THE OFFICIAL JOURNAL of the Australian Citizen Radio Monitors. S.A. Inc.

COMMUNICATOR

January ’20.

Happy New Year To all.

S.A. DIV

EST. 1976 INC. 1979

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In this issue	–JAN 20	Page#

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To submit articles, items for publication, letters to the editor or to ask questions of our technical writers, please address all correspondence to The Editor at the address shown on the front cover or via email to phil.48@bigpond.com If you know of anyone who wants to advertise in the Communicator, space and charges are available on request, speak to a committee member for more information.

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Meeting dates.

ACRM SA Inc. Meetings are on the FOURTH TUESDAY of each month.

December, No Meeting

First OCM for 2020,January the 28th.

A reminder for the AGM Tuesday 25th February 2020

ACRM SA Inc. Meetings are held at 3A Redmond Rd. Collinswood. SA.

February 25th is this years AGM. Look for the nomination forms later in the mag.

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PRESSIE'S PRATTLE; Phil 48:

On behalf of the ACRM Committee, I'd like to welcome all to 2020, a date the harbingers of doom and gloom, said the world would never see. Mind you, no-one has retracted that statement but it has been revised to 2047, when the world will reportedly, be too hot to be inhabitable. In my case I'd be 100 years old if I made it to 2047 so I'm not too worried personally but I have to say it would be a sad day for my kids and theirs.

Not that warnings of doom & gloom are new, who remembers the then Premiere of SA, Don Dunstan's valiant stand on the Glenelg Jetty in early 1976, defying the prediction Adelaide would be swamped by a tsunami.

Scientists are a funny mob, depending on which way their own beliefs swing and what data (Model) they use to base their findings, we actually have two very different trains of thought nowadays. The big one, Global Warming and Polar Melt and on the other foot, hand, whatever, it's rumoured we are heading for a Mini-Ice-age.

Well, listen to old 48 getting all philosophical, Phil (PhD in nothing), just repeating what I've read and have no real opinion either way. I can also say that another model has said we are sustainable for another 100,000 years, might have even been 100,0000000, there was a heap of noughts following the one. Okay, I do have an opinion, let me just say (its more of a question really), " How can equally trained experts have two vastly differing opinions, let alone a third to add to the confusion?

It's interesting that Prof. Brian Cox, a very knowledgeable fellow to listen to, and one who may have opinions on the topic, doesn't seem to get engaged in the subject. Nor to any deep level, does David Attenborough. Is it a clever ploy to save face if the choice made was wrong? Maybe… but I would like to hear thoughts on the subject from either of them. It came close recently with an expedition to the Antarctic to measure Polar-Glacial melt, with the result being, there was no abnormal level of Glacier melt. It would seem that yes Global warming is real and is measurable but it's occurrence is at a level that is either 'normal' or not detrimental to the World's surface. At least that was the finding by one expedition.

So, what does this all mean? Don't ask me, I've no better clue than you but I invite you to learn what you can and if need be, write about your newfound knowledge in the mag. I'd like to think that there are others out there who think enough about this lump of terra-firma we call home to actually speak up. Mind you, if it bores you to tears, let me know too, it's no use flogging a dead horse.

It must be Karma or something. I no sooner mentioned David Attenborough and the other night on Blue Planet II, he concentrated on the damage to coral reefs that is occurring as a direct result of Global warming. Evidently the seas are, on average, two degrees hotter. Now all I need is Brian Cox to come out with it and its unanimous.

RALLY ROUND UP; Trev 120

The only appropriate start for the first mag of the year is to list the known events for 2020.
You can mark these on your calendar. All bar Clare that is.

Monarto Ride	March 7th-8th.
Robby 2 day	June, 6th-7th.(Lew Job trial). Queen's Birthday long weekend.
24 Hour Trial	July 11th-12th (Kapunda start).
Mallala Trial	August sat 8th. (Gil Harris trial).
Clare Trial	September (Beryl Pease trial). Possibly late in the month, TBA.

It also points out why we no longer produce an event calendar, one that is good for a 12 month period. We no longer have any idea of what is when. Thank heavens the Reliability trials are sort of set in concrete

TREASURE TROVE; Chris 49

Another month and it's no easier than the last and although this dribble was only one line, its at least one line closer to being an article.

