

THE PROPAGATOR

THE MONTHLY NEWSLETTER OF THE
ILLAWARRA AMATEUR RADIO SOCIETY
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NOTICE OF GENERAL MEETING

Members are advised that the next GENERAL MEETING of the Illawarra Amateur Radio Society will be held at the Wollongong Town Hall Committee Room on Monday, 11th August 1975 at 7.30 p.m.

AGENDA.

- 1) Apologies and welcome to new members and visitors.
 - 2) Minutes of previous meeting.
 - 3) Correspondence.
 - 4) Financial Report.
 - 5) General Business
 - 6) Raffle.
 - 7) Lecture.
-

Moonbounce Report - August.

QSL cards were exchanged with VE7BBG to confirm our EME contact on 12.7.75. As Cor indicated, it was the first UHF contact between VE and VK and also the first 432MHz EME contact between these two countries.

A second contact was made with Cor on 3.8.75, with his signals peaking to 6db. above noise. We received O-R's from him. VK2ALU and VK2ZEN got out of bed early for this test, which started at 6.30am.

SSB signals were heard in the noise immediately after our contact with VE7BBG on 3.8.75, but could not be deciphered. The Drake 2B receiver used as the I.F. channel is not basically designed for SSB and copy of this mode would probably be better on a more up-to-date SSB receiver.

The transmitter frequency source was modified & adjusted to the correct frequency with the assistance of VK2AGV. Further additions will be made to the receiving system to allow our transmit carrier to be checked against WWV with the gear set up at Dapto.

Is there anyone who would like to make up a dipole antenna and string it between two telephone poles presently installed on site, also bring its feedline into the Operating room? (dipole resonant at 15MHz). Pole climbing ability, or a 30ft. ladder would be necessary.

VK2ZEN installed an additional meter on the instrument panel in the Operating room to allow transmitter PA. plate current to be continuously monitored, a valuable safety feature. We also watch transmitter RF output at the same time & can check reflected power and grid drive if required, from the operating position.

Thanks for the offers of assistance with the transformer for the P.A. screen supply. A very good 475V. a side 150ma. transformer was obtained from the local 'Junk-Shop', but further checks show that the present series regulator would be better replaced by a shunt regulated supply to deal with the negative screen current which can occur under certain operating conditions.

On the scrounge again!! Has anyone two(2) type VR150/30 regulator tubes (the old octal based ones) in their junk box that they don't want anymore? They would do fine as the shunt regulator tubes.

Lyle VK2ALU.

WANTED.

TRANSCEIVER FOR 6M OR 2M FM.
CONTACT IAN VK2ZTA
FOR DETAILS

CRYSTAL PURCHASE

It is intended to investigate the Possibility of Purchasing A Bulk order of crystals for distribution with a view to keeping costs down to a Minimum. With the new frequency Allocations most 2 Metre Operators are, or will be Requiring Crystals for the new WOLLONGONG CHANNEL 6.

With changes to CH 1, CH 4, and now Channels 3 and Channels 2 on Air these may also be REQUIRED.

TO ASSIST in enabling Crystals Required THE FOLLOWING QUESTIONNAIRE should be completed Indicating Requirements in the near future.

	TX FREQ.	RX FREQ	SERIES or PAR. C.	SIZE std or min.
CH.1. GOSFORD				
CH.2. South Syd.				
CH.3. Canberra				
CH.4. Nth Syd.				
CH.6. Woll.				
146.5 MHz SIMPLEX				

Please Return as soon as Possible prior to next meeting. (sept.)
to I.A.R.S. P.O. Box 110 DAPTO 2530.

STOP PRESS

WE MUST APOLOGISE FOR THIS ISSUE
BEING A LITTLE LATE.

