Ferry

TAPE RECORDERS

SOUTH AUSTRALIA

1950---1963

Jack Ferry and his Tape Recorders.

Once upon a time we did not import our electronic equipment from Japan, we made it in Australia and some of the Reel to Reel Tape Recorders were made right here in Adelaide.

When World War 2 ended one of the soldiers who returned to S A was John (Jack to his many friends) Ferry who had spent the duration in a radar unit.

He was the son of Adelaide racing identity Syd Ferry, but after his education at Scotch College his interests lay in electronics and he worked for National Radio Corporation in Grote St Adelaide before joining the AIF.

As a side line at home Jack developed Black and White movie film for "Harringtons" Photographic house of Currie St Adelaide,and he also experimented with sound on film for home movies.

After demobilisation he was soon making good use of his wartime electronics experience designing radio sets for Peerless Radio and in 1947 approximately 400 five valve mantel radio receivers made in the factory in lower Mitcham were Exported to Japan for use by the occupational forces.

In early 1948 the Peerless factory shifted to Prospect ,and Jack designed a 32volt Vibratorless radio for country use - his circuit used the 32volts as the high voltage rail of the circuit and had either 2 valves in parallel or 4 valves in parallel push pull for improved output level. Dunlight marketed these 32 volt sets as accessories with their Freelite Wind Generating plants.

But working for some one else was only a stepping stone and before the 1940s were over he had started his own small factory behind the house at Springbank rd Clapham where he made Pickups, Turntables, Hi Fi amplifiers and even disk recodring equipment.

Electric motors for the Turntables were a unique 78RPM Syncronous motor that had to be started by hand. These and the motors for the wire recorders were made by a Mr.Gilbert Johnston of Beaulah Park.

Later in 1948 when magnetic wire recorders made their appearence Jack immediately made some for the local market. this technology however was quickly superseded by tape recorders, notably the Pyrox and AWA Magictape in 1949 and Jack made a number of experimental tape recorders and housed them in the cabinets left over from wire recorders.

1950 Saw the first production model, it was single speed, full track, no fast forward ,only one motor, and used a lot of cast aliminium.

In 1950 there were no spare spools so Jack had a die made to mould his own in Bakelite.

Aliminium castings for the turntables , motor boards , pickups , wire recorders and early tape recorders were all cast by Mr R D Johnson in a small foundry in Beulah Park.

Jacks "second wave" of recorders, from 1951 to 1953 were still of cast aliminium construction,but developed from variable speed to twin speed with fast forward and rewind ,half track and with or without a radio tuner built in.

All of these machines used a single motor with a figure-eight belt drive to two clutches for take up or rewind.

Electric motors for the 1952/3 tape recorders nick named the floor polisher special (because of the figure eight belt) were made by a Mr, lenard Senn.

In the late 40s and early 50s you could not purchase Record/play heads off the shelf in an electronics store, and there were no text books to tell you how to make them. so we experimented and made our own.

The first tape record heads we made consisted of strips of old transformer "Stalloy" metal with sticky tape for insulation, and 40G enamel copper wire windings (high impedance in valve days) with thin slivers of mica to form the gap between the pole pieces. This head assembly was then pressed into an aliminium casting that was machined with a 1/4" groove to guide the tape past the gap.

Later we punched laminations from "MU" metal for the pole pieces and used aliminium foil from cigarette packets for the material to form the gap and clamped the resulting assembly between machined aliminium formers.

By 1954 we could purchase "Elmec" brand heads and by 1956 came the "Ultron" brand heads that were used in all our professional tape recorders.

About this time Jack made tape recorders under the Multivox label for McDougals to sell as office dictation equipment.

When Harry Goodfellow transferred the movie projectors from the Mitcham Institute to the Argossy at Seacliffe in 1953 Jack designed,built and installed a new amplifier for the sound system Later Harry used one of Jacks Tape Recorders to provide the audio commercial advertising to go with the slides, so he had his own Talking slides during intermission, causing the wrath of Monks and Blanks who had refused to cut disks specially for the Argossy.

The single motor machine gave way to three motor recorders in 1954 and we used gramophone motors made by B S R in England, they were also used for all semi professional tape recorders from 1955.

In 1954 Jack registered the business as"Ferry Sound Industries" and started advertising in "Radio and Hobbies" (the fore nunner

to Electronics Australia) and in 1955 his adds were to be seen on Adelaide trams.

For several years his small factory with its staff of four turned out about five tape recorders a week, and at a rough estimate would have made about 1500 that were sold through out Australia.

The P M G engineers approved the Ferry tape recorders for use in South Australian public schools in 1954.

Jack consistantly refused to make or publish performance figures, in particular, frequency responce, saying that very expensive equiptment and conditions were needed to make tests and were very hard to verify,He always told customers that their ears were the best test and if they liked the sound to buy it . This was probably the reason that his recorders were never accepted in proffesional circles like radio stations.

1955 saw a new model and a change from cast aliminium to sheet metal and Plastic top cover and front escutcheon.

