

Christchurch String Quartet, under the conductorship of Professor Oddone Savini—"Allegro Moderato" and "Scherzo" ("Quartet No. 2") (Borodin, arrgd. Savini).

- 8.25: Columbia Symphony Orchestra, (a) "March of the Bojaren" (Halvorsen) (b) "Bridal Procession" (Grieg) (Columbia 02622).
- 8.33: Boy soprano—Trevor Schofield, "Good-night, said the Cuckoo" (Harding) (Columbia 01503).
- 8.36: Christchurch String Quartet, "Adagio Minuet" ("Sonata Pathétique") (Beethoven).
- 8.46: Tenor—Herbert Brown, "One Flower Grows Alone in Your Garden" (Romberg) (Columbia 01517).
- 8.49: Grand organ—Francis Sutton, "Suite Gothique" (Boellman): 1. Choral. 2. Menuet Gothique (Columbia 01878).
- 8.57: Duet and chorus—Marise Beaujou, M. Bordon and chorus, "Faust—Church Scene" (Gounod) (Columbia 02843).
- 9.5: Christchurch String Quartet, "Andante Cantabile" ("Quartet Op. 11") (Tchaikowsky).
- 9.14: Chorus with orchestra—La Scala Chorus, "Otello—La Tempesta" and "Otello—Fuoco di Gioia" (Verdi) (Columbia 02723).
- 9.22: Lucerne Kursaal Orchestra, "Orpheus in the Underworld" (Offenbach) (Columbia 02839).
- 9.30: Close down.

4YA, DUNEDIN (650 KILOCYCLES)—SUNDAY, NOVEMBER 24.

- 2.0: Town Hall chimes.
- 3.1: Selected gramophone items.
- 5.30: Children's song service conducted by Big Brother Bill.
- 6.30: Relay of service from St. Andrew's Street Church of Christ (Preacher, Pastor W. D. More; Organist, Miss Stokes).
- 7.55: Weather report.
- 8.5: Relay from St. Kilda Band Rotunda of concert by the St. Kilda Band.
- 9.15: Close down.

Head-phone Connections

BE careful to see that the tag of the telephone marked "positive" is connected to the correct terminal on your set. Many sets are marked with "positive" and "negative" on the telephone terminals, but if your set is not so treated look inside and see which of the two telephone terminals is connected directly to the high tension positive. That so connected is the positive telephone terminal, and your positive telephone tag should always be connected to this particular terminal.

This is not a fad, but is due to the fact that if your telephones are pro-

perly connected the steady plate current continually passing through them will add to the permanent magnetism of the telephones themselves, whereas if they are wrongly connected this current may steadily tend to demagnetise your 'phones, reducing their sensitivity considerably.

Telephones which have been dropped frequently often are far less sensitive than those which are properly kept. The reason for this is that any jolt or jar tends to upset their magnetism.

It is not, of course, suggested that a screened-grid valve is essential in every kind of receiver, but for the modern, up-to-date multi-valve set, capable of bringing in twenty or thirty stations, the screened-grid valve naturally is incorporated.

Volume Control

Problems of A.C.

CONSIDERABLE doubt exists regarding the methods of controlling volume in A.C. sets, and no constructor of these popular receivers is free from this problem. The favourite method of controlling volume in the battery-operated sets was to vary the filament temperature on one or more of the R.F. valves. Although some manufacturers of A.C. sets use this method to-day on A.C. valves of the 228 type, it is not considered ideal. The heating of the heavy filament is slow in following the rheostat adjustment, and this naturally introduces a very annoying time lag. It is particularly noticeable when trying for distant reception. Another method of controlling volume sometimes resorted to in both A.C. and D.C. sets is to detune. This has the objectional effect of tuning the sidebands to the resonance. This causes distortion, and with these ultra-selective receivers of to-day this distortion is serious.

If the bias of the r.f. valves can be reduced simultaneously with the filament temperature, this will hold up the plate current and keep out the ripple. Some bias must be maintained at all times, however, as an even flow of grid current, and consequent modulation and distortion of the signal will result without it.