It's no secret that I like to make (knit) little trinkets, suitable for Chrissy gifts and the like, this year Libbie, wife of one of our members sent me the idea for the cutest little Xmas pudding, which I just had to make.
First 1, then 2, soon it was 10 and now it's around 30, that's a lot of little jackets that needed filling and I was lucky enough to find Ferrero-Rocher chocolates on a Christmas special. I suppose any walnut sized, individually wrapped treat would do.

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TO's TWEET;Bill 78:

GRN type, Digital radio units.

On the 4th to 7th of December, 2019, I was involved with the Adelaide Rally as a road official. On three days my allocation was at the stop point, which meant I was using the radio units for communications.

The radio, whilst not being GRN radios, have similar characteristics. The size of the units are approximately 12 x 6 x 3 cm's with a speaker microphone, also has a convenient belt clip for attaching to your clothing.

When using, the on/off switch is by pressing buttons, with volume controls and channel change and also being able to lock certain functions, quite a nifty little unit.

Operation of the unit requires access to the 4G telephone Telstra network as used by your mobile phones, meaning limited areas of operation. If you have bad phone black spots, this will be the same.

Once you have the unit operating and on the correct channel, by pressing the transmit button there are two beeps, indicating that you can now transmit your message (same as our radio units) The major difference that I have found is that these units will double up with other transmissions, unlike the GRN radios which inhibit that occurring.

The only day that I incurred radio problems was on Friday and on Fox Creek road, Cudlee Creek/ Lenswood area, adjacent to the old oak tree, at this location I needed to be standing at a certain spot to have good communications, also my Telstra phone had no signal for the duration of the event.

From information provided to me, the cost of hiring these units including call cost is between $10 to $12 per day per radio unit. As stated being digital the communications were crystal clear and very nice to use. The only down side to these units that I currently see is that event organizers may use them instead of our services?

TUCK'S TALES; Graham 141:

It's that time of the year again when fools like me accept invitations to go out for celebratory meals or parties.

Now I know it's easy to say NO – but who does that?

So I started off with the Elders Christmas lunch, which as usual is held at the good old Buckingham Arms hotel with its “All you can eat” offer. So what do we do? Eat too much naturally.

Then we had a “gathering”, which is a bit of a booze up held at the Parade Grounds, a great spot with a Volunteer barman and free off-street parking.

Next, I had an offer to go to lunch with a couple of chicks,(my nieces Lyn and Lesley) on Wednesday at Woodside.

Now there is only one to go (I hope) and that is the national trust break up next Wednesday.

I think I have already said “Merry Christmas to All”,
Which leaves me to wish all members

A Happy New Year

LAST MONTH’S CROSSWORD ANSWERS

Dec.

Birthday greetings.

Birthday greetings for January are extended to:

John 232 for the 25th.
Callum 214T for the 26th.

We wish you both the very best on your special day.

Also a milestone year for 232, who celebrates his 80th this year, congratulations John.

Phil 48’s flashback.

This is a strange flashback, one I’ve been thinking of for a long, long time but there are no photos to accompany it so I’ve put off doing it for fear it was just going to sound fictional.

Anyway it really did happen and to the best of my knowledge, in just the way I’m about to tell it.

The story is about our very first event we did on a repeater. It was the 24 hour in 1979. Not our first 24-hour but prior to that year every message was handled via a relay, you can imagine the double handling that created.
Before I get into the swing of things, I'll set the scene a bit and hopefully make it obvious why we wanted it to work. This was also true for all bike events but to a much lesser degree. When we took on the 24 hour Trial we were introduced to a big event. Although 24 controls each year didn't become the norm until a few years later, it wasn't uncommon.
Obviously, with that many controls, the course covered a large area and it stood to reason that only a handful of controls, if any could hear main control direct, with the majority not knowing what the hell was happening. One or more relays were initially set up to cover the shortfall but in so doing we had to draw from an already small pool of monitors who were more valuable on controls. The use of relays worked but we first experienced the problem that is created when all operators cannot hear everything, creating a situation where no one knew when the channel was free except the relays and the few who may have been in range of main.
Initially to solve this all controls went through the relays and eventually by choosing the relay location well it was reduced to one relay. Finally the problem was solved, all controls knew when the channel was in use but now we had a relay taking all the information and with main control double handling everything we were again back in control but there was too much lost air space .
The outcome of this was that good monitors became proficient at relay and copped the same lonely job each event, again taking someone off of a control. If only the relay job could be automated. The idea became the major push for a few months and after reading about a few systems, I started playing with some radios with the intention of creating one of these new marvels called repeaters. Without getting into the nitty-gritty of the prototypes, I ended up with two Philips FM320's back to back as I called it. One was the receiver and with a bit of electronic trickery the second one did the transmitting. Because we had found a hill for the single relay, we were confident that the repeater would be okay from the same spot.
When the weekend of the trial came around it was horribly aware that I hadn't thought this thing out too well. Neither the club nor us had a caravan at that stage so it dawned on us, sitting on a hill in a tent with an antenna 40 odd feet in the air was neither comfortable, nor practical.
At the last minute we conned a mate and his missus to come and have some fun with us in their little campervan. With the ends folded out, it slept 4 people and I don't even remember what we did with the kids, however, we woke Saturday morning and set up again in time for Main to start calling the controls as each one came on air.
By today's standards, it was probably an easy event, which probably helped the first event on repeater to be a success.