Jack was also very interested in the phenoma of U.F O s and because of tape recording, became the S A agent, duplicating tapes of lectures given by American U F O reaserchers for distribution in Australia.

It was a measure of his standing as a manufacturer that Jack was one of the manufacturers that the Government turned to for advice when seeking information in this field.In the 1950s there were import controls on many manufactured items including tape recorders, and several times in that period the Government Dept concerned sought Jacks advice for approval to import tape recorders. One such case I recall was a request from an airline to import 28volt recorders for use aboard aircraft.

In 1955 Jack wrote an 88 page manual on tape recording that was never published. However about 50 roneoed copies were distributed to Australian Tape Recordist association members and customers. IT was written in terms that the layman could understand, and included a brief history of magnetic recording, from steel band to wire and tape and then described how a tape recorder worked and how to get the best from your own.

1956 The construction changed again, the parts being assembled on vertically arranged anodised aliminium panels.

July 1956 Jack was elected Federal President of the Australian Tape Recordists Association, a position he held until late 1959.

It was 1956, too that saw the advent of stereo, and in July of that year Jack demonstrated to the monthly meeting of the S A branch of A T R A the first stereo recorder to be built in S A and possibly in Australia.
This first stereo machine earned the nick name of Frankenstein the Monster, Jack was never sure whether he controlled it or it controlled him. It featured three heavy duty motors , three

speeds ,had two tracks in one direction only, with the recording heads being staggered by 1 7/32 inches (not stacked one above the other as they are today), twin push pull valve amplifiers of 7 watts each and volume controlled monitor speakers.

Club members and visitors of the audience were amazed at the lifelike reproduction of the Overland express steam train passing through the Clapham station -- Aproaching from the left and travelling away to the right, Likewise a motor cycle approaching from the left and fading away to the right down Spring bank road.

All Ferry tape recorders from 1954 had mic/phono mixing and a facility that caused a lot of comment over the years,a variable tone control during record. They were capable of being used for Public Adress Amplifiers.

Over the years Jack made a number of special recorders for such places as drive in theaters, Commonwealth Hearing aid labs the Customs office at Port Adelaide and soon after the Advertiser Sound shell was built in Elder Park Jack was approached by sound engineers to make a delay line for audio work, so Jack made a tape recorder with several play heads following the record head, each of these play heads provided an ecko that was fed to amplifiers feeding speakers in rows out from the audience making the sound arrive at the same time as the natural sound from the orchestra or singer.

Also in 1957 at the encouragement of the dept of supply, Jack developed a prototype tape recorder to the specifications of the Royal Australian Navy in the hope of being awarded a contract. The circuitry was a valve design and the Navy took so long to make a decision that the transistor arrived on the scene to win out over the valve.

In September 1957 Jack and I demonstrated, again to the Tape Recordists Association monthly meeting, a portable A C recorder working off a vibrator power supply from a 12volt car battery. We were able to play tapes of interviews made on "on location". This recorder, a prototype known as the workshop special,had an adventurous life - several times it was secretly installed in the boots of motor cars to record evidence that was later used as evidence in divorce cases.
It was also used in my car in the wee small hours for a local breakfast time Radio announcer Russ Tyson (5KA) to make short interviews with night workers to be played on his breaky session.

It also was the prototype of the recorders Jack made,branded "Bluebird" for Ralph Petersen to sell as dictation recorders, to match the Bluebird type writers.

Some time in the late 1950s Jack developed a telephone answering tape recorder for Adelaide business identity Mr.Sanderson. Telecom at the time would not allow direct connection to the telephone lines, so any equipment had to work mechanically, magnetically or acoustically. when the phone bell rang a signal from a microphone activated the mechanism and an arm raised the telephone handpiece with the transmitter and earphone resting

on a microphone and small speaker. A 3" reel to reel tape recorder then played a message to the caller that the phone was unattended and after the pip to leave his name and phone number. After 30 seconds it lowered the handset and reset itself .

Mr Sanderson tried in vain to get it manufactued in Australia, so took it to England, where EMI decided to mass produce it. However, by the time their prototype was finished Telecom had changed their rules and any such device had to have direct connection -- so the project was dropped.

A small deck with 3" spools and a 6volt DC motor developd to be used with a transistor amplifier in 1958 suffered the fate of being dropped because of the advent of Japanese recorders on the Australian market.