OUR REGULAR "PRINTER" HAS BEEN
OUT OF ACTION FOLLOWING A COLLISION
WITH A GLASS DOOR —

GEOFF VK2ZHU IS RECOVERING
FROM HIS INJURIES, BUT ALAS THE
DOOR... HOWEVER I UNDERSTAND HE
HAS BEEN FINDING TIME FOR BILL-DIT.

FOX EZZY REPORTS-----

The "VOICE of WINDANG" Howard, VK2AMD is a most welcome signal on the local 2 metre FM channels.

Howards presence on VHF has not been heard locally since the long gone days of Antique Modulation on 53.982 MHz

Some go up, some go down-----

BILL VK2ZCO recently passed his CW exam and is Anxiously Awaiting his new call sign. Bill is in the final stages of his home Brew all band transceiver and not far off completion of a tri Band Quad.

Keith VK2ZYYI has just become the proud owner of an FT100 (no not a FT101) and has no excuse for not obtaining the CW ticket at the next exam.

JOHN VK2YDQ has retired at MOLLYMOCK near Ulladulla and puts beautiful signal into Wollongong and puts farther north on 2 metres.

John obtained his ticket in time for his retirement and is now practicing his CW for the full call.

STOP PRESS!!

BILL, formerly VK2ZCO has just received his NEW CALL SIGN VK2DJ

We could think of a few Phonetics for that But how about DEAR JOHN, or DON JUAN, or MAYBE DISC JOCKEY?

73's DE

BARRY VK2FE

DX PANORAMA

By Gerry VK2APG.

At last there have been some reasonable openings to Europe on the 20 mx band. These opening have been very regular around 2200z for an hour or so according to Howard VK2AMD. Howard has regular contacts with his friends in G land. Conditions have been quiet around the afternoons, although some rare African DX has been worked around 0500-0700z. Hank VK2BHL is back in action again with his 4 element quad and 400watts PEP.

Some interesting stations worked in the last few weeks are:-

VR1PE	20	0711	British Phoenix
6Y5ED	20	0142	Kingston Jamaica
YN6EC	20	0402	Nicaragua
KX6LQ	20	2345	Marshall Is.
HR6SWA	20	0433	Swan Is.
CT2BS	40	0659	Azores
XE1UF	40	0656	Guadalajara Mexico.
9J2WR	20	0544	Kitwe Zambia
3B8BJ	20	0548	Maritius
VQ9DF	20	0402	Seychelles
7X5AB	20	0640	Algiers
OH5MJ	20	1358	Kotka Finland
VP1FF	20	0419	British Honduras
FR7BE	20	0455	Reunion Is.
ISØSHU	20	0527	Sardinia
TG6AU	20	0600	Guatamala city.

REPEATER.

The solid state transmitter was finished some weeks ago and handed to Graeme 2AGV who put it through it's paces. Output was not what it should be, mainly caused by a lack of drive, so it was modified by adding a 2N4427 and 7 Watts of very clean RF with a 13.8V rail was obtained. The modulation transistor was changed & perfectly symmetrical deviation was then set to PMG requirements.

Graeme has put a lot of time into the control unit and Mark111 (I think) has now been running on test on the bench for a couple of weeks and has proven very satisfactory. Rather fascinating to watch all the LEDs blinking on and off! Rocks for the new channel have been ordered for the repeater in anticipation of the go ahead from the "Department".

When permission is received, the repeater will be put on the new frequencies as soon as is possible. Everybody that requires rocks for the new channel should fill out the form below or tell Charlie 2ZEN and a bulk order will be placed for these as discussed at the last meeting. The rocks will be sent direct from the manufacturer to each individuals address for obvious reasons. So better get your order in now or you'll not be able to work through the repeater once it is changed over.

The construction of the Ident unit is progressing slowly. The ripple counter is finally working satisfactorily after some funny results with one closure of a microswitch producing 23 pulses into the counter. Must be contact bounce in the microswitch, when you think about the fact that the TTL IC's used are good for at least 15MHz!

The input was slowed down and that solved that. Next the diode matrix was constructed and out of some 130 diodes so far only 3 have been found to be faulty although they were all sorted and tested before.