A high variable resistance across the secondary of the first audio transformer has been used by some, but this method is not recommended as it has a tendency to overload the detector. Varying the grid bias as a means of volume control is quite effective with circuits using the 227 type valves, but it is not recommended with the 228's, as this method is apt to shorten the life of the valve. A high variable resistance (100,000 ohms) in the plate supply of the R.F. plate returns will reduce the volume, but this is not the best method.

It would seem that the most logical procedure in controlling volume is to go to the heart of the matter and control the signal, instead of trying to suppress it after it is amplified or rectified. Naturally this must be done in the antenna circuit. The most approved method is vary the coupling of the antenna and the grid coil. This has the advantage of rendering the set more or less selective as the wishes of the operator might be. Unfortunately this cannot be done in all types of receivers, e.g., the Browning-Drake. If it is possible to rotate the primary antenna winding or secure a similar effect through taps, it is strongly recommended that this be done to obtain best results. A semi-aperiodic antenna coil of 8 or 10 turns of wire, wound round a bakelite former and variable 8 in its relation to the secondary, will work out very well.

A variable resistance with a maximum of about 500,000 ohms, in shunt with the antenna coil, will control volume quite satisfactorily. It is suggested that for local or very strong signals that the aerial be disconnected from the set. This may be done with a snap switch connected in series with the aerial. Another very satisfactory manner is to connect the ground wire to the antenna circuit and leave off the aerial.

Topical Notes

DESPITE unfavourable atmospheric conditions and a heavy background of parasitic noises, the rebroadcast by 2YA of the running description of the Melbourne Cup was fairly successful. The commentary was broadcast by Station 3ME, the short-wave station of 3LO, Melbourne. It appears that the short-wave Sydney station 2ME, was no better than 3ME in volume, and there was a considerable amount of land time background owing to the 500 miles separating Melbourne and Sydney. 3ME was heard very loudly and distinctly from the studio before switching over to the racecourse, but when the latter was effected the background noises were very apparent.

A CERTAIN Wellington short-wave Morse station (not an amateur) situated in the Newtown district made itself obnoxious when the technicians of 2YA, Wellington, were endeavouring to rebroadcast the Melbourne Cup description from the short-wave broadcast station 3ME. The said local Morse station employs 1500 watts, and its note "hammered in" on top of the Melbourne station just before the barrier went up for the Cup race. This spoilt reception of much interesting preliminary talk from 2YA.

THE actual description of the running of the Melbourne Cup from the Flemington racecourse was given by Mr. Eric Welch, 3LO's famous sporting announcer. The description of the race was wonderful, and those who heard it could easily visualise what was happening. Mr. Welch never hesitated, never stumbled, never allowed personal excitement to obtrude, and carried his vast invisible audience with him from start to finish. It was a classic achievement on the part of the announcer, and should stand as an example to those ringside announcers who invariably lose their heads under stress of excitement, and leave their listeners "in the air" wondering what is happening.

SOME Australian listeners contrive to tune in the American stations even at this season of the year. Here are some of the Americans they hear frequently:—KHJ, Los Angeles, 333.1 metres, 1000 watts (just under 1YA, Auckland); KPLA, Los Angeles, 526 metres; KFRQ, San Francisco, 492 metres; KFI, Los Angeles, 460 metres; KFVD, Venice, U.S.A., 428 metres; KOMO, Seattle, 326 metres; KFWB, Los Angeles, 316 metres; KPLA, Los Angeles, 300 metres; KNX, Hollywood, 286 metres; KMOX, St. Louis, 275 metres; KMIC, Inglewood, 268 metres; KEX, Portland, 254 metres; KFOX, Long Beach, 240 metres; KPQ, Seattle, 248 metres; KGER, Long Beach, 219 metres. All the foregoing stations are heard in South Australia up till 9.30 o'clock (N.Z. time) each evening. A very full and useful list giving both wavelength and frequency is found in "All About the All-Electric."

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