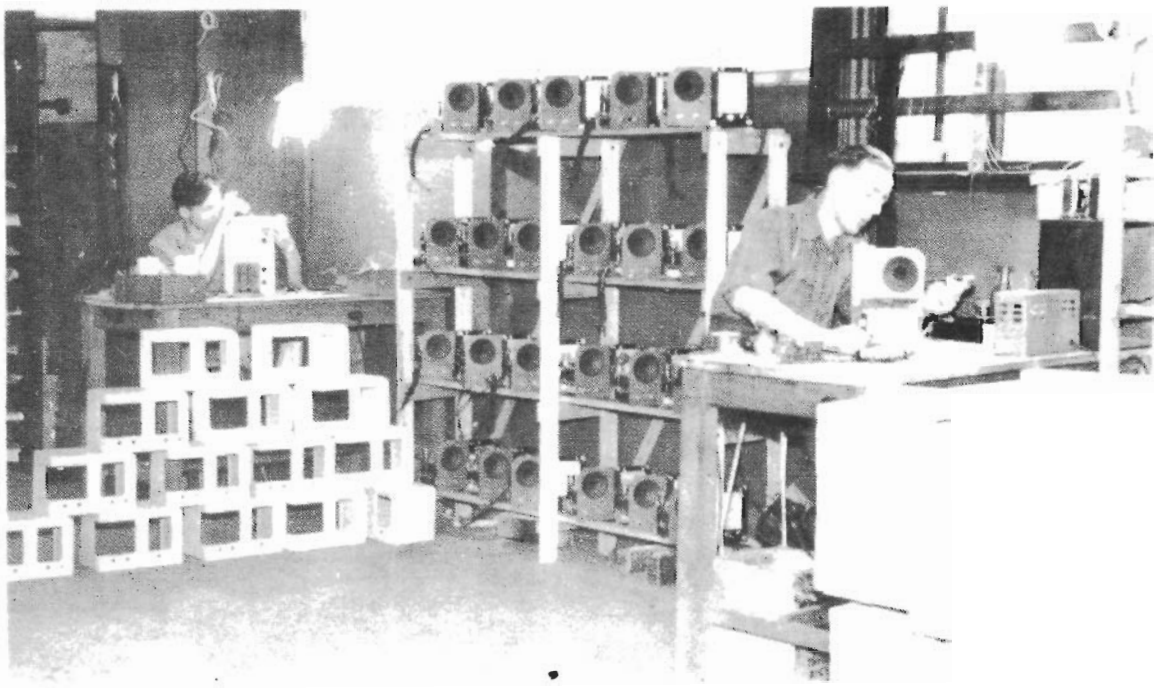
In 1959 and 1960 English Collaro tape transport decks became plentiful in Australia and Jack used these, building the electronics under them and installing them in cabinets we made in the factory.

By 1961 television had caused a slump in the demand for tape recorders, so Jack turned to T V servicing, manufacturing T V antennas, making P A systems and installing them in super markets, making electronic units to measure water purity in water demineralising plants, and doing general electronic repairs.

Jack Ferry died in December 1966, leaving his widow, Maree (whom he met and married during his Army service while in NSW) and two daughters, Christine and Rosalie.

The passing of this bright and energetic sound engineer marked the end of "home grown" S A sound engineering.

These notes compiled by Neville Ellison. a former employee of Jack Ferry, and an Honorary Life Member of the Australian Tape Recordists Association, in the hope of keeping this piece of S.A. history alive.



1947 Jack in the Peerless factory in Lower Mitcham aligning 5 valve superhet mantel receivers.

Approximately 400 of these receivers were exported to Japan. John McGowan is seen packing sets into wooden boxes.