One thing I hadn't thought of was the range of the repeater evidently our hill proved good enough to get back to Adelaide, where our signal was heard by a radio inspector (RI), of which I was notified on Monday back at the shop. The word was something like, "We hear your thingy or what-not, worked. Nothing came of it except we soon had a licence for ADL-01, which permitted use on all CB repeater channels.
This article has opened Pandora's box so don't be surprised if its continued in the not too distant future.

Member's Contributions To Our delinquency

School Play

Two little boys in first grade were chosen to be the leads in their first school play. It was to be a Shakespearean Play. The first little boy was to say "My fair maiden....I have come to snatch a kiss and fill your soul with hope".

The second little boy was to reply by saying "Hark!, I hear a pistol shot"

Well on opening night in the school auditorium, the two little boys were a bit nervous, knowing that all the seats were going to be filled with grown-ups. The teacher told them to take their places on the stage and to remember to speak very loudly as soon as the curtain goes up. The curtain rose and looking out upon the audience the two boys were terrified. They stood there frozen. So the teacher whispered for them to begin.
The first boy yelled out these unforgettable words:
"My fair maiden....I have come to kiss your snatch!...and fill your hole with soap."

The second boy screams out..."Hark! I hear a shistol pot, a postle shit, a pot of shit, horse shit, cow shit, Oh bull shit...I never wanted to be in this lousy play in the first place.

Tech Tips; Phil 48:

Is it next month already?
Okay – but before the nitty-grtitty starts, I mentioned bands during a band specific statement and I said that because swer (that word again) is not as critical at higher frequencies because the antennas are made to suit a broader band width and typically if an antenna in the UHF band is suspected as faulty, it's fairly safe to say it won't

be an SWR problem and a good check of coax and connections should be carried out before racing around trying to find an SWR meter that will work on UHF. Before we continue, I don't want anyone thinking SWR at UHF is not important, it is, however for a different reason. Even that statement is not entirely correct,. Ideally its important to have the whole wavelength radiated by the antenna, that is, no reflected power to weaken the signal. Worthy to note, not all meters are the same, most early SWR meters were designed to cater for the 27 mHz CB frequencies, which are at the upper end of HF but a few were good to about 200 mHz, upper-end of the VHF (Very High Frequency) spectrum. There was a logical reason for the equipment to be available at those frequencies.

It might be time to talk bands. I've skirted around the subject because it's not something that is usually different or isolated to a specific band when talking electronics but I've sort of destroyed that line of thought by mentioning it often.
I like to think of bands in threes and zeros and I'll show why:
Starting above the audio spectrum, RF (Radio Frequency) bands start from around 30kHz and go up to 300gHz.
To actually start somewhere 300–3,000 kHz is MF (Medium Frequency)
Up to 30 mHz is known as HF (High Frequency) and continuing on
Up to 300 mHz is the VHF (Very High Frequency), with the next limit
Up to 3000 mHz is UHF (Ultra High Frequency). If you are interested, I'm sure a complete list is available on Google. Suffice to say, SHF (Super High Frequency) and another, EHF (Extremely High Frequency), which includes Microwaves are up at the 300Ghz end of the spectrum.
Wavelength now becomes important and varies immensely over the bands mentioned.
A few examples will show where this is heading:
Starting at the lower end of the spectrum but sticking to frequencies pertinent to us you will see that 27mHz. Has a wavelength of about 9 mtrs, remember our simple formula, frequency divided by 300, also remember to put 3 zeros after the 27, before dividing by 300. I can give you other formulas that will give wavelength in feet and ½~ in feet but none as simple as the speed of light (300) so get this one into you head first and if you never learn any others, the easy one will stand you in good stead.
Okay, lets jump to the other end of the spectrum, UHF, which is around 477 mHz. You can work that one out on your own or do it with me, 477.000 \ 300 = 1.59, which is a lot shorter than the 9 metres at 27 meg. We have learned one thing here, the higher the frequency, the shorter the wavelength and we can use that when cutting an antenna to length. Something I'll talk about later.