Complete testing and de-bugging of the matrix will probably take up a few more evenings. The next stage will be to connect the monostables for dots, dashes/gaps and spaces. Once these run satisfactorily, the remainder of the logic will be hooked up. Then the whole lot must be boxed in, RF proofed and extensively tested, so theres plenty of work yet to be done.

A switch will also be included so that the whole unit can be run as a beacon which could be very handy in the summer months.

Hank VK2BHL.

..... CRYSTAL ORDER FORM.

Name.....

Address.....P'code.....

Type of Receiver.....

Multiplication Factor.... Rx

Tx.....

IF Frequency.....

Type of holder.....
.....

AOCP EXAMINATION QUESTIONS & ANSWERS.

For quite a few months now the questions & answers have been appearing in the newsletter and as most of you have probably noticed, a number of them are very similar from one exam to another. In fact, learning and studying the answers virtually provides a concentrated course to get your licence.

We are however coming to the end of the papers we have available and this month there will be no AOCP exam answers - instead we have put together some questions similar to the sample questions provided by the DRI. Mr. John Milton for prospective Novice Licence Examinees. The ten questions set by the Radio Branch as samples have been absorbed in our "Test Paper" not only because a lot of you wouldn't have seen them but because it is pretty hard to think up a lot of questions of this type without too much repetition.

Obviously a lot of fellows will have questions in their minds after this paper & if you jot them down and hand it to any committee member we'll gladly try to answer the problem for you & in so doing may also help others.

This month we are very fortunate to have Graham Wilson VK2ZGW to give us a lecture on FM Broadcasting. If you are not familiar with Graham's background, he works in a consultant capacity at Sydney's FM station (when he is not involved in the technical problems of the Opera House). Graham was on the original steering committee of the Government's inquiry into FM broadcasting and is aware of the political as well as the technical aspects of the subject.

Graham's lecture is fairly lengthy and for this reason I intend to keep the business side of the meeting very short, we will have a projector set up in the middle of the room so if you come in late don't trip over it. If possible I would like to start the meeting at 7.30PM (19.30 hours) sharp and we have another top quality soldering iron to raffle off plus a host of other goodies.

Next month (September) Stephen Kuhl will be giving us a trade display with a wide variety of top line commercial gear. Stephen is N.S.W. Agent for Bail Electronic Services and has everything from transceivers to aerials as well as a new line of converters for VHF & UHF applications. If you have any special interest in a particular line please let me know at the meeting and I will pass this on to Stephen so that he can provide you with either a look at the real thing or at least a brochure on the subject. (It's a bit hard to fit a 40 metre Quad in the back seat of an Alfa!).

Some Radio Clubs at odd intervals publish a full listing of their members, including call signs (if any) and addresses - the general idea is that you can have a club member living just down the street and not know it and this is intended to let you know where your nearest members live. Of course some club members have so much hardware stuck up in the air everyone for miles around knows them. If you have any objection to being included on the list let me know and I'll remove your card before the "Monster" can digest it and spit out your name on the paper.

73's Keith 2ZYI

NOVICE RECEIVER.

The prototype Mark 1 as shown at last month's meeting is now a working model. It is still lacking in some hardware & Keith 2ZYI is chasing this. The Mark 1 was built using a lot of components from my own stock but to get the set to kitset stage, continually available supplies of all components must be ascertained. For example, the Mark 1 used a miniature 3 gang tuning condenser but these are hard to get in the required values. It therefore looks as if we may have to settle for a twin gang and a single gang for RF peaking.

Performance wise, SSB/CW & AM could be resolved with good results but a slow turning reduction unit will be required for ease of operation. Another alternative here would be varicap (reversed bias diode) fine tuning.

