MEETINGS ARE HELD ON THE SECOND MONDAY OF EACH MONTH (EXCEPT JANUARY) AT 7.30 P.M. IN THE CONGREGATIONAL HALL, CORNER OF COOMBE AND MARKET STREETS, WOLLONGONG. VISITORS ARE WELCOME TO ATTEND MEETINGS.

NOTICE OF MEETING:
The August general meeting of the Illawarra Amateur Radio Society will be held on Monday 10th August at 7.30 p.m., in the Congregational Hall, Coombe St., Wollongong.

UHF REPEATER UP AND RUNNING:
The Society's UHF repeater, VK2RUW is now fully operational from a site to the south and east of central Wollongong. The channel number is 8255 (old channel 9), and the frequencies are 433.225 MHz in and 438.225 MHz out. Coverage around the city appears very good, especially in the northern suburbs which are shadowed from the VHF repeater (channel 6850). Special thanks to Graeme VK2CAG for his work on the repeater.
At the moment it seems that UHF gear in the area is pretty much limited to a small number of handheld units, but hopefully there will be quite an increase in activity. It is also hoped that some UHF equipment may become available at attractive prices.

COMING EVENTS:
** The meeting on Monday 14th September will have a guest speaker from the Ionospheric Prediction Service.
** Jamboree of the Air is coming up in October - start thinking about antennas and camping equipment now!
** The club AUCTION will be held on Saturday 14th November.
** The fifth Conference of Clubs is being hosted by the Illawarra Amateur Radio Society in Wollongong on Sunday 1st November 1981.

REGULAR ACTIVITIES:
** Eighty metre net, 3.565 MHz at 8 p.m. every Sunday.
** Lawrence Hargrave Award session, 21.170 MHz at 3 p.m. on Sundays.
** Slow morse net, 28.44 MHz, Tuesday nights at 8 p.m. - newcomers welcome!

ERRATA: In the July 1981 Propagator, on page 4, a modification is shown for improving the ALC action in the TS520S.
The PURPLE WIRE should NOT be moved as shown in the sketches. The purple wire should remain as shown in the "BEFORE" sketch.

ILLAWARRA AMATEUR RADIO SOCIETY - INFORMATION

MONTHLY MEETINGS: Second Monday of each month (except January) at 7.30 p.m. in the Congregational Hall, corner of Coombe and Market Streets, Wollongong.

CLUB NETS: Phone nets are held on six metres (52.525 MHz FM, 8.30 a.m. Sundays), and on eighty metres (3.565 MHz, 8.00 p.m. Sundays). An informal morse net is held on 28.44 MHz, at 8.00 p.m. on Tuesdays - nervous newcomers to CW are expecially welcome on this net.

MONTHLY NEWSLETTER: The Propagator is usually posted to reach members during the week before the monthly meetings. Technical, news, and humerous items are always wanted. "For Sale" and "Wanted" advertisements are free for members. Give your material to the Editor, or any Committee Member, at meetings or during the month. Copy deadline is the last Tuesday of each month.

MONTHLY BROADCAST: 7.15 p.m. on the Sunday night before the monthly meeting, on VHF repeater 6850 (Ch 5), UHF repeater 8225 (Ch 9), 28.46 MHz, and 3.565 MHz. The broadcast officer is always looking for news items, and would appreciate any contributions.

SLOW MORSE BROADCAST: From VK2AMW on Monday nights (except meeting nights), 7 to 8 p.m., on 1.805 MHz in the 160 metre band.

W.I.A. BROADCAST RELAYS: Sundays at 11 a.m. and 7.30 p.m. through VHF repeater 6850 (Ch 5). The 11 a.m. broadcast can also be heard on 7.146 MHz A.M.

AMATEUR RADIO CLASSES: Provide all the theory, regulations, and morse tuition needed to obtain the amateur Novice, Limited, and Full licences. Classes are held on Fridays, 6-9 p.m. during term time. Contact any committee member for further information.

VHF REPEATER: VK2RAW, Channel 6850 (old Ch 5) - 146.25 MHz in, 146.85 MHz out.

UHF REPEATER: VK2RUW, Channel 8225 (old Ch 9) - 433.225 MHz in, 438.225 MHz out .

QSL SERVICE: Club members who are also W.I.A. members can deliver and collect their QSL cards at club meetings.

LAWRENCE HARGRAVE AWARD: - the award of the I.A.R.S. - Stations in VK must work 10 members of I.A.R.S. Stations outside VK must work 5 members of I.A.R.S. Club station VK2AMW is worth the award by itself for any amateur. Cost is $2 or 4 I.R.C.s (within Illawarra only, cost is $1 and award must be collected personally from a club meeting). QSL cards are not needed for verification - send callsigns, frequencies, GMT, and payment to Box 1838, Wollongong, 2500.

MEMBERSHIP ENQUIRIES: For information about W.I.A. or I.A.R.S. membership, see Geoff Cuthbert VK2ZHU at club meetings. To join the I.A.R.S. by post, send your $5 annual subscription to the Treasurer, I.A.R.S., P.O. Box 1838, Wollongong, N.S.W., 2500. For general enquiries, write to the Secretary at the same address.