When I started talking wavelength it was for a reason but I've sort of skirted around it again so lets get back to a bit of theory. So far we have worked out a whole wavelength, a figure that in many cases is unmanageable so we need to break it down – but that doesn't mean we can just grab a bit of wire and make it do, although it is feasible to do so, it is highly unlikely to be very efficient. A half wave is an option at half the wavelength is a more manageable length but a half of that is a quarter wave and is generally a viable option, however each antenna has another trait get around and that is impedance, somewhere in the early part of this antenna thing I mentioned 50 ohms, the impedance the radio was designed to use at the antenna socket. Each antenna has its own characteristics and you can't just stick that bit of wire I mentioned on the antenna base and expect a 50-ohm match.

It's worth mentioning that the RF spectrum is super regulated, internationally, with frequencies being allocated on a need by need basis.

Reading the above makes it sound like the RF spectrum is a plentiful resource so why all the rules? For some reason the radio spectrum has become a valuable resource and because it's not a bottomless pit, certain frequencies are allocated for certain purposes. The need to fit more into what is already there has brought about strict rules for the use of the frequencies. The most recent changes included halving the space between channels (Wideband) and inserting another channel between the newly created gap (Narrowband). Unfortunately it is only a temporary fix and the demand for radio spectrum is again high. My expertise does not include solving the problems of the RF World but I know they are already experimenting with 6.25kHz spacings, with the aim of splitting the channels yet again. To benefit from this technology we would all be up for new radios again, that is, if they perfect the 6.25kHz spacings.

To explain this spacing thing involves a little bit of I told you so but it can be expained in simple terms by using examples.

Firstly the technical bit, to transmit a signal that consists of both carrier wave and information (in our case voice), depending on the type of transmission, on 27 mHz there was two, AM (Amplitude Modulation) and SSB (Single Side Band, of which there were two, Upper and Lower Side Band). AM was very popular and formed the basis of all early transmissions, including all your favourite radio broadcast stations. AM was simple to modulate (put sound on) and also easy to demodulate at the receiver end. A simple test of AM is, if you still have an AM radio in your car, go for a ride in the evening to a comfortable spot outside of city limits to remove some of the noise that is generated at the AM frequencies by lights, hospitals and numerous other man-made stuff, then where it's quiet have a tune around the band listening to how many signals try to come through but sound a bit off station and then try Cruise 1323 Hz, one of the radio stations that has persevered in Adelaide on AM. I should have mentioned that for best results, you would need an old radio