On SSB, strong signals nearby the one being listened to, would tend to "sneak in" the side door - so it looks as if skirt steepness will have to be improved. It is intended to add a second ceramic resonator to the IF strip to achieve this. Filter insertion losses will make it necessary to add some gain to the system. Harry 2BJL made a good suggestion regarding this point. It would be preferable to add IF gain rather than RF gain as it will help to reduce cross modulation.

Plotting a selectivity curve with a signal generator can be a very time consuming business since every time an adjustment is made, the curve has to be plotted again. Therefore I have started to build a sweep generator which is now half finished.

The Mark 11 circuit has been drawn up, including all improvements so were up to the stage of board etching. If Mark 11 works satisfactorily in all aspects, the board layout will have to be photographed, enlarged, touched up and then reduced in size before a mask can be made for the 'kitset' unit. From all this you can gather that development is going strong but it will be some time yet before it is finalised.

Hank VK2BHL.

SAMPLE QUESTIONS FOR THE NOVICE LICENCE EXAMINATION.

This series of questions were roughly drafted from the examples made available to us by the Wollongong Radio Branch. It has been attempted to give a set of answers where only one is right. If you feel there are two answers that could apply, you obviously either know the subject quite well or you are completely confused. If you have any queries ask one of the Committee members and they will attempt to answer it for you. If not it will be discussed to help anybody else who has doubts.

1. ON A MAINS POWER TRANSFORMER THE PRIMARY WINDING HAS 250 TURNS & THE SECONDARY HAS 500. IF THE INPUT VOLTAGE IS 240 VOLTS WHAT WOULD BE THE VOLTAGE EXPECTED ON THE SECONDARY.
A. 250 B. 500 C. 480 D. 240 E. 6.3
2. IF THE CURRENT FLOW IN A CIRCUIT IS 250 MILLIAMPS HOW MANY OF THESE CIRCUITS COULD OPERATE ON FULL CURRENT FROM A 2 AMP SUPPLY?
