

Notes and Comments

By "Switch"

THE story is going the rounds in Melbourne that an up-country settler has a tame cockatoo which clearly enjoys broadcast listening and has picked up the words "3LO, Melbourne," so frequently called by the announcer at that station.

THE writer has seen a cat suddenly evince keen interest in a loudspeaker when a certain listener was whistling imitations of certain native birds of New Zealand. The cat was apparently asleep in front of the fire when the bird imitations commenced. She immediately jumped up and ran towards the loudspeaker, into which she sat gazing while her tail switched from side to side with suppressed excitement.

A RADIO acquaintance has a dog who appears to enjoy radio reception, for when the music starts from his loudspeaker the dog paws at the back door for admittance. The dog is allowed to enter and when "Spot" has coiled himself comfortably under the radio table he lies almost motionless for hours. But there is one instrument which upsets his equilibrium, and that is the violin. As soon as a violin solo commences "Spot" joins in with blood-curdling howls. "Spot" is then promptly put out of doors, but as he can hear the music in the background he continues his dismal vocal performance until the item concludes.

THE flickering of his valves described by a correspondent is due to either a faulty battery cord or connection or the battery itself is "sick." In the latter case the battery should be sent without delay to a battery service station for prompt testing and treatment.

WHEN static is intense it is far better to refrain from listening in. Heavy crashes of static spoil the music, sometimes strain the loudspeaker, and if you have visitors it gives them a wrong impression of broadcast listening. The wise man will discreetly close down his set and entertain his visitors in other ways.

UNDER the "chain" system of broadcasting in the United States very often several stations throughout the country are broadcasting the same programme. As there are upwards of 500 broadcast stations in the States the ether has become overcrowded and much trouble is being experienced by one station heterodyning with another. That is to say that their waves are so close in length that one station causes a shrill whistle on top of another's transmission. With crystal control now in vogue, which keeps a station dead on its proper wavelength, an American writer suggests placing all the stations of a certain "chain" on one frequency would preclude placing other stations on the same frequency at that time. Thus, the "heterodyning" and clashing of sidebands, now noted on certain frequencies, and which are caused by the operation of station on slightly-differing frequencies or with too short a geographical distance between them, would be eliminated.

HOW is the speech or music conveyed from the studio of a broadcast station to the listener's aerial and receiving set. The voice or music sound waves enter the transmitter and cause the transmitter to send out waves in the ether that vary in exact response to the variations in the strength and pitch of the waves that come from the voice or musical instrument. The ether waves meeting the receiving aerial cause electric oscillations to be set up in that aerial; also the variations in strength of the ether waves cause these oscillations to vary in strength. But the ether waves vary exactly in response to the voice or musical instruments, so the strength of the oscillations in the aerial vary exactly in response to the voice or instruments.

LISTENERS who absorb the music from cabarets broadcast by the Australian stations may have noticed two chords played by the pianist after certain items. A correspondent states that he has observed that the two chords are a signal to the broadcast station that there is to be a brief interval so that a gramophone record can be put on from the studio.

IN the new system of electrical recording of gramophone records the sound collector is a microphone such as is used in broadcasting. All troubles introduced by the horn are eliminated at once. The microphone is so constructed that it is almost equi-sensitive for all frequencies. To be sure, the diaphragm has resonance points, but they can be damped out to any desired extent. And they are. Low volume of output is of no consequence, for it can be amplified. In the old-fashioned mechanical recording all the volume possible must be preserved, for it cannot be amplified. Volume by resonance is denuded on largely. The microphone is subject to one difficulty. The very high notes are picked up with about twice normal strength. But that is only a momentary difficulty. The output of the microphone then is a faithful electrical copy of the sound that fell on the diaphragm. But it is weak. It is necessary to amplify it, and for that a high quality audio amplifier is used. The construction of an audio amplifier which will preserve the relative intensities of the high, the middle and the low notes is simple. This is not one of the problems of electrical recording.

THE Melbourne "Listener-In" says: "There is no lack of musical talent in Tasmania, and when 770 is firmly established under its new management, there is a possibility that there will be interchanges of artists between Tasmania and mainland broadcasting stations."

THE electrons which flow from the filament of a valve to the plate are calculated by scientists as being so small that a million million of them, if placed in a row would occupy only one-sixteenth part of an inch. Yet this ultra-microscopic particle is

responsible for the music and speech which ultimately comes from our loudspeakers or headphones.