with a knob that turned to locate channels, while dragging a pointer (usually orange or green and sometimes red) across a dial that had the channels marked on it. Any of the auto-tune modern types will skip weak signals and only lock on the stronger ones. This is good unless the experiment is to hear all the channels so close to each other that whistles and whirrs known as heterodyning won't be evident. There is a second downside to AM, the frequency is low, it was known as MW (Medium Wave), with a range of thousands of miles. This was great at a time when the world was just getting past the cat's whisker (crystal set), but that's a story of it's own, maybe sometime in the future if I feel like getting into a history lesson.
Before I jump back to AM, I should clarify, without getting into the history lesson, that the AM Broadcast band initially included SW (Short wave) and MW but before long MW was extended to include LW (Long Wave) and to add to the confusion, not all countries agreed on the upper and lower limits within those bands, strangely enough, they still don't… But I digress. I was about to speak about AM's problems and my exercise of trying to tune an AM channel was to show how crowded the band is, leading to how hard it is to tune a specific channel because it's impossible to separate two channels that are almost on top of each other. Wouldn't it be nice if the two channels were separated a little further and we could receive both of them, not simultaneously but when we needed to? It's for this reason other methods of transmission were created. Oh, I'm dreading this bit because it gets into the how and why and I know from past sessions, saying is easer than explaining but here goes, an early move from AM was SSB and either sideband could be in use on the channel at the same time without interference to each other, now that's an improvement and unless another user on AM fired up, taking up the whole channel, knocking out the other two on the sideband channels. Surely the person would have heard others on the channel? Not quite so, in order to transmit on a Sideband, upper or lower, some trickery within the radio must occur and by using some special filtering, the carrier is suppressed and everything goes out on one of the sidebands, narrowing the bandwidth down to minimum and all that is heard on AM is a squeaky unintelligible noise that is not really recognized as any body on the channel unless the other radio is also switched to the same sideband where similar filtering in the receiver plus the use of a BFO (Beat Frequency Oscillator), which is manually tuned to beat with the incoming signal, to reinsert the missing carrier. On the old 27mHz sets it was known as the clarifier and in some cases a fine tuner.
I just realized I've referred to the old 27 mHz radios often with the emphasis on old and that might be confusing because the 27 meg radios are still legal and providing kept registered, will still be legal in the foreseeable future, providing they are of type approved for Australia. The newer UHF, oh, oh did it again. The only thing newer about UHF is that is was the second band approved for Citizen Band Radio (CB)

One drawback with 27 megs was its frequency, being at the top end of HF it shared some of the attributes that allowed for long distance communications, via skip (a phenomenon that allowed your signal from earth to radiate up to the ionosphere and reflect (skip) back to earth, up to thousands of miles away, even around the world and any place in the middle. Skip didn't occur, all day every day, thankfully, because we first used 27 megs to run the controls and there was nothing worse than someone in Arkansas calling us for a QSL (contact between two stations), right when you are straining your ear to hear what might be an emergency situation. Which brings me to another common occurrence. American CB-ers got used to us signing on to start a monitoring shift on our emergency channel 9 (5 on a 18 channel radio) and took delight in answering us with a hello Australia ACRM ?? NO, skip was not a help to us so when this short-range band was offered, it was welcomed by all, except the kangaroos (skippies who lived for overseas communications). Bummer, the history has started anyway, if the signal from 27 meg equipment could be cut off at the Australian border, the then powers, DOTAC (equivalent of today's ACMA), would probably have been happy. However it was impossible to stop the signal so CB'ers (the wannabe amateurs), made it a hobby to contact as many people over the longest distance as possible. However, not all on the lowest power possible but via Linear amplifiers, which may be radiating thousands of watts, something none of the serious CB'ers wanted. Apart from monitoring the emergency channel and other legit purposes, like communications between vehicles when traveling in convoy or similar.

To add insult to injury, the 27 mHz band was initially a lump of the amateur 10 metre band and was forfeited only after extreme protest so there was opposition from many areas to Australia adopting a Citizen Band on 27megs. There was however, plenty of CB radios available since it was legal in the United States and were being sold all over the world. In light of this the push for a short-range CB frequency was on the books very early and with a little help from Philips it wasn't long before the UHF band was a reality.

However people were not happy with this new short-range phenomena and repeater channels were allocated to the first 8 channels, however, in order to stay within band the transmit channels were only 30 channels higher than the receive channel. This offered new challenges to the manufacturers of the new UHF equipment and CB'ers in some areas had to learn, they had lost, not 8 but 16 channels to accommodate for the repeater channels. Some users in remote areas had never heard a repeater signal and because they had picked a channel between 31 and 38 for their own bush channel our early repeaters got hammered by people unaware of their signals hitting repeaters, as an emergency group, warning these people was difficult. Those who had chosen to use 35 (input channel to emergency channel 5) were not listening on channel 5 so they never heard our emergency channel, or the pleas from monitors

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asking them to pick another channel. In an effort to get the message across, we got articles put in local papers and stock journals, etc. If one of the monitors was mobile and could drive to a high location where contact could be made on 35 and explain the situation, there was generally no objection to moving off of 35 but if you mentioned it was probably a good idea to leave all 8 channels, 31 to 38 free, it usually met with opposition and were likely to just stay on 35 any way. Eventually the message did get across and after awhile the only interference on channel 5 was from a few truckers, who for some reason disregarded the emergency channel in all states, using the repeaters as their own. I don't want to give the impression all truckers were the same, on the contrary it was only a few and it was easier to ignore them as they would be gone as fast as they came and it would be all back to quiet again.