SOCIETY PRESIDENT: Keith Curle, VK2OB, 24 Beach Drive, Woonona, 2517.
VICE PRESIDENT: Ron Dorin, VK2VOE. SECRETARY: Dave Meyers, VK2PBP
TREASURER: Geoff Cuthbert VK2ZHU. COMMITTEE: Mike Keech VK2VXS, Jock Taylor VK2JT, Eric Fien VK2YVF, Paul Engbo VK2DTZ, Denis McKay VK2DMR, Brian Wade VK2AXI.
QSL ENQUIRIES TO: Mike Keech VK2VXS and Paul Engbo VK2DTZ.
LAWRENCE HARGRAVE AWARD MANAGER: Mike Keech VK2VXS.
BROADCAST OFFICER: Denis McKay VK2DMR (phone (042)847786).
PROPAGATOR EDITOR: Brian Wade VK2AXI, 72 Murray Road Corrimal 2518, phone (042)841381.

I DONT THINK THATS QUITE THE WAY TO USE THE COUNTING RODS CHILDREN
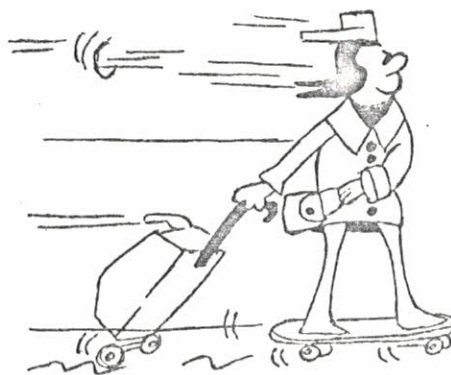
I must get home in time for the schedule on 80 metres tonight!

Lisa, Daughter of VK2VWT

MORSE THE EASY WAY - Part 1.

Interest has been expressed in the CMOS Keyer/Instructor I described
in my article 'Projects and Problems' in last month's Propagator,
the modified circuit of which is given. Whilst I recommend reading
the article in '73 Magazine' for details of its operation, the
following constructional details may be of help.

1) <u>Keyboard.</u> The keys must be unsoldered from the Video Brain
keyboard and the board can then be used as a drilling template.
Arrange the keys in the desired pattern on a suitable piece of
single-sided pc board and drill two holes for each. The pattern I
chose is as shown. Holes for the two leds can also be drilled.

The copper side can then be etched to leave an island of
copper round one hole of each key, the other being connected to the
common earth. Exceptions to this are the LETTER and FIGURE keys
which must have both holes unconnected to earth.

Next solder 4 brass countersunk screws to the copper earth
side of the board. These are for attaching the board to the top of
whatever box is used. Also, remove the unwanted signs from the keys
for the two bottom rows (I used Brasso and plenty of elbow grease).
The board can then be covered with 'Contact' and the keys soldered
in position, after which the cleaned keys can be redesignated with
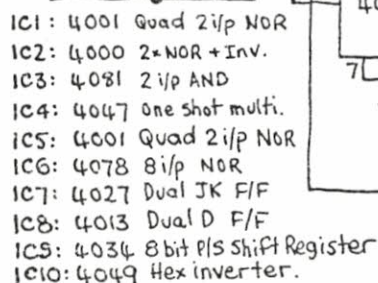Letraset.

2) <u>Diode Matrix.</u> First, make out a diagram - one diode for
each dash plus one for 'end of character'. Note that the matrix is
split into two sections feeding Nor gate inputs, the +12V being
switched by a flipflop operated by the LETTER and FIGURE keys.

Two rectangular pieces of Veroboard, 1/10" spacing, with
about 35 and 25 strips respectively, are spaced apart about 2",
copper sides out, by pieces of stiff copper wire soldered in each
corner, the copper strips being at right angles to each other.
The 35 strips on one board will be connected to the keys, and two
groups of 8 strips each are chosen on the other board for the input
busses to the Nor gates. The 10K pull-up resistors connect, like
the diodes, between the boards. Diodes can then be inserted as
per the diagram, care being taken that none is reversed, and the
matrix checked and checked again. When you are certain that all is
well, the corner wires can be bent outwards allowing the boards to
be brought close together, and the resistors and diodes soldered in
position. The corner wires are then removed. This method gives a
compact and sturdy unit, but means that once soldered up, errors
are virtually impossible to rectify (no pun intended.)

Next month I will deal with the Keyer and Instructor
sections, which can both be accommodated on 3" x 3" pieces of
matrix board.   Ken, VK2DOI

CMOS MORSE KEYER

Adapted from K1GN, in Dec. 1980 "73", by VK2DOI.

FROM DIODE MATRIX

+12

B8
B7
B6
B5
B4
B3
B2
B1

IC9 4034

AE P/S

TO S1 POSNS. 1 & 2 ON INSTRUCTOR

END OF CHARACTER DETECTOR

SI   CLK

3a

IC4 4047

22K

DEBOUNCER

SIDETONE OSC

+12v

100K

.01

+12v

10K

2N3645

47

L.S.

