

1. Summary

Valve PA Amplifier System. \$70 eBay May 2011

AUSTRALIAN SOUND AND TELEVISION CO. PTY LTD.

Combination amplifier, radio, record-player, with microphone input, and monitor speaker in free-standing steel cabinet. Used by primary school. Model/serial: 100 A 150. Contracted supplier. High quality chassis – punched for 2 additional preamp valves, and pots on front panel and top.

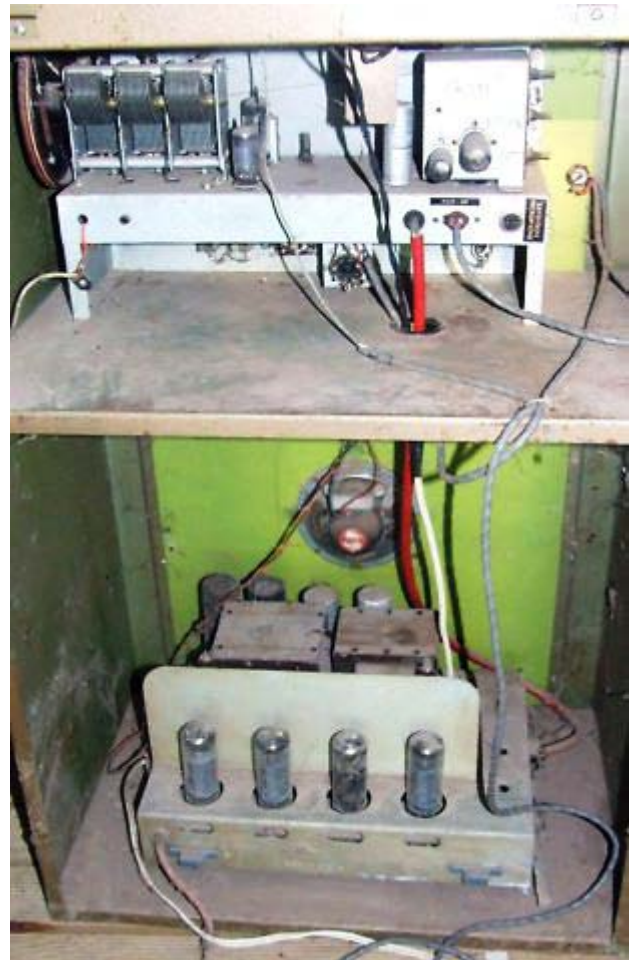
Radio includes plug-in signal/siren generator module with EF86 and QS1200 regulator tubes, NE2 neon, bulb, and rate, decay and volume pots. 50 ohm microphone input, with Vol pot. Playback/record jacks for Tape Recorder. Bell pot. Tuning eye. Tuner adjust. Radio vol pot. Pickup vol pot. Tone pot. Serial No. 2C 292 R.

Amp chassis includes quad 6CA7 fixed-bias PP output stage with catch diodes from anode to ground, and 10k grid stoppers. 12AU7 Schmidt PI. EF86 input gain stage with output feedback from 15ohm winding. Voltage doubler HT, with screen supply from half-HT via individual 1.25k screen stoppers. Neg to ground connection fused. CH16 choke to PI HT. RC to EF86 HT. Operate/standby switch.

Appears to be in original condition, with no rework or changed parts/tubes. .

Output Transformer	A&R Type 2596. 01450. 100W PA; Sec. 100V, 15ohm.
Power Transformer	A&R Type 2096; 0,95,105,115,225,250,275V; HT; FB; H1; H2.
Mic Transformer	Woden MT101 (moving coil 50 ohm input microphone)
Speaker Transformer	L3-1
Choke	Rola CH16, 17 June 1959. 14H 60mA 500R.
Diodes	HR25. 3 in series for each HT doubler diode.
POTs	.
Tubes	<p>QS.1200 voltage regulator EEV</p> <p>EF86 Philips, 8Y9 Δ7F3 : 8Y=EF86; Δ=Philips Heerlen, 1957 or 1967, June,</p> <p>EF86 Philips, 8Y3 D212 : 8Y=EF86; D=Valvo,Hamburg. 1962, Sept.</p> <p>4x 6CA7. Xf2 B3H1; Xf2 B3G3; 2x Philips. Xf=EL34 bant. B=Mullard Blackburn. 3=1963 (most likely).</p> <p>12AU7, Trigon</p> <p>6AL3, Yugoslavia (half wave diode, 6V3 1.5A)</p> <p>EV-88 (half wave diode, 6V3 1.5A)</p> <p>EM34 indicator eye</p> <p>12AX7 Super Radiotron (mic amp)</p> <p>6AE8</p> <p>6N8</p> <p>??</p>
Caps	Ducon electrolytic cans.
Record player	Garrard Model TA MkII (production started circa 1952)
Speaker	Rola C, 5C45

Issues - amp: electrolytics, switches, ac mains wiring.



2. Aim

- Megger test PT, choke and OT. Test turns ratios on OT.
- Restore with upgraded AC safety – new mains cable, etc. Add NTC and MOV to primary side.
- Replace electrolytics – use 470uF 450V cans. Use extra RC filter off doubler mid-point, for common screen HT (to reduce ripple).
- Replace SS diodes and remove tube diode OT protection. Add MOV-R OT primary protection. Add 6CA7 cathode fuses with parallel cold bias protection and idle current sense resistors.
- See if can use full bridge bias rectifier and 2 stage filtering and individual bias adjust. Take idle sense to either socket or switch/meter.
- Add tone stack and gain makeup – add valve socket and 12A7.
- Add front panel instrument input socket. Replace light bulb sockets for flush indicators.
- Add speakon and 6.5mm jacks for parallel 15ohm.
- Add heater humdinger pots and DC elevation.
- Use distributed star grounding.
- Make head cabinet.
- Renovate record player, radio, bell and microphone sections – with extension power cord (safety issue with earthing) – use bottom section for alternative storage.