A. 4 B. 8 C. 16 D. 800 E. NONE OF THESE
3. WHICH ELEMENT OF A 3 ELEMENT YAGI IS THE ANTENNA WIRE CONNECTED TO?
A. RADIATOR B. REFLECTOR C. DIRECTOR D. BOON E. MAST.
4. A TRIODE TUBE USUALLY HAS THE SIGNAL APPLIED TO WHICH ELEMENT?
A. ANODE B. HEATER C. CATHODE D. GRID E. NONE OF THESE
5. IN A PNP TRANSISTOR THE SIGNAL IS USUALLY APPLIED TO WHICH CONNECTION?
A. EMITTER B. COLLECTOR C. GATE D. SOURCE E. BASE
6. A CHOKE IS USED IN RADIO FREQUENCY CIRCUITS TO FILTER OUT?
A. LOW FREQUENCY AUDIO B. DC VOLTAGE C. STANDING WAVES D. RADIO FREQUENCY SIGNALS. E. MAINS HUM.
7. PROPAGATION OF HIGH FREQUENCY RADIO WAVES IS POSSIBLE BETWEEN AUSTRALIA AND EUROPE DUE TO THE PRESENCE OF THE -
A. STRATOSPHERE B. ATMOSPHERE C. HYDROGEN LAYER D. IONOSPHERE E. CLOUDS
8. THREE RESISTORS ARE CONNECTED IN SERIES - THEIR VALUES ARE 100, 200 & 300 OHMS RESPECTIVELY - WHAT IS THE TOTAL RESISTANCE ACROSS THEM?
A. 300 OHMS B. 100 OHMS C. 600 OHMS D. 54.44 OHMS E. 544.4 OHMS
9. THREE ELECTROLYTIC CAPACITORS ARE CONNECTED IN PARALLEL, IF THEIR RESPECTIVE VALUES ARE 200, 400 & 800 UF WHAT IS THE RESULTANT CAPACITY ACROSS THEM?
A. 114.3 UF B. 1400UF C. 800UF D. 200 E. 1500UF
10. IF A CERAMIC CAPACITOR IS MARKED 10,000 PF WHAT IS ITS VALUE IN MICROFARADS?
A. .001 B. .1 C. .0001 D. .01 E. 1.0
11. A TRIODE/PENTODE VALVE HAS HOW MANY ELEMENTS? (EXCLUDING HEATERS)
A. 5 B. 3 C. 7 D. 8 E. 9
12. A SOLID 1/4 WAVE WHIP AERIAL ON 27MHZ WOULD BE APPROXIMATELY HOW LONG?
A. 2.5M B. 5M C. 10M D. 27M E. 7.5M
13. IF WE WERE ATTEMPTING TO MAKE 3 FULL WAVE BRIDGE RECTIFIERS FOR SINGLE PHASE OPERATION HOW MANY INDIVIDUAL DIODES WOULD WE REQUIRE?
A. 12 B. 9 C. 20 D. 18 E. 4
14. THREE 10K OHM RESISTORS IN SERIES ARE CONNECTED ACROSS A 90VOLT DC SUPPLY. WHAT IS THE VOLTAGE DROP ACROSS EACH RESISTOR?
A. 60V B. 90V C. 0V D. 30V E. NONE OF THESE
15. A 432MHZ TRANSMITTER IS SAID TO BE OPERATING ON?
A. 2METRES B. 1 METRE C. 67 CM D. 50 CM E. 76 CM
16. TO CALCULATE PEAK VOLTAGE IN AN AC CIRCUIT THE RMS VALUE IS MULTIPLIED BY
A. 2.04 B. 3.81 C. 1.366 D. 2.828 E. 3.04