After the Peerless factory shifted to Prospect, Jack designed a 32 Vol
bratorless radio for country use - his circuit used the 32 Volts as the h
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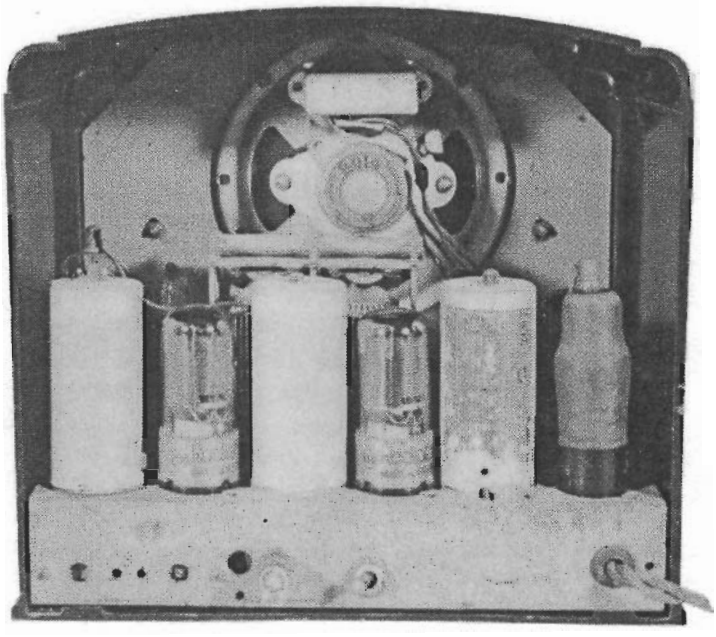
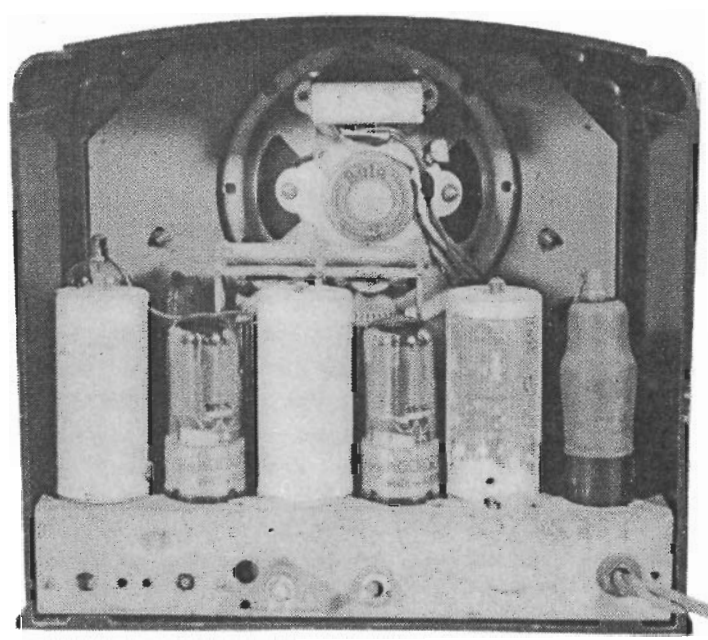
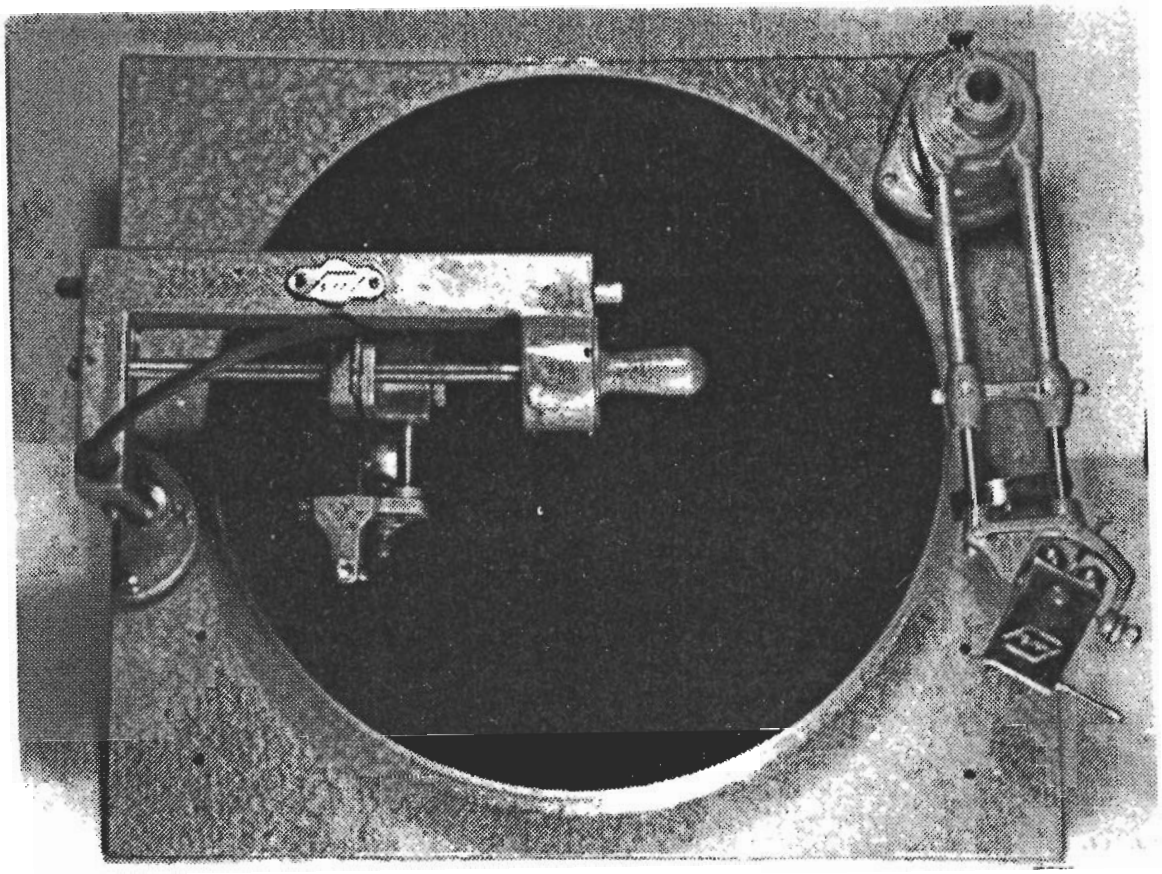