VOLUME 500

S3

12V

REED RELAY

OUT

.01

10K

2N3566

S3

KEYER CLOCK

IC7a 4027

R

DOT

47K

10K

1µF

50K

SPEED

IC7b 4027

J S Q

K R

DASH

3b

IC8a 4013

S

R

S1

IC8b 4013

LETTERS

FIGS

10K

10K

10K

LETTS   FIGS

10K +12V

+12V

GREEN LED   560Ω

TO LETTERS AT DIODE MATRIX

2N3645

2N3645

+12V

560Ω

RED LED

TO FIGURES OF DIODE MATRIX

+12

3d

SPARE

IC1 : 4001 Quad 2 i/p NOR
IC2: 4000 2×NOR + Inv.
IC3: 4081 2 i/p AND
IC4: 4047 one shot multi.
IC5: 4001 Quad 2 i/p NOR
IC6: 4078 8 i/p NOR
IC7: 4027 Dual JK F/F
IC8: 4013 Dual D F/F
IC9: 4034 8 bit P/S Shift Register
IC10: 4049 Hex inverter.

TO FIGURE NOR INPUTS

B1 B2 B3 B4 B5 B6 B7 B8   ETC.   B8 B7 B6 B5 B4 B3 B2 B1

TO LETTER NOR INPUTS

B
A
? 0
R 9
E 8
W 7
F 6
D 5
S 4
C 3
X 2
Z 1

+12V FROM IC8b FLIP FLOP CIRCUITRY

+12V FROM IC8b FLIP FLOP CIRCUITRY

ALL 10K RESISTORS

DIODE MATRIX FOR FIRST 12 KEYS. THE REST WIRED SIMILARLY.

MORSE KEYER AND INSTRUCTOR

This keyer/instructor enables morse to be sent from a keyboard, and also generates random morse in 5-letter groups for practice sessions. Some extracts from the original article by Robert Spindel Y1GN in "73" for December 1980 are given here. Ken W:2DOI, who gives details of his modified version in "The Propagator" warns that there are some errors in the original article.

Circuit Features

The Instructor-Keyboard has been designed without unnecessary frills. It is capable of sending all letters, digits from 0 to 9, common punctuation, and special symbols AR, SK, BT, AA, and AS. It has two-key rollover, which means that a second key can be depressed while the first is held down and, provided the first is released, two successive characters will be sent with perfect inter-character spacing. Holding a single key down will cause that character to be sent repetitively, again with perfect spacing.

The keyboard is completely debounced so that only a single character is sent when a key is struck even though the switches themselves may bounce open and closed for several milliseconds after being struck. Furthermore, the Instructor-Keyboard is constructed from readily-available and inexpensive components. A perusal of the back pages of 73 indicates that the CMOS logic elements should cost less than $15 to $20. Keyboards are available from a number of surplus dealers at reasonable cost.

The digital logic for both Keyboard and Instructor is all CMOS, selected for its tolerance to power-supply variations and its high immunity to electronic noise. I have not observed any rf interference with the operation of the Keyboard even in the presence of my 1-kW linear amplifier.

There are three main subsections. The first is a diode matrix for encoding a switch closure into a unique digital signal representative of the desired character. This is fed to the second subsection, the digital keyer logic, that converts it into appropriate dots and dashes. The third subsection is the Instructor itself. It automatically generates digital signals identical to those created by letter-switch closures so that letters are sent without striking keys. They are also sent without the need for a diode matrix so that an Instructor can be built without the keyboard-matrix combination. By the same token, the unit can be constructed without the Instructor electronics and used as a conventional keyboard.

In the Instruct mode, three spacing options are provided. The Instructor-Keyboard can be set to issue a continuous stream of random letters with the proper three-element inter-character spacing. Alternatively, random five-letter code groups can be sent with either a long or short pause between groups. Letter spacing within groups is always precisely correct for the speed being sent.

As described below, the Instructor sends only letters. It was felt that sending only letters provided a cost-effective realization of an automatic Morse code generator easily adaptable to many existing keyboards. The unit can be altered to allow automatic generation of numbers and punctuation in the Instruct mode at the expense of an increased parts count
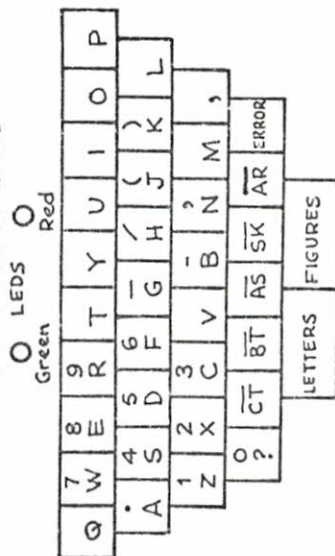
The Diode Matrix

All characters are encoded into an eight-bit digital word by the diode matrix. The coding scheme is the same as that used by Bryant W4UX and Horowitz W1HFA. A diode is used for each dash, no diode for a dot, and a final diode to signify the end of the character. Diodes are used for dashes because there are fewer dashes than dots in Morse code, thus reducing the number of diodes needed. The first few letters and numbers are wired as shown in Fig. 1. The remaining pattern of diodes should be obvious if it is kept in mind that a diode is wired in place for a dash and also to terminate the character.