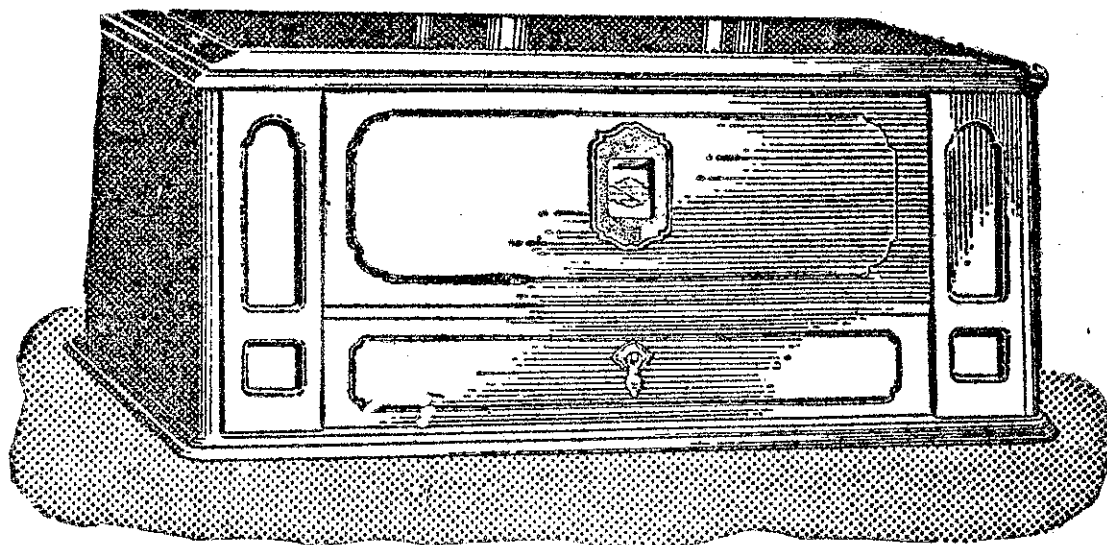
THE actual diameter of an atom is estimated by scientists as about or two-hundred and fifty millionth part of an inch. Yet an atom is sixty thousand times larger than an electron which is contained in an atom. To give one an idea of the appearance of an atom of hydrogen, the lightest of gases, imagine a football to represent the positive electron in the centre of the atom, and one and three-quarter miles from this imagine a golf ball, representing a negative electron, revolving round the football. The negative electrons revolve around the positive electron just as our earth revolves around the sun.

FLEX leads have a way of fraying out at the ends, but this is a habit which is by no means incurable. If you do not mind spending a little time and trouble on the leads, you will do best to solder the strands together. Twist up the strands, put a spot of flux on them, and roll them about in the blob of solder on the soldering iron. Finish off by binding the end of the insulation with a few turns of cotton or silk. For temporary connections soldering is hardly worth while. But however tightly you twist up the flex strands, the head of a terminal will be almost sure to catch one of them and become jammed as you screw it down. Put a

flat washer on the top of the flex, between it and the terminal head, and you will have no more trouble with loose strands.

ONE particular point on which the electro-dynamic loudspeaker unit is superior to other types is that there are no pole pieces to stop the vibration of the armature coil. Thus even on the loudest passages and the lowest tones the unit will not chatter. In other words no volume is too great for the electro-dynamic loudspeaker.

IN the Ohio (U.S.A.) state penitentiary good-behaviour prisoners are permitted to have their own radio sets. A visitor to the gaol writes:—"If one were to walk through the long, cheerless corridors of the cell block, the first thing to attract the eye would be hundreds of aeriels stretched from the prisoners' cells to the wall of the hall some twenty-five or thirty feet away. With short aeriels, nine or ten feet apart, it is to be expected that there is considerable interference, noise and disturbance. Yet the men never complain. They do the best they can, and, under favourable atmospheric conditions, tune in their favourite stations with ease. I hear one prisoner say, 'That little 'box' may make a lot of racket; but it helps me while away the long hours, keeps my mind far removed from my imprisonment, my troubles, and above all, it keeps me in touch with the outer world.'"



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Once you own the Counterphase Eight you know that you have the best and most reliable receiver that is made.

The Counterphase Eight combines every superior feature essential for the highest type of radio reception. No other set possesses such Power, Tone, Ease in Tuning, or Selectivity. It is Bremer-Tully's greatest set—which means the greatest set of all. To buy a receiver without investigating the Counterphase can only bring regret. Full information can be obtained from the—

N.Z. Master Agents:

Radio Limited
COMMERCE BUILDINGS, ANZAC AVENUE, AUCKLAND.

Otorohanga,
29/8/28.

"In reference to the Bremer-Tully Counterphase Eight Receiver, the first evening we tried it out we logged 27 stations, including two Japanese and one in Manchuria.

"The next evening two American stations were logged."

Blenheim,
27/8/28.

"I had great results with the Bremer-Tully Counterphase Eight last evening and logged the following American stations:—KNRC, KFON, KGO, KFJM, KFWB, KHJ, KNX, KPO, KFI, KFSO, KFRC, KTBI, WENR."

As the B-T "Counterphase Eight" gives such wonderful results on American stations, it can readily be realised how efficient it is on reception from New Zealand and Australian stations.

Read
what
these
two
Owners
say—