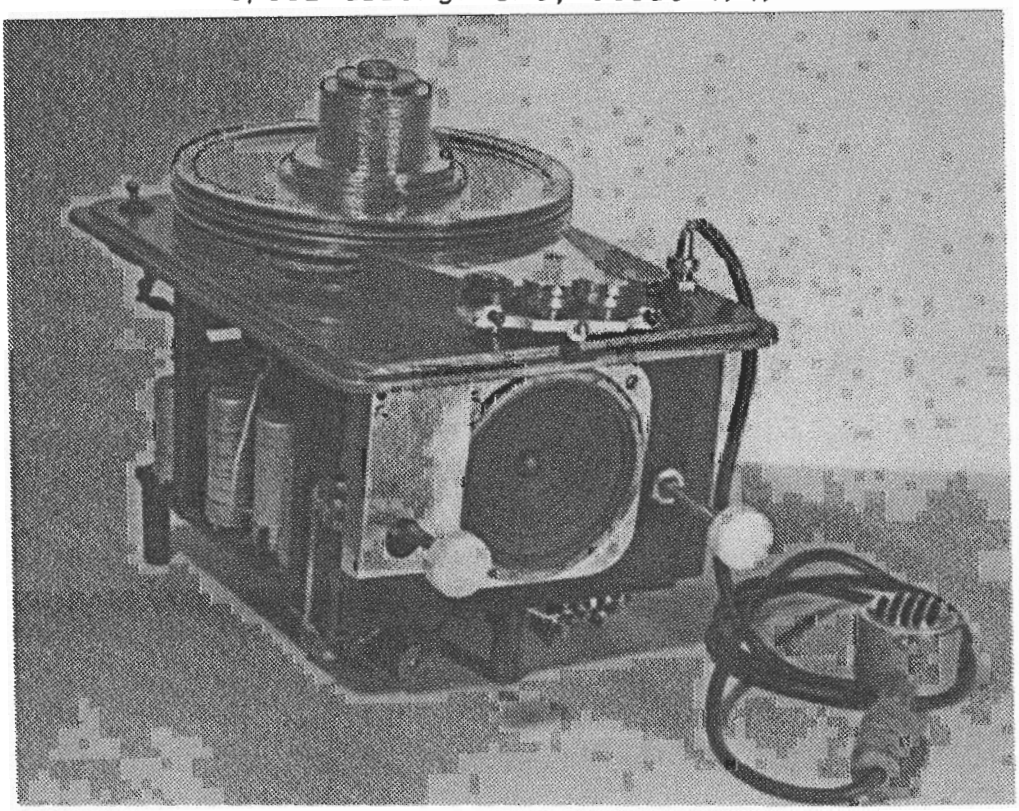
After the Peerless factory shifted to Prospect, Jack designed a 32 Volt Vibratorless radio for country use - his circuit used the 32 Volts as the high voltage rail of the circuit and had either 2 Valves in parallel or 4 Valves in Parallel push pull for improved output level. Dunlite marketed these 32 Volt sets as accessories with their Freelite wind generating plants.