The bits in the code word are labeled B1 through B8. Note that with no keys depressed, all bit lines are held high (+12 volts) by a single 10k pull-up resistor on each bit line. Depressing a key (closing a switch) causes only those bit lines connected to the switch by diodes to be forced to ground (0 volts) Thus, the pattern of bits appearing on B1 through B8 for the letter A will be 1001111 where we have used a 1 to denote a high voltage level and a 0 to denote a low, or zero, level. Depressing the B key will create the pattern 01110111, and a question mark will be 11001101. These are the unique digital codes that the keyer portion of the unit translates into appropriate dots and dashes. Incidentally, these are the codes that the Instructor portion of the unit also must simulate.

Detailed operation of the keyer logic can be deduced from one of the excellent manufacturer's data books on CMOS logic. The following is a brief explanation of the general sequence of events that occurs after a key is closed.

The bit pattern, or code produced by the diode matrix, is inverted by IC5 and part of IC1 so that the letter A becomes, for example, 01100000. The inputs to IC6 are low; its output is therefore high. Upon striking a key, at least one of the bits at the output of IC9 goes high so that the output of IC6 goes immediately low. This triggers the one-shot, IC4, and it responds with a 2-ms pulse which is applied to the AE input of IC9. It has the effect of disabling the input lines of the keyboard. Now, when the P/S line is low, input data is ignored similarly, but the register is converted to its serial mode. Data stored in the register then can be clocked out by pulses applied to the CLK input.

Each positive transition of the clock signal transfers the bit pattern one step through the register. Bits at the top (IC9-1) "fall out," while the empty spaces at the bottom of the register are filled with whatever signal is present on the serial-input (SI) line. Since this pin is grounded, as the bits are shifted through the register they are replaced by zeros at the bottom. The bit present on IC9-1 turns the dash flip-flop on and off depending on whether it is high or low, respectively. Meanwhile, IC6 constantly monitors the status of the output lines of the register in order to detect an end-of-character condition. When an end-of-character occurs, the lines monitored by IC6 are all low, its output goes high, thus terminating keyboard output through IC1 and IC3b. At this time, IC9-1 will be high since a diode has been inserted at the end of each character. One more clock cycle makes this low and IC3a turns the shift register back into its parallel mode allowing it to accept a new code word, the next character. This extra clock cycle ensures that there will be a three-element space between successive characters.

Note that in its idle state the keyer logic has the code word 00000000 on the output lines of IC9. The inputs to IC6 are low, its output is therefore high. Upon striking a key, its output is

The Keyer

The heart of the keyer consists of an 8-bit parallel-to-serial (P/S) shift register, IC9, dot-dash generator flip-flops IC7a and IC7b, and an end-of-character recognizer, IC6. Additional logic is used to debounce the keyboard and to insert a proper space between characters. This space is exactly three code elements long (a dot is two elements long) as required in Morse code. A dash is four elements long (three on and one off.) Inter-word spacing is seven elements in length.

The keyer clock is a simple oscillator made of two CMOS inverters. With the parts values shown, the speed is adjustable from about 5 to 50 wpm. Variation of speed in either direction can be achieved by changing the value of the 10k resistor or the 1-uF capacitor. The sidetone oscillator also is constructed with two inverters, and gives an approximate 700-Hz tone. The output of the sidetone oscillator is gated on and off by the keyer through IC3c and is then applied to Q1. Q2 drives a small relay to key a transmitter. S1 closes the relay for tune-up purposes. If desired, a solid-state keying circuit can be substituted for the relay; a reed relay, however, is fast enough to follow 60-wpm keying and allows the keyboard to be used with virtually any transmitter. To prevent relay sticking with those transmitter keying circuits that draw more than a few milliamps, it often is a good idea to place a 20- to 50-Ohm resistor in series with the output line.

The Instructor

A careful examination of the digital code words produced by the diode matrix for the 26 letters of the alphabet indicates that they use only bits B1 through B5. These five bits allow 32 combinations of zeros and ones. Now, a five-bit binary counter will count sequentially from 0 to 31 and in the course of doing so will present at its output every one of the 32 possible bit combinations. If we devise circuitry to select only the 26 output states corresponding to the letter codes, and then apply the output of the counter to the B1 through B5 input lines of the keyer, the counter will effectively act as a substitute for the keyboard and diode matrix. If the counter is clocked slowly, the keyer will generate a sequence of letters corresponding to the bit codes at the output of the counter and will repeat this sequence ad infinitum.

In order to generate letters in a random sequence with no repetitions, binary counter IC9 is clocked at a frequency that is high compared to keying speeds.