17. IF THE GRID OF A TRIODE VALVE IS MORE NEGATIVE THAN THE CATHODE IT IS SAID TO BE?
A. POSITIVELY BIASED B. CONDUCTING C. SHORTED D. NON-POLARISED
E. NEGATIVELY BIASED
18. IF A GROUNDED GRID TRIODE HAS A MICROPHONE CONNECTED BETWEEN CATHODE & EARTH, WHAT TYPE OF MICROPHONE WOULD IT PROBABLY BE?
A. CARBON B. RIBBON C. DYNAMIC D. CRYSTAL E. CONDENSER
19. IN A LOT OF VOLTAGE REGULATION APPLICATIONS THE GAS TUBE HAS BEEN REPLACED BY A SOLID STATE DEVICE CALLED A -
A. MOSFET B. UNIUNCTION TRANSISTOR C. POWER DIODE D. ZENER DIODE
E. SCR
20. SOME SOLID STATE POWER SUPPLIES PROTECT THE DIODES BY PRECEDING THEM WITH A CURRENT LIMITING RESISTOR TO PREVENT OVERLOAD AT SWITCH ON. THIS IS CAUSED BY
A. FILTER CHOKE B. FILTER CAPACITORS DISCHARGED C. ZENER DIODE
D. TRANSFORMER INDUCTANCE E. NONE OF THESE
21. ONE OF THE FOLLOWING IS NOT A SOLID STATE DEVICE --
A. SCR B. MOSFET C. TRIAC D. KLYSTRON E. TUNNEL DIODE
22. IF THE FASTEST TIME BASE OF AN OSCILLOSCOPE IS 1 MS PER DIVISION ON THE SCREEN - WHAT IS THE HIGHEST FREQUENCY YOU CAN MONITOR WITH 1 CYCLE PER DIVISION?
A. 1MHZ B. 1KHZ C. 10KHZ D. 100KHZ E. 100HZ
23. A LINE OF SIGHT CONTACT BETWEEN TWO RADIO STATIONS USES THE -
A. IONOSPHERE B. TROPOSPHERE C. SKY WAVE D. GROUND WAVE E. NONE OF THESE
24. DISREGARDING LOSSES WITHIN THE UNIT, A TRANSFORMER WITH A 240V PRIMARY DRAWING 250 MILLIAMPS WOULD BE SUPPLYING HOW MUCH CURRENT TO A 12V SECONDARY? (THERE ARE NO OTHER WINDINGS)
A. 750MA B. 2.5A C. 25A D. .5A E. 5A
25. A MEGAWATT IS HOW MANY WATTS?
A. 1000 B. 10,000 C. 1,000,000 D. 10,000,000 E. 100,000
26. WHICH OF THE FOLLOWING MICROPHONES RELIES ON THE 'PIEZO EFFECT' FOR ITS OUTPUT?
A. DYNAMIC B. RIBBON C. CRYSTAL D. CARBON E. CONDENSOR
27. ONE ELECTRODE OF A TRIODE VALVE USUALLY OPERATES AT A HIGH POTENTIAL WITH RESPECT TO GROUND. THIS IS -
A. GRID B. CATHODE C. SCREEN D. HEATER E. ANODE
28. ONLY ONE OF THE FOLLOWING FREQUENCIES FALLS WITHIN THE UHF BANDS (ULTRA HIGH FREQUENCY)
A. 3.53 MHZ B. 27.12MHZ C. 146.1MHZ D. 432.00MHZ E. 1,800.00 KHZ
29. AN AMATEUR STATION OPERATING ON A FREQUENCY OF 3.58 MHZ COULD BE SAID TO BE ON -
A. 3,580GHZ B. 3,580 HZ C. 3,580,000HZ D. 3,580,000 KHZ
30. WHICH OF THE FOLLOWING MATERIALS WOULD YOU CONSIDER TO BE THE BEST CONDUCTOR -
A. CARBON B. MERCURY C. NYLON D. SILICON E. TAP WATER
31. WHICH OF THE FOLLOWING MATERIALS WOULD YOU CONSIDER TO BE THE BEST DI-ELECTRIC -
A. AIR B. MICA C. GOLD D. SODIUM E. TAP WATER
32. A HALF WAVE DIPOLE ANTENNA IS ALWAYS -
A. VERTICALLY POLARIZED B. FED BY A CO-AX CABLE C. LEAST SENSITIVE END ON TO A STATION D. MADE OF ALUMINIUM
33. RADIATION OF HARMONICS OF THE OPERATING FREQUENCY OF AN AMATEUR STATION IS UNDESIRABLE BECAUSE IT MAY CAUSE -
A. DAMAGE TO THE RF STAGE OF THE RECEIVER B. EXCESS CURRENT TO BE DRAWN THROUGH THE CHANGE OVER RELAYS CONTACTS C. INTERFERENCE TO SURROUNDING RECEIVING EQUIPMENT D. FREQUENCY SHIFT IN THE MODULATOR