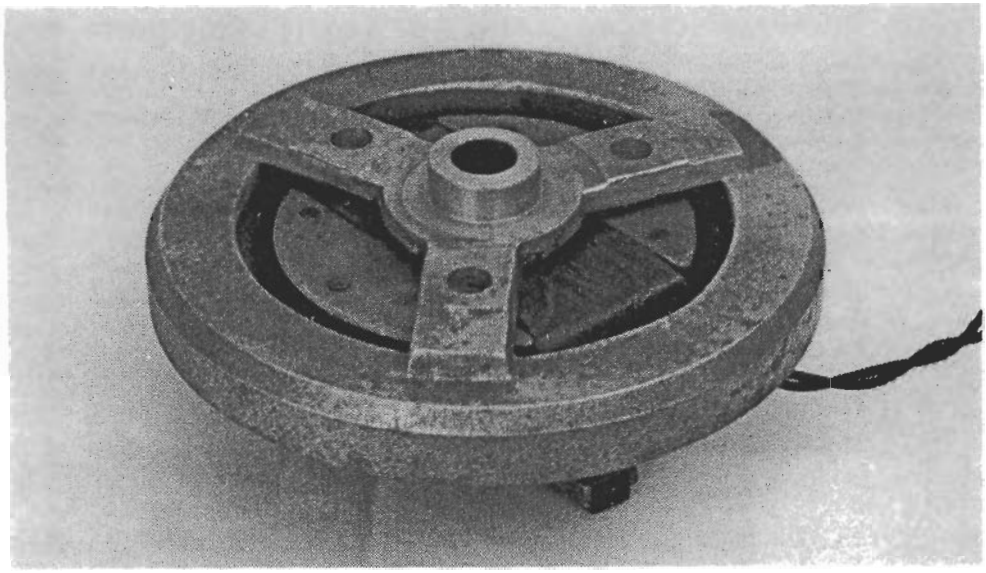




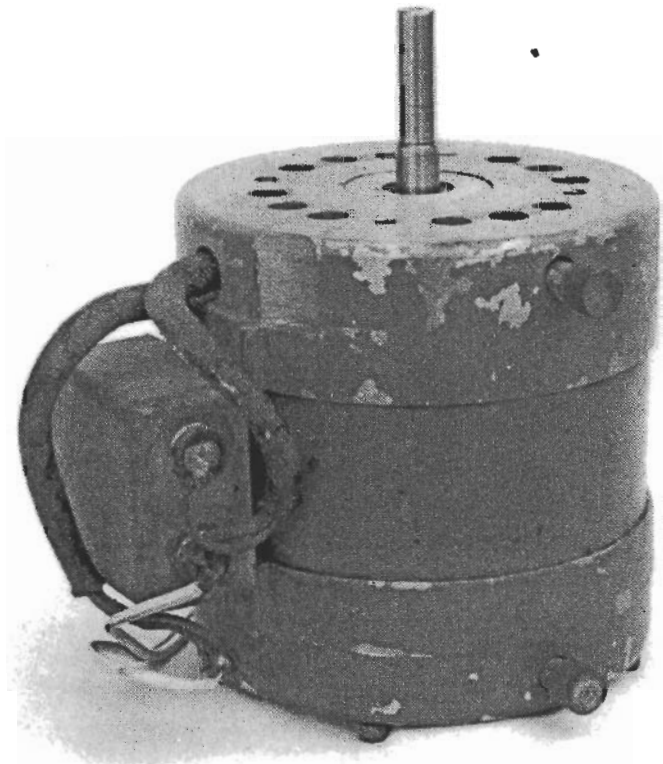
Ferry turntable pickup and recording gear; late 1940s

Ferry magnetic wire recorder with unique 'under-and-over' spool arrangement; about 1949



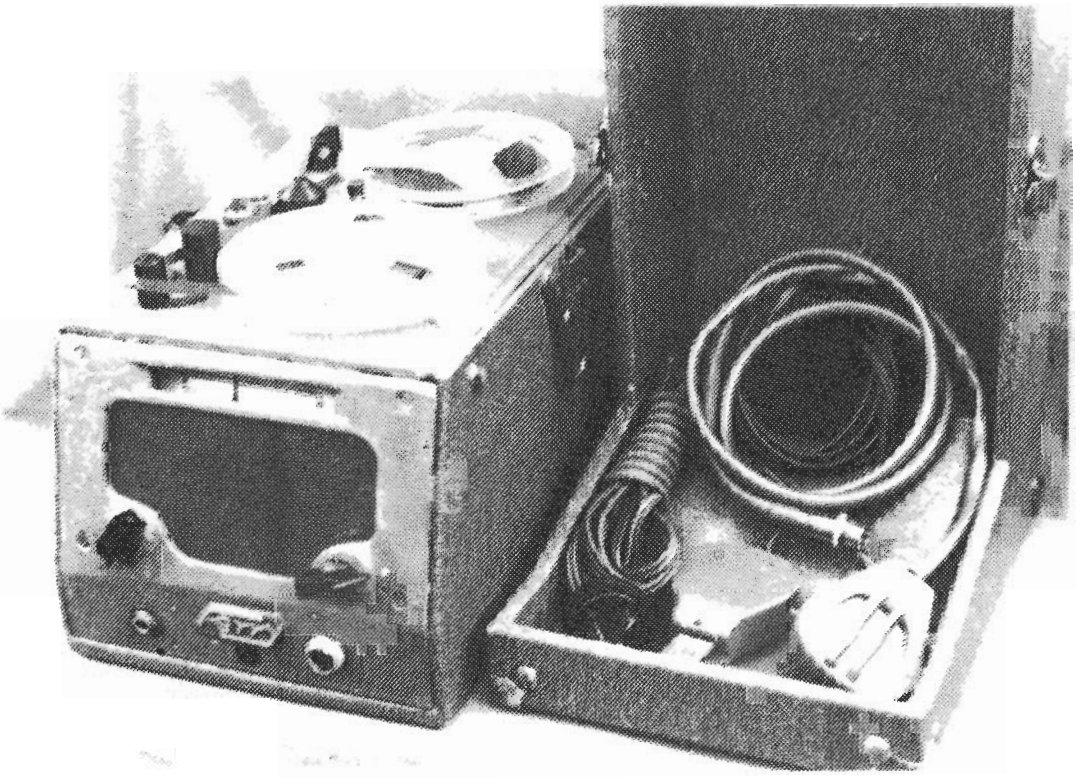


The Unique 78 RPM Syncronous motor used in the early 78 RPM Turntables.