Fig. 1. Wiring diagram for diode matrix. All diodes are general-purpose switching diodes such as 1N914s. If constructed as an Instructor only, diodes are not needed, but the 10k pull-up resistors should be connected to all bit lines.

KEYBOARD LAYOUT USED BY W:2DOI

LEDS O Green   O Red

```
Q  7  8  9  E  R  T  Y  U  I  O  P
.  A  4  5  6  D  F  G  H  J  K  L
   1  2  3  Z  X  C  V  B  N  M  ,
0  ?  CT BT AS SK AR ERROR
LETTERS        FIGURES
```
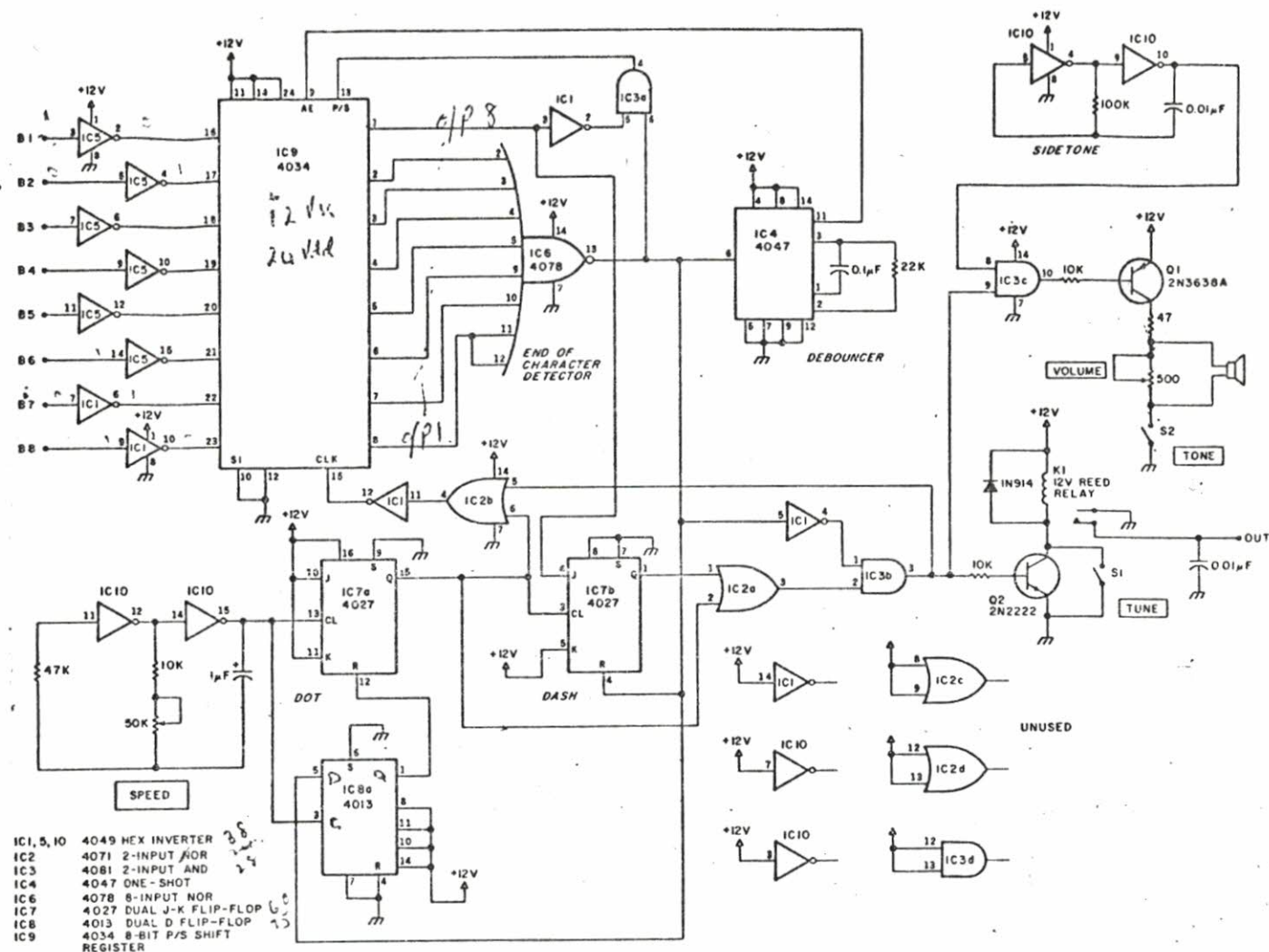
Fig. 2. The keyer subsection uses CMOS integrated circuits. All unused CMOS gate inputs are tied to 12 volts as recommended by the manufacturer. Q1 and Q2 are general-purpose transistors, and many substitutions will work.

NOR gates IC6a and IC6b are wired as inverters to form a CMOS oscillator running at about 700 Hz (60 wpm corresponds to about 25 Hz). Thus, a new bit code appears at the output of the counter every 1/700 of a second.

