFORATOR FOR WHICH THE BRITISH POST OFFICE ORDERED 12 MACHINES IN 1902. CREED AND HIS MECHANICS THEN PRODUCED TWO FURTHER MACHINES, A RECEIVING MORSE PERFORATOR AND A PRINTER WHICH ACCEPTED THE RECEIVED MESSAGE TAPE AND DECODED IT INTO PLAIN LANGUAGE PRINTED CHARACTERS ON ORDINARY PAPER TAPE.

THUS WAS BORN THE CREED HIGH SPEED AUTOMATIC PRINTING TELEGRAPHY SYSTEM, AND IN 1908 THE COMPANY OF CREED, BILLE AND CO.LTD. WAS INCORPORATED. IT WAS KNOWN AS CREED, BILLE, AS AT THAT TIME MR. CREED WAS WORKING IN ASSOCIATION WITH HARALD BILLE, A WELL-KNOWN DANISH TELEGRAPH ENGINEER WHO WAS KILLED IN A RAILWAY ACCIDENT IN 1916. AFTER HIS DEATH, HIS NAME WAS DROPPED FROM THE COMPANY TITLE. IN THE USA AT THIS TIME, A GERMAN-BORN IMMIGRANT, EDWARD KLEINSCHMIDT, MADE A TELEPRINTER THAT SHOWED HE WAS BOTH AN ELECTRICAL AND MECHANICAL GENIUS. KLEINSCHMIDTS COMPANY AND THE MORKRUM COMPANY CARRIED ON THEIR SEPARATE WAYS UNTIL 1925 WHEN THEY COMBINED AND WERE TAKEN OVER BY THE AMERICAN TELEPHONE AND TELEGRAPH CO. IN 1930. SINCE THEN PATENTS HAVE RUN OUT AND A NEW KLEINSCHMIDT COMPANY HAS BEEN FORMED.

IT WAS IN 1924 THAT THE TELEPRINTER REALLY BEGAN TO COME INTO ITS OWN. A MORKRUM TELETYPE MACHINE ARRIVED IN ENGLAND OPERATING ON THE NOW FAMILIAR FIVE-UNIT START-STOP TELEGRAPH CODE AND WAS A DIRECT PRINTER, THAT IS, IT RECORDED MESSAGES DIRECTLY FROM THE INCOMING LINE SIGNALS INSTEAD OF FROM TAPE VIA A RE-PERFORATOR AS IN THE CREED SYSTEM. HERE WAS A REAL CHALLENGE AND CREED AND CO. LOST NO TIME IN MEETING IT. THE RESULT WAS THE INTRODUCTION OF A SEPARATE KEYBOARD TRANSMITTER AND A RECEIVING PAGE PRINTER BOTH OPERATING ON THE FIVE-UNIT START-STOP TELEPRINTER CODE. ORDERS FOR THESE MACHINES WERE RECEIVED FROM THE C.N.A. IN LONDON, FROM THE EXCHANGE TELEGRAPHY COMPANY, THE BRITISH UNITED PRESS AND OTHERS.

THE FIRST PRINTER, THE MODEL 1P WAS SOON SUPERSEDED BY THE IMPROVED MODEL 2P, A MACHINE WHICH GAVE EXCELLENT SERVICE UP UNTIL QUITE RECENT TIMES. THIS MARKED THE START OF CREED'S BUSINESS IN THE TELEPRINTER FIELD AND PRACTICALLY ALL SUBSEQUENT DEVELOPMENT WORK HAD TO DO WITH FIVE-UNIT SYSTEMS. MEANWHILE DONALD MURRAY A NEW ZEALAND FARMER TURNED JOURNALIST, HAD INVENTED THE MURRAY MULTIPLEX SYSTEM - ANOTHER FIVE-UNIT CODE SYSTEM - WHICH HAD BECOME POPULAR IN INDIA, AUSTRALIA, NEW ZEALAND, BRAZIL AND RUSSIA. MURRAY MADE A VALUABLE CONTRIBUTION TO TELEGRAPHY BY RATIONALIZING THE ALLOCATION OF THE COMBINATIONS OF THE FIVE-UNIT CODE TO THE CHARACTERS OF THE ALPHABET ON A FREQUENCY-OF-OCCURENCE BASIS. HIS ARRANGEMENT OF THE CODE IN WHICH THE MOST FREQUENTLY USED LETTERS OF THE ALPHABET ARE REPRESENTED BY THE SMALLEST NUMBER OF HOLES IN THE TAPE, HAS SINCE BECOME STANDARD PRACTICE.