Reg 32 (now deceased) was one of our most dedicated monitors and I swear he almost popped a blood vessel the day he related this story to me. After contacting one of the offending truckers and politely explaining the situation, was advised by said trucker that the CB service was for all CB'ers (Citizens of Australia) and then told him to stop claiming Channel 5 as his own and to tell all the monitors to leave the channel free for every one to use.

What followed was a sad moment as he politely said, "sorry I couldn't have been more help to you Sir, this Adelaide ACRM 32, clear" but the smile returned to his face when he pressed the remote switch to disable the Channel 5 repeater, which was our only real control over the bucket mouths. All that was disabled was the transmit side of the repeater by using a bit of sub audible tone technology and channel switching, if a genuine call was heard the repeater could be re-enabled immediately to allow the call through and once the offending truckers were out of earshot it was re-enabled, until of course the next idiot fired up. It usually only took a few moments for the idiots to realize they were no longer talking to each other so the repeater was never off for long periods. Another strange situation occurred when a road gang was issued with small Uniden Walkie-Talkies that defaulted to channel 35 when turned on. It took many letters and other correspondence with Uniden before that was changed. As usual, Australia is a 5% Country against the other 95% of the world, so why should they re-tool just for us? We were told it's our fault for picking 5/35 as our emergency channel. Luckilly the road gang were a little more sympathetic to our pleas and made sure they selected other channels before starting work. Now we only had to worry about the millions of children who would be getting these walkie-talkies for Christmas and to cater for this we relied on the retailers to issue the channel allocation paperwork with all sales and Uniden helped by printing warnings in their instruction manuals, until such time as they tooled up for Australian compliance and changed the default to channel 16, if I remember correctly. Either way, we couldn't help think, it was a bit of a coup for a small emergency service in a 10% state in a 5% country.

Minutes;OCM 420

Minutes of Meeting 420 held on 26th November 2019 at Collinswood.

Meeting opened at 2000 hrs

Present.. 141, 78, 232, 43, 44, 45, 48, 49, 21, 212.
Visitors Carole, friend of Dick 21 & Brittany, friend of Nat 45.
Both welcomed.
Apologies 80, 233, 64, 370, 371, 372, 333, 40, 423, 120.

Minutes of previous meeting, moved 21 Sec 232 & Carried.
Matters arising Nil

Correspondence In 19/26-29 moved 44 sec 43 & carried.

Reports

President :- Merry Christmas to all

Treasurer:- Bal $7832.88 In 0.62 Out 82.50
Moved 141 Sec 212carried

Training Officer :- Merry Christmas and a Happy New Year.

Rally Coord :- Absent with apology

Social Sec :- Have a great Christmas

Resources :- Merry Christmas

General Business

48. Letter from Library (Mortlock library, Legal Deposit Unit.) They missed out on July Communicator, 48 explained Magazine was Correct but cover reflected wrong Month, a corrected mag was sent, as per their request.

Next meeting #421 28th January 2020

Meeting closed 2018hrs. Break-up party commenced. Thank you to all who brought a basket supper.

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IN THE KITCHEN WITH CHRIS 49.

During the warmer weather, there is nothing better than a light, refreshing salad. I hope you enjoy some of these.

GADO-GADO or WARM SALAD

250g small new potatoes
250g green beans, cut into 5cm pieces
6 hard-boiled eggs, halved
1 tblspn vegetable oil
2 cloves garlic, crushed
4 tblspns peanut butter
2 tsp lemon juice
1 small broccoli, cut into florets
1 cucumber, sliced
250g radishes
1 onion, chopped
2 fresh red chillies, chopped
½ cup coconut milk
2 tblspns mango chutney

Method: - Cook potatoes and broccoli, separately, until just tender. Drain. Refresh under cold running water. Cut potatoes in half. Arrange potatoes, broccoli, beans, cucumber, eggs and radishes on a serving platter.
Heat oil in a saucepan. Add onion, garlic and chillies. Cook, stirring, for 5 minutes. Stir in peanut butter, coconut milk, lemon juice and chutney. Cook, stirring, for 3-4 minutes or until ingredients are combined and sauce heated.