The keyer logic responds to whatever code is presented to it, generates the appropriate letter, and returns to its ready state. Because the generation of the letter is slow compared with the speed of the counter, the counter has counted from 0 to 31 many times during the time it takes for a letter to emanate from the keyer. The code present at the input of the keyer upon completion of the letter will therefore be a function of the letter length, the frequency of the counter oscillator, and the frequency of the keyer oscillator. Since these are unrelated quantities, the bit code present at the counter output when the keyer is ready to generate a new letter will be independent of the bit code of the previously generated letter. Thus, random letters are generated.

Only 26 of the 32 possible counter states represent valid letters. Rather than detect these 26 states, we detect only the 6 states that are invalid and disable the Instructor output if one of these should occur. In fact, we need detect only 5 illegal states since the state 11111 corresponds to the condition of the keyer with no keys depressed and no output will ensue. Logic gates IC2, IC3, IC4, and IC1a and IC1b comprise the unwanted-state detector. The output of IC2d goes high whenever one of the forbidden states occurs. This high is passed through IC6a and IC6b and holds the register, composed of D-type flip-flops IC10A, IC11, and IC12, in a set mode. That is, the output lines of the register are held high (11111), which is equivalent to having no keys depressed. No letter is generated. For all other combinations of B1 through B5, a letter is sent. There is no apparent pause in the output of the Instructor since new combinations of bits are created every 1/700 second.

Switch S1 in Fig. 3 allows the Instructor to be turned off by holding the register in a continuously high, or set, mode. The keyer may then be activated by the keyboard and diode matrix. When S1 is grounded, the Instructor sends random letters in a continuous sequence. In its middle position, S1 is connected to the output of one-shot IC7. IC8 is wired as a four-bit counter that is clocked by the P/S line of the keyer. Since the P/S line goes from low to high after the generation of each letter, IC8 is clocked one count. When four letters are counted, the one-shot is triggered and its output goes high for a period of time determined by R1, R2, and C1. This high disables the D flip-flop register by setting it. The fifth letter is completed, but a new one is not generated until IC7 goes low. This period of silence can be made long, short, or nonexistent depending upon the position of S2.

ctd. next month.

RELATIVELY SPEAKING

Dave Henderson, VK2VAV/YKQ

I was reading the description of a piece of transmitting equipment at work last week, and I thought that the details may be of interest to other readers.

The power supply consists of two external, oil filled, self-cooled transformers which take power from the 11 kV, 50 Hz, 3 phase line reactor combination, and deliver 12.8 kV at 500 amps to the rectifiers.

There are four rectifiers. Each has 12 silicon rectifier stacks. Each stack has 30 diodes with capacitors in parallel to equalise recovery time of the cells.

The power is supplied to three oscillators. Each oscillator has two sets of 2 pilotron vacuum tubes in push-pull and is shielded by 7mm aluminium sheet. The three oscillators produce 600 kW, 800kW and 1200kW respectively. Total power delivered is up to 2.6 Megawatts of R.F.

The transmission line is a 20 meter long, water cooled copper buss-bar. Peak line voltage is up to 15 kV of RF, and peak line current is up to 1500 amps RF.

The power is delivered to 15mm OD water-cooled copper coils.

This is, of course, a small induction furnace at A.I.&S. - needless to say, small transistor radio receivers don't seem to work very well in the vicinity!

NEW CALLSIGNS: Congratulations to Pat Kennedy VK2PKJ and George Mortensen VK2PJU who now have their calls following the May novice examinations.

AMTOR

There are now two stations on Amateur Microprocessor Teleprinter Over Radio (AMTOR) in Australia, namely VK3BUS and VK2SG. Both stations have worked into Europe on mode B, though attempts on mode A have been unsuccessful. Both the United States and Pakistan have been worked on mode A.

Incidentally if you have heard some odd type teleprinter signals on 14075 Khz, apparently fast RTTY, that your equipment cannot print, do not blame your gear. If it is AMTOR you have no hope of printing it on standard RTTY equipment. This is not a case that we do not want you to print, but it is just a case that AMTOR is not compatible with either Baudot or Ascii. It is requested that if you do hear strange signals that you cannot print around 14075 kHz, 7045kHz or 3545 kHz, please do not assume that they are intruders. They could be AMTOR signals which are undergoing evaluation testing, so please do not attempt to cause interference. Upon request VK2SG or VK3BUS would be happy to let you hear AMTOR signals.
- From VK2TTY news bulletin, 28th June 1981.

WAIT FOR THE TAIL

"Like I said, Charlie, we've got a great repeater here in Wollongong."

"Yeah, you're right, mate. A good group of blokes and a great set of rules. Unless you work by the rules you don't have a good repeater."

"BREAK."

"Yeah, standby breaker. That's the ticket Charlie. Unless you got rules that people work with you don't have a good repeater."

"BREAK."

"Breaker, you've been acknowledged. Boy, some people. By the way breaker, on this repeater you only use "break" when you have important traffic to pass. Right, Charlie?"

"BREAK, BREAK."