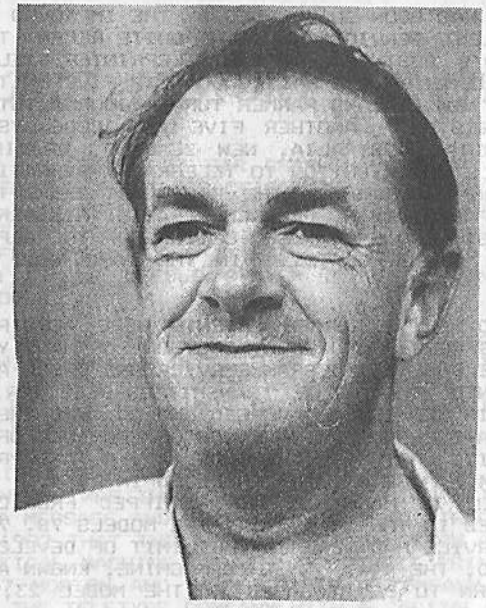
MURRAY'S MULTIPLEX SYSTEM AND OTHER TELEGRAPH PATENTS WERE ACQUIRED BY CREED IN 1925 AND THESE MACHINES WERE PRODUCED AT CROYDON FOR MANY YEARS. IN 1927 THE B.P.O. INTRODUCED THE PUBLIC TELEGRAM SERVICE AND CREED AND CO MANUFACTURED THEIR FIRST COMBINED START-STOP TRANSMITTER-RECEIVER, THE MODEL 3 TAPE TELEPRINTER, FOR THIS SERVICE. CREED AND CO. WAS THERE TO STAY. OVER THE YEARS, CREEDS HAVE PRODUCED THOUSANDS OF MACHINES OF MANY TYPES, NOTABLY THE MODEL 7 AND ITS VARIANTS, THE MODEL 47, A TAPE PRINTER PRODUCED IN 1947 AND THE MODEL 54 A PAGE PRINTER PRODUCED IN 1954. IN 1958 THE FIRST PRODUCTION MODEL 75 MACHINES WERE SHIPPED FROM CREEDS CROYDON FACTORY. IT WAS REALISED IN THE 1960S THAT THE MODELS 7B, 7E AND 54 USED FOR THE B.P.O. TELEX SERVICE HAD REACHED THE LIMIT OF DEVELOPMENT AND SO A NEW MACHINE WAS DESIGNED, THE 444. THIS MACHINE, KNOWN AS THE B.P.O. MODEL 15, IS IN ITS TURN TO BE REPLACED BY THE MODEL 23, ALSO KNOWN AS THE ITT - CREED 2300.

THE LEADING MANUFACTURERS OF TELEPRINTERS AND ASSOCIATED EQUIPMENT ARE NOW: IN AMERICA THE TELETYPE CORPORATION, THE MITE CORPORATION AND THE KLEINSCHMIDT COMPANY; IN ENGLAND, ITT CREED LTD.; IN GERMANY, SIEMENS AND LORENZ AND IN ITALY, OLLIVETTI.

(ACKNOWLEDGEMENTS: R.S.G.B. TELEPRINTER HANDBOOK)

THE LARGEST PRIME NUMBER, MINUS 1.

SCIENTISTS PREPARING A SO-CALLED SUPERCOMPUTER FOR OIL EXPLORATION, ACCIDENTALLY STUMBLED ONTO THE LARGEST PRIME NUMBER EVER DISCOVERED, THE LOS ANGELES TIMES REPORTED.
IT IS THE NUMBER 2 RAISED TO THE 216 091st POWER MINUS 1, CONTAINS 65 050 DIGITS AND WOULD FILL TWO PAGES IF PRINTED IN A NEWSPAPER. PRIME NUMBERS ARE NUMBERS THAT CANNOT BE DIVIDED EVENLY EXCEPT BY THEMSELVES AND THE NUMBER 1. FOR EXAMPLE, 13 IS PRIME BUT 14, WHICH CAN BE DIVIDED BY 2 AND 7 IS NOT. THE ANCIENT GREEKS KNEW THAT THERE ARE AN INFINITE NUMBER OF PRIMES, BUT NO ONE HAS EVER COME UP WITH A FORMULA FOR GENERATING THEM.
THE LATEST PRIME WAS DISCOVERED RECENTLY ON A CRAY X-MP SUPERCOMPUTER THAT WAS BEING TESTED BY THE CHEVRON GEO-SCIENCES COMPANY IN HOUSTON. THE MACHINE WHICH COSTS MORE THAN R25-MILLION, WAS RECENTLY DELIVERED TO CHEVRON, WHICH PLANS TO USE IT TO ANALYSE GEOLOGICAL INFORMATION FOR OIL EXPLORATION.
TO TEST THE MACHINE, COMPUTER SCIENTISTS AT CHEVRON, UNDER THE DIRECTION OF THE VICE-PRESIDENT, MR. WILLIAM BARTZ, RAN A SPECIAL PROGRAMME THAT CHECKS LARGE NUMBERS TO DETERMINE IF THEY ARE SO-CALLED MERSENNE PRIMES.
THE NUMBER THEY FOUND IS THE 30TH MERSENNE PRIME DISCOVERED. IT TOOK MORE THAN THREE HOURS TO TEST THE NUMBER ON A MACHINE THAT DOES 400-MILLION CALCULATIONS A SECOND.
(THANKS TO CLIVE ZS2RT FOR THIS MIND-BOGGLING INFORMATION).