PARMESAN CHEESE SALAD

1 lettuce of your choice, leaves separated
125g fresh Parmesan cheese, chopped
1 red pepper, cut into thin strips

CROUTONS

30g butter
4 slices bread, crusts removed, cut into triangles

CITRUS DRESSING

1 tblspn lemon juice
1 tblspn Olive oil
2 tblspns orange juice
2 Cloves garlic, crushed

Method: - Croutons: Melt butter in a frying pan over a medium heat. Add bread triangles. Cook, turning frequently, for 3-4 minutes or until golden. Drain on absorbent kitchen paper.
Line a serving platter or salad bowl with lettuce leaves. Top with Parmesan cheese and red pepper.
Dressing: Place lemon juice, orange juice, oil and garlic in a screw top jar. Season to taste. Shake well. Drizzle over salad. Sprinkle with croutons. Serve immediately.

MEDITERRANEAN SALAD

1 lettuce of your choice, leaves separated and torn into pieces
10 stuffed green olives, halved
5 pitted black olives, sliced
4 hard-boiled eggs, sliced
1 red pepper, cut into thin strips
2 stalks celery, cut into thin strips

HONEY DRESSING

2 tblspns red wine vinegar
1 tsp honey
1 tblspn lemon juice
1 tsp olive oil

Method: - Line a serving platter or salad bowl with lettuce. Top with green olives, black olives, eggs, red pepper and celery.
Dressing: Place vinegar, honey, lemon juice and oil in a screw top jar. Shake well. Drizzle over salad. Serve immediately.

BACON AND FETA SALAD

assorted lettuce leaves
2 avocados, stoned, peeled and sliced
2 tblspns lemon juice
250g feta cheese, cut into small cubes
¼ cup olive oil
250g bacon, cut into thin strips

Method: - Line a salad bowl with lettuce leaves. Toss avocados in 1 tblspn lemon juice. Scatter avocados and feta cheese over lettuce.
Heat oil in a frying pan over a medium heat. Add bacon. Cook, stirring, for 5 minutes or until bacon is crisp. Stir in remaining lemon juice.
Scatter hot bacon over salad. Pour over pan juices. Serve immediately.

CHEESY BEAN SALAD

500g green beans, trimmed
185g mushrooms, sliced
155g grated Gruyère cheese

MUSTARD DRESSING

¼ cup olive oil
1 tblspn tarragon vinegar
1 tblspn Dijon mustard
1 tblspn chopped fresh parsley

Method: - Boil, steam or microwave beans until just tender. Drain. Refresh under running cold water. Drain.
Place beans, mushrooms and cheese in a salad bowl. Toss.
Dressing: Place oil, vinegar, mustard and parsley in a screw top jar. Season to taste. Shake well. Just before serving, spoon over salad. Toss.

RICOTTA AND RADISH SALAD

8 butter lettuce leaves
185g ricotta cheese, drained and crumbled
30g walnut halves
8 radicchio leaves
4 radishes, thinly sliced

DRESSING

1/3 cup walnut or vegetable oil
2 tsp lemon juice

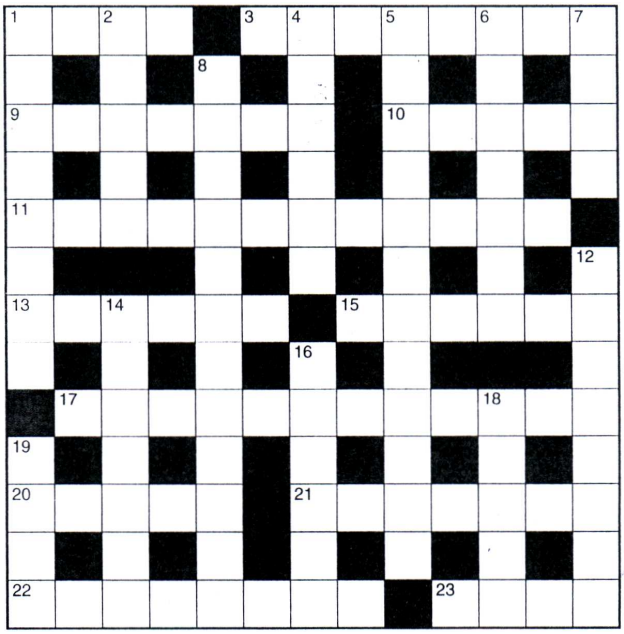
Method: - Arrange butter lettuce and radicchio leaves on a large serving platter. Top with ricotta cheese, radishes and walnuts.
Dressing: Place oil and lemon juice in a screw top jar. Add seasoning to taste. Shake well. Drizzle over salad. Serve immediately.