34. IF WE WISHED TO REPLACE A SELENIUM RECTIFIER IN A MAINS POWERED 12V SUPPLY COULD WE USE?
A A CONDENSOR B A SILICON DIODE C A THERMISTOR D A CHOKE
35. THREE RESISTORS ARE CONNECTED IN PARALLEL IN A CIRCUIT & IT IS FOUND THAT THEIR RESULTANT VALUE IS 400 OHMS IF THEY ARE ALL OF EQUAL VALUE EACH MUST HAVE A RESISTANCE OF -
A 133.33 OHMS B 400 OHMS C 1.2K OHMS D 800 OHMS E 2.4K OHMS
36. A CIRCUIT CALLS FOR AN ELECTROLYTIC CAPACITOR OF 1000 UF BY 250VOLTS WORKING THIS IS NOT AVAILABLE - WE COULD USE -
A 2 AT 1000 X 125VW IN SERIES B 2 AT 1000UF X 125VW IN PARALLEL
C 2 AT 2000UF X 125VW IN SERIES D 2 AT 2000UF X 125 VW IN PARALLEL
37. A DC VOLT METER IS TO BE USED TO MEASURE AN AC VOLTAGE, WHAT DO WE HAVE TO USE TO ACCOMPLISH THIS?
A A RESISTOR IN SERIES B A RESISTOR IN PARALLEL C A CHOKE IN SERIES
D A DIODE IN SERIES E A CAPACITOR IN PARALLEL
38. A RADIO RECEIVER USES AN 8 OHM SPEAKER, IF WE WISHED TO REPLACE THIS WITH TWO SPEAKER SYSTEM WHICH ONE OF THE FOLLOWING WOULD STILL MAINTAIN THE SAME POWER RATINGS -
A TWO 16 OHM SPEAKERS IN SERIES B TWO 4 OHM SPEAKERS IN PARALLEL
C TWO 16 OHM SPEAKERS IN PARALLEL D A 16 & A 4 OHM SPEAKER IN PARALLEL
39. A RADIO RECEIVER USES AN IC (INTEGRATED CIRCUIT) WHICH FUNCTIONS AS AN RF AMPLIFIER & BOTH 1ST & 2ND IF STAGES, WHAT ELSE IS NOT REQUIRED TO MAKE IT WORK?
A MIXER B 2ND RF AMPLIFIER C OSCILLATOR D AUDIO AMPLIFIER E AERIAL
40. AN AERIAL USED FOR 3.5MHZ COULD ALSO BE SUITABLE FOR TRANSMISSIONS ON -
A 40 METRES B 6 METRES C 2 METRES D NONE OF THESE
41. WHEN A FERRITE CORE IS SCREWED INTO THE FORMER OF A TUNING COIL IT WILL -
A INCREASE ITS RESISTANCE B INCREASE INDUCTANCE C INCREASE CAPACITANCE
D DECREASE INDUCTANCE
42. HOW MANY 100 MILLIHENRY CHOKES CONNECTED IN PARALLEL WOULD EQUAL 1 HENRY?
A 100 B 1000 C 10 D 10,000 E NONE OF THESE
43. HOW MANY NANoseconds ARE THERE IN A MICROSECOND?
A 1000 B 100 C 10 D 10,000 E 1000,000
44. ONE OF THE FOLLOWING CANNOT BE USED AS A RECTIFIER -
A SILICON DIODE B VACUUM TUBE C MERCURY VAPOUR TUBE D RHEOSTAT
45. HOW MANY MEGACYCLES CAN OCCUR DURING ONE KILOCYCLE?
A 100 B 1,000,000 C 1000 D 10,000 E 1000,000
46. IF WE TRANSMIT A SIGNAL, THE FREQUENCY OF WHICH IS SO HIGH WE NO LONGER GET A BOUNCE BACK FROM THE IONOSPHERE, IT IS SAID WE HAVE EXCEEDED THE -
A SPEED OF LIGHT B THE SUNSPOT CYCLE C THE MAXIMUM USEABLE FREQUENCY
D THE SKIP DISTANCE
47. IF WE HAVE A TRANSMITTER WHOSE BANDWIDTH IS FROM 26.75MHZ TO 26.80MHZ HOW MANY KHZ SPREAD DOES THIS COVER?
A 500 B 50,000 C 50 D 5000
48. WE TRANSMIT USING VARIOUS TYPES OF MODULATION, ONE OF THE THE FOLLOWING IS NOT ONE OF THEM -
A AMPLITUDE B PHASE C FREQUENCY D DYNAMIC
49. WHICH OF THE FOLLOWING VALVES MUST CONTAIN VAPOUR TO FUNCTION CORRECTLY?
A HEPTODE B PENTODE C THYRATRON D DOUBLE DIODE
50. WHEN SELECTING A DIODE FOR RECTIFYING AC IT IS WISE TO USE ONE WITH AN ADEQUATE P.I.V. RATING THIS STANDS FOR -
A PROPER INSTRUMENT VALUE B POWER INTO VOLTAGE C PEAK INVERSE VOLTAGE
D PROCESSED IN VARNISH

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