WHO'S WHO?

WE START OFF WITH OUR CHAIRMAN, BRIAN WELLER ZS2AB.

BORN, GREW UP AND EDUCATED IN PORT ELIZABETH, MATRICULATING FROM GREY HIGH SCHOOL. AFTER FURTHER STUDY IN THE FIELD OF ELECTRONICS HE JOINED S.A.B.C. TECHNICAL STAFF AND SIX YEARS LATER VENTURED INTO THE COMMERCIAL WORLD OF ELECTRONIC EQUIPMENT SERVICE. THEN FOLLOWED A SHORT SPELL OF CABLE DESIGN WORK ("DESK WORK DROVE ME CRAZY" BRIAN'S QUOTE) SO JOINED UP WITH A LONG-TIME FRIEND TO START THE COMPANY HE IS CURRENTLY INVOLVED WITH. HE WAS MAINLY RESPONSIBLE FOR AIR AND MARINE RADIO AND NAVIGATION-AID SERVICE DURING THAT TIME AND WAS EVENTUALLY LURED BACK TO COMMERCIAL 2-WAY RADIO WORK FOR 12 YEARS. HE REJOINED THE PRESENT SALT-MINE 4 YEARS AGO TO DO MICROPROCESSOR DESIGN AND PROGRAMMING WORK.

RADIO AND ELECTRONICS HAS BEEN HIS MAIN HOBBY SINCE EARLY SCHOOLDAYS, BUT ALTHOUGH VERY INTERESTED IN HAM RADIO ALL ALONG, HE DID NOT BECOME LICENCED UNTIL 1975. HE FINDS THE GREATEST SATISFACTION IN HOME-BREWING AND DID QUITE A LOT OF VHF AND UHF CW/SSB WORK. HE STARTED RTTY ON HF IN 1976 WITH A CREED 7B TELEPRINTER, LATER BUILDING A VIDEO TERMINAL TO RE-PLACE THE 7B. HE ALSO RAN A HOME-BREW AUTOSTART RTTY STATION CRYSTAL-CONTROLLED ON 20m FOR SOME YEARS WITH THE EARLY RTTY'ERS ZS2LR, ZS3B, Z21CE, ETC. HE WAS ALSO THE FIRST SLOWSCAN TV OPERATOR IN P.E. AND USED ONLY HOMEBREW EQUIPMENT. HE HAS BEEN INTERESTED IN FAX FOR A LONGTIME AND BUILT A STATION IN THE EARLY 70'S TO RECEIVE WEATHER PICTURES FROM THE E.S.S.A. AND NOAA SATELLITES AND DID SOME 2-WAY FAX ON VHF WITH JOHN ZS2JR AND MORE RECENTLY BECAME INTERESTED IN PACKET RADIO. HE HAS NOT BEEN AN AVID FONE DX-ER BUT ENJOYS THE OCCASIONAL SESSION PARTICULARLY ON 10m WHEN THE BAND IS OPEN.

BESIDES ALL THIS, BRIAN HAS SERVED THE BRANCH AND LEAGUE VERY WELL, HAVING BEEN A MEMBER OF THE COMMITTEE FOR MORE THAN 12 YEARS, IN THE CAPACITIES OF SECRETARY, TREASURER, VICE CHAIRMAN AND FOUR YEARS AS CHAIRMAN. HE HAS ALSO RUN SEVERAL SESSIONS OF TECHNICAL CLASSES AND TAUGHT THE ART OF C.W. TO NUMEROUS MEMBERS. FOR HIS DEDICATED AND UNSELFISH SERVICES BRIAN WAS PRESENTED WITH THE JACK TWINE MERIT AWARD IN DECEMBER 1982.

TIME FOR A LAUGH