WARM MUSSEL SALAD

Assorted lettuce leaves
1½ cups dry white wine
6 spring onions, chopped
¼ cup walnut or vegetable oil
1 bunch water cress, broken into sprigs
½ cup water
16 mussels, scrubbed and beards removed
30g walnuts, roughly chopped

Method: - Line a serving platter with lettuce leaves and watercress.
Place wine, water and spring onions in a saucepan. Bring to the boil. Add mussels. Cook for 5 minutes or until shells open. Discard any mussels that do not open after 5 minutes. Remove mussels from cooking liquid. Arrange on lettuce bed.
Strain cooking liquid. Reserve 1/3 cup. Combine reserved cooking liquid, oil and season to taste. Drizzle over salad. Sprinkle with walnuts. Serve immediately.

Crossword Puzzle, compiled by Chris 49.
Answers next month.



(Dec 19)

ACROSS

1. Formed of coral. (4).
3. Scrape to the skin. (8).
9. Goaded. (7).
10. Unspoken (5).
11. Eager. (12).
13. Long, thin Candles. (6).
15. Points keeper. (6).
17 An addition. (12).
20. Foriegn.. (5).
21. Helped and pleased some-one (7).
22. Softened food in the stomach .(8)
23. Breeding ranch. (4).

DOWN

1 Reproduce, reinact. (8)
.2. Oust. (5)
4. Pet bird. (6)
5. In a manner contrary to law and custom. (12)
6. Needing more scratching.
7. Memo. (4)
8. Attainment. (12)
12. Mum or dad's father. (8).
14. Hesitating. (7).
16..Repeat performance. (6).
18. Block of gold (5)
19. Hospital room (4).

A word of thanks to our sponsors, Foodland Gawler, Robern Menz, Office Works, Maccas, K Mart. Their assistance is greatly appreciated. Please show your support by supporting them.

x

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NOMINATION FORM - SA COMMITTEE 2020

RETURN DATE: NO LATER THAN 4th JANUARY 2020

Nominated by ACRM.....Signed.....

Seconded by ACRM.....Signed.....
The NOMINATIONS are for seven positions in total:

PRESIDENT:(Name).....ACRM No.....
SECRETARY:(Name).....ACRM No.....
TREASURER:(Name).....ACRM No.....
And 4 COMMITTEE POSITIONS:

(1).....ACRM No.....

(2).....ACRM No.....

(3).....ACRM No.....

(4).....ACRM No.....

(a) You do not have to send in a nomination form.

(b) You must be a financial member of the ACRM S.A. Inc.

(c) Nominations may be seconded at a later date.

(d) Not all positions have to be nominated for.

(e) The nominations MUST include your ACRM call-sign and your personal SIGNATURE.

(f) Your nominations MUST reach the RETURNS OFFICER on or before the 4th JANUARY 2020.

(g) Nominations may be made on a facsimile, however rules (b) through (f) apply.

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APPLICATION for POSTAL VOTE - SA COMMITTEE 2020
RETURN DATE: NO LATER THAN 12th JANUARY 2020

APPLICANT: ACRM.....Signed.....

Number of postal vote forms required.....

The Postal Vote forms are for the following members.

ACRM.....Signed.....

ACRM.....Signed.....

ACRM.....Signed.....

ACRM.....Signed.....

ACRM.....Signed.....

If insufficient space, please include a separate sheet.

(a) You do not have to send in a postal Vote.

(b) If you wish to send in a Postal Vote, you can only do so on the prescribed form. You can only get the prescribed form by submitting an application.

(c) You may apply for Postal Vote Forms for other members of the ACRM SA Inc. who reside with you or share your Communicator.

(d) You must supply signatures for all applicants.

(e) Your application MUST reach the RETURNING OFFICER, on or before the 12th JANUARY 2020.

(f) Applications may be made on a facsimile, however rules "b" through "e" apply.