"Yeah, and you only use "break, break" when you have VERY important traffic."

"And furthermore, breaker, you don't just use "break". You're supposed to use your callsign."

"Gentlemen, this is VK2QRM with priority traffic. Is there a base station on frequency?"

"VK2... MRQ, I think it is... Victoria Kilowatt Two Mike Radio Quebec? Is that the call?"

"No, Charlie, you've got it wrong. It's Queen Roger Mike. That's what it is, isn't it, breaker?"

"That's a Roger, old man, QRM. Quietly Rolling Merrily. Are you a Base Station? We have a road situation that needs some help."

"Hold on, old man, we do have rules on this repeater and you just broke two of them."

"Sorry about that but there's a fairly big problem on the F6 freeway. Have you got a phone handy?"

"Sure do, I run a first class station here. Anyway the first rule you broke is the use of the word Roger, the handbook says you should use Romeo. I guess you know that but I thought I should bring it to your attention. Second... we prefer you to use standard phonetics, not the ones you used. Otherwise you will get some character using "Always getting Stoned" or "Not Tonight Josephine" and junk like that, like on the Chicken Band. Do you Roger that?"

"Yes, that's a QSL. Now about that emergency, could you call the police for me?"

"There you go again, breaking another rule. Maybe you QSL on CW but it's Romeo on phone - You got that?"

"Charlie, you're fantastic, you know all the rules. By the way 10 minutes are up. We better identify. This is VK2QST."

"Thanks for reminding me, mate. This is VK2QRP. Now, breaker, QRM, I think. I didn't write it down. The other thing I wanted to mention is your use of the word emergency. Is this 'emergency' or 'priority'? There's a difference you know!"

"VK2QRP this is VK2QRM. We're on the F6 Freeway, one mile past the Sublime Point turn-off. A car has left the road and hit a tree. Will you call the police and the ambulance."

"Okay, copied all that. That's a nice sounding rig you got there. What do you reckon, Joe?"

"Sounds a bit over-deviated to me, Charlie. Can you back off the mike gain a bit, QRM?"

"Okay Joe, can either of you call the police please. There are people in the car and they don't seem to be moving."

"Okay, QRM. Let me find a piece of paper and a pencil and we'll take care of you. Standby."

"While Joe is looking for a pen, old man, let me remind you to wait for the tail on the repeater. You missed it a few times and you could have timed out the repeater. I know you're new on the repeater and don't know all the rules... Just wait for the tail to finish."

"QST is back. Oday QRM, nice and slow now and don't get excited or anything. What's the situation you want to report?"

"On the F6 freeway, northbound, just north of the Sublime Point turn off, a car has gone off the road and hit a tree. There are people inside who may need help. QSL? VK2QST from VK2QRM."

"Jeez, there you go again with the QSL stuff."

"And don't forget, Joe, he doesn't have to ID with both calls, just his own call. Tell him."

"Well you did that pretty well, Charlie, Okay, QRM, I know you're new on the repeater and a little excited so we'll forget it. So, that's on the F6, northbound, just north of the Sublime Point turnoff. Roger. Are the people in the car injured? I gotta know so we can get an ambulance."

"All right, I'll get out of the car and take a look. I've got a hand-held I can take with me. Standby."

"Standing by. Hey, Charlie, do we call Bulli cops or the Highway patrol in Wollongong?"

"Probably the Highway patrol, you see plenty of them on the expressway."

"QRM back. How's my signal from the handheld?"

"It's kinda noisy. About 85% quieting. You should try to have a noise free signal into the repeater, not noisy like yours is right now."

"Sorry Joe, but I had to get out of the car to see about the people."

"And you're not waiting for the tail again. Slow down, don't get excited. I know you're not used to handling traffic like this every day but you've got to stay calm. Can you boost that thing to high power??"

"I think I've got a new battery pack in the car. Shall I go and get it?"

"Might be a good idea. While he's away, Charlie, I don't have a phone book. Can you give me the Highway Patrol number?"

"QRM back. How's the signal now? I've got a new battery pack in."

"100% old man. Now check out the car and see if the people in it need an ambulance."

"Hey, Joe, if they need help, what's the number of the ambulance?"

"I don't know mate. Maybe the police will handle that."

"Gentlemen, the people in the car are injured and need help. VK2QRM here."

"VK2RVA with information."

"Go ahead RVA."

"Just tuned in to the QSO, Joe and Charlie, I've got the ambulance number. What's the problem?"

"Good morning, ED. We've got VK2QRM on the F6 freeway with a situation that needs to be called in. QRM, do you copy Ed?"

"Sure do. Ed, can you call in an emergency?"

"Well, hold on a minute. I'd like to help, but first we have some rules on this repeater. First off, you didn't wait for the tail..................

... WB2RVA in CQ December 1980. Adapted by VK2IMR.

AUGUST MEETING   Monday 10th August... will feature a slide and movie evening of last year's Jamboree on the Air, in which the Society ran an all-weekend event at Bass Point. If anyone has pictures of the weekend, bring them along!