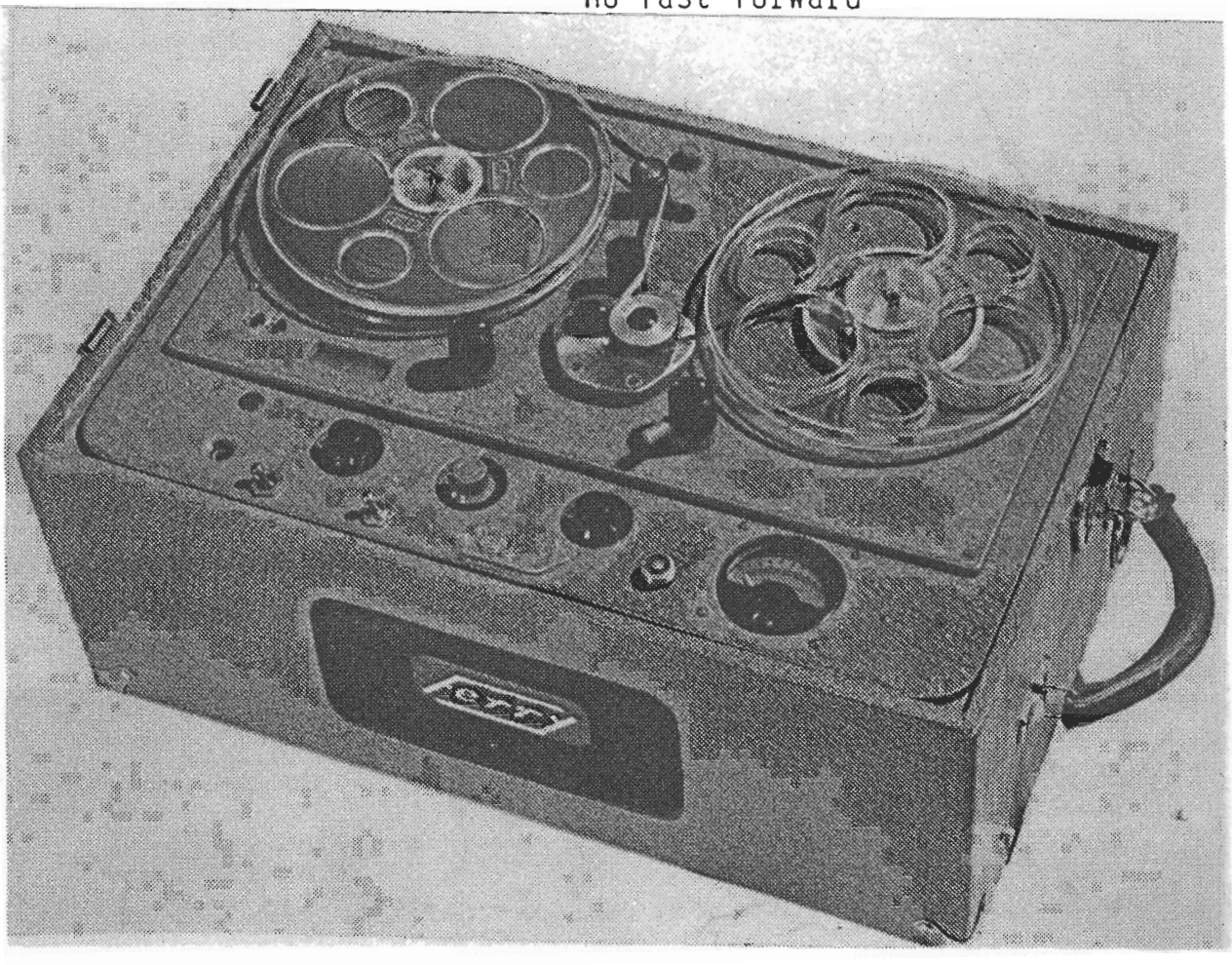
The Electric motor used in the 1951 to 1953 Figure 8 Belt drive Tape Recorders.

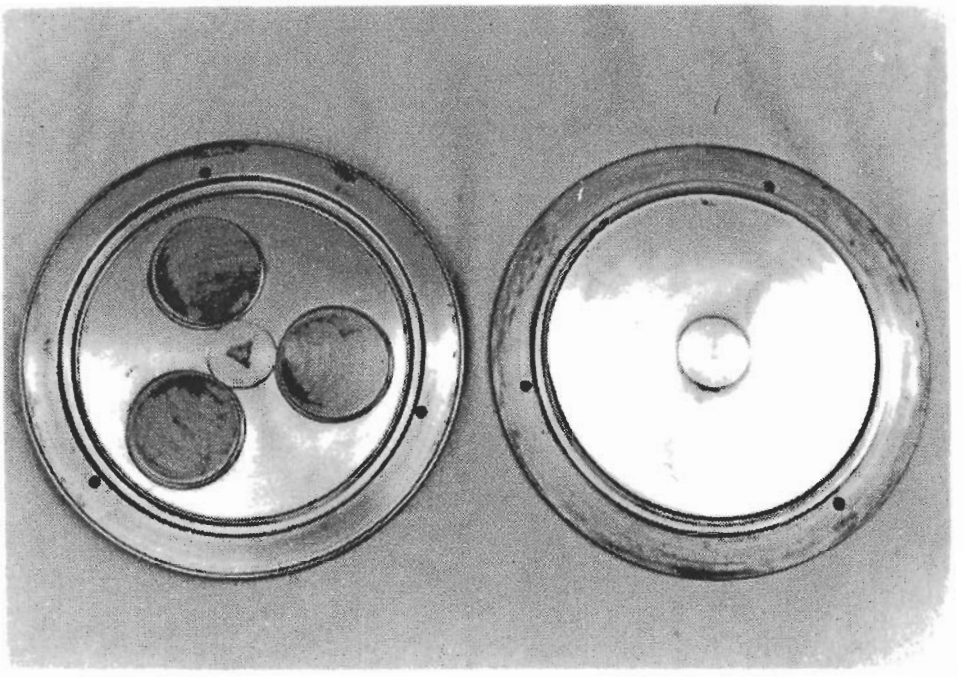
The 1949 prototype using an old gramophone motor and housed in an old wire recorder case.