QSL CARDS At the August meeting, there will be QSL cards for collection by VK2's -

ALK	JJ	BZE	VNM	PGU	NHL	AHV	ALU	PEF	APG
BHO	NHA	BOU	VOM	ABI	MT	BHE	BBG	NMA	NKG
VEJ	VVZ	ZQT	VOL	ALG					

Please note that any non-members of the W.I.A. must pay the standard card rate to retrieve their cards.

LOCAL AWARDS:
       Ian Callcott, VK2VXN, has gained both the Amateur Radio Action DX award on CW, AND has gained his WAS (Worked all American States) award on CW. Congratulations Ian!

5th CONFERENCE OF CLUBS
       This conference will be held in Wollongong on 1st November 1981, and is being hosted by (naturally) the Illawarra Amateur Radio Society.
       The voting rights of clubs at the conference is determined by the number of members of each club; where a person is a member of two or more clubs he is counted only once - usually as a member of the first club he joined. If any Illawarra members have subsequently joined other clubs, and now wish to be counted as members of the other club, please contact Geoff Cuthbert VK2ZHU so that he can amend the membership numbers.
       Do you have any ideas which you feel should be discussed at the Conference? Remember that the Conference of Clubs is an advisory policy making body of the VK2 Division of the W.I.A. and that Council wishes to hear your views.
       Agenda items for the conference must be in the hands of the Division by 15th September (the day after the September Society meeting) so there is not really a great deal more time. If you have any proposals, write them down and let a committee member have them at the August meeting.

AFFILIATED CLUB LIASON NET - this provides clubs with direct access to the VK2 Division for information and news, and runs each Thursday night between 9 pm and 9.30 p.m. local on 3600 KHz. Well worth listening in on.

TOWER APPEAL FUND:
       The case of a WIA member appealing against the rejection of his application to erect a tower by Campbelltown City Council was heard in the Land and Environment Court on the 21st of July. The case for and against his application was put and considerable formal evidence was submitted by both parties. The assessor hearing the case was scheduled to inspect the site of the proposed tower and the neighbourhood on 22nd July. It may be some weeks before a decision is handed down.
       The VK2 Division thanks all those clubs and amateurs who have donated to this appeal fund. Legal costs are considerable and may be in the order of $4000. All donations will be gratefully accepted and acknowledged.

REMEMBRANCE DAY CONTEST - 15th and 16th August.

"A perpetual trophy is awarded annually for competition between Divisions of the Wireless Institute of Australia. It is inscribed with the names of those who made the supreme sacrifice and so perpetuate their memory throughout Amateur Radio in Australia. The name of the winning Division each year is also inscribed on the trophy and, in addition, the winning Division will receive a suitably inscribed certificate."

The Remembrance Day Contest honours those amateurs who gave their lives in defence of this nation, It is also an inter-Division contest. Illawarra Society members are encouraged to partidipate and assist VK2 to win the trophy this year. The Bathurst club, to mention one, is reported to be planning a strong showing during the contest.

Rules for the 1981 Remembrance Day Contest are on page 53 of July Amateur Radio - our national magazine. Page 54 shows how to avoid duplicate contacts with a simple dupe sheet.

Participate in this national contest on 15th and 16th August, and submit your log - however many or few contacts you make.

JAMBOREE OF THE AIR - to be held mid-October - start getting gear ready now for a weekend at Bass Point. (No linears by request).

RTTY NEWS - From VK2TTY Bulletin, broadcast Sunday 2nd August.

Friday August 7th is the general meeting of A.N.A.R.T.S. to be held at the W.I.C. at 2000 hours local time. All members and those interested are cordially invited to attend.

In Sydney the Department of Communications has now changed its address. They are now situated in the M.L.C. building in North Sydney. The phone number remains the same, and all enquiries should be directed to their new address.

AMTOR: One of the problems we have with Amtor at the moment is maintaining contact with Europe on the short path in Mode A. This is due, mainly, to the recovery time of the receivers and the inbuilt delay in the system. This problem is being investigated, and we hope to reduce the inbuilt delay of the system significantly, which should then assist with the short path to Europe, and may also assist with the long path and make that a possibility. For those interested we will let you know the information as soon as it becomes available.

For those who are wondering what this Amtor is all about, it is a forward error correction system used by commercial circuits, which has been adapted to the Amateur Service. There are four modes. Mode A, which is the information transmitting station (ITS), mode S, the information receiving station (IRS), mode B, broadcast mode, and mode L which is the listening mode. Mode A and mode S are used together as the A station is called the master, and mode S is the slave station. These two stations can work together and work complete breakin. The accuracy of message transfer on mode A or S is fantastic and must be seen to be believed For further information it is suggested that you obtain CCIR recommendations 476-1 or 476-2. The specifications contained therin are exactly the same as for the amateur unit.

VK2TTY broadcasts at 10.30 a.m. local on Sundays on 7045, 14090, and 14095 KHz and 146.6 MHz, and at 7.30 local on Sundays on 3545 KHz and 146.6 MHz.