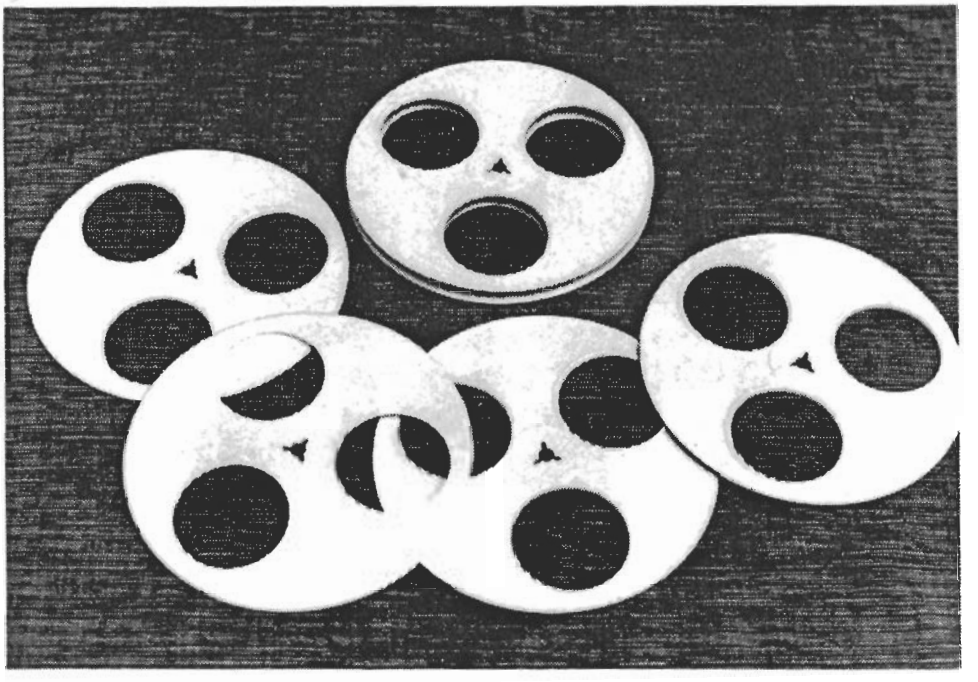


Ferry Turntable Pickup and amplifier with wire recorder adaptor on the Turntable about 1949.

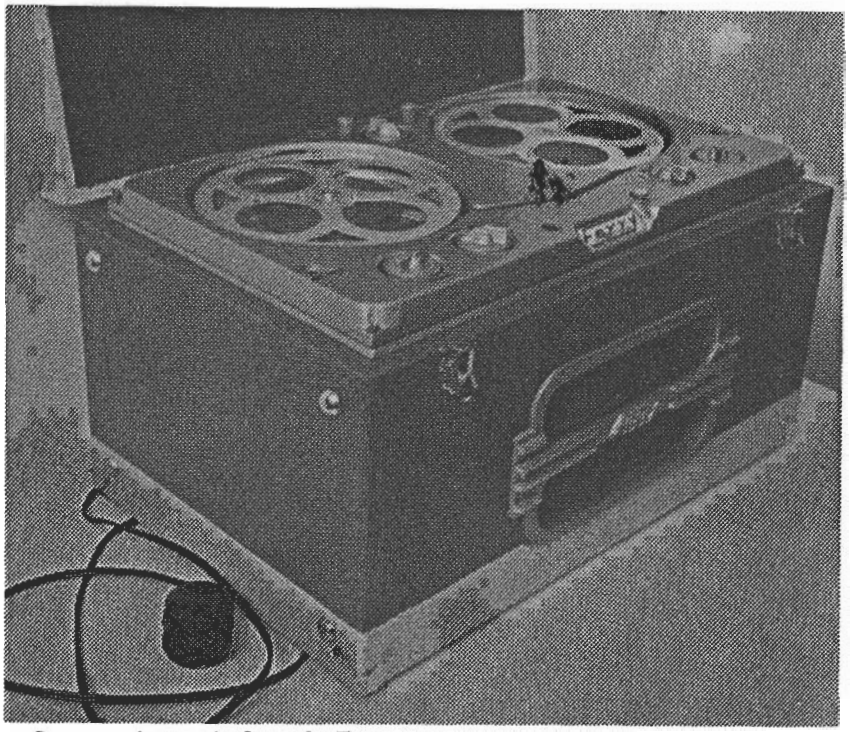
First model of Ferry tape recorder, 1950: single speed, 7½ IPS, full track, DC bias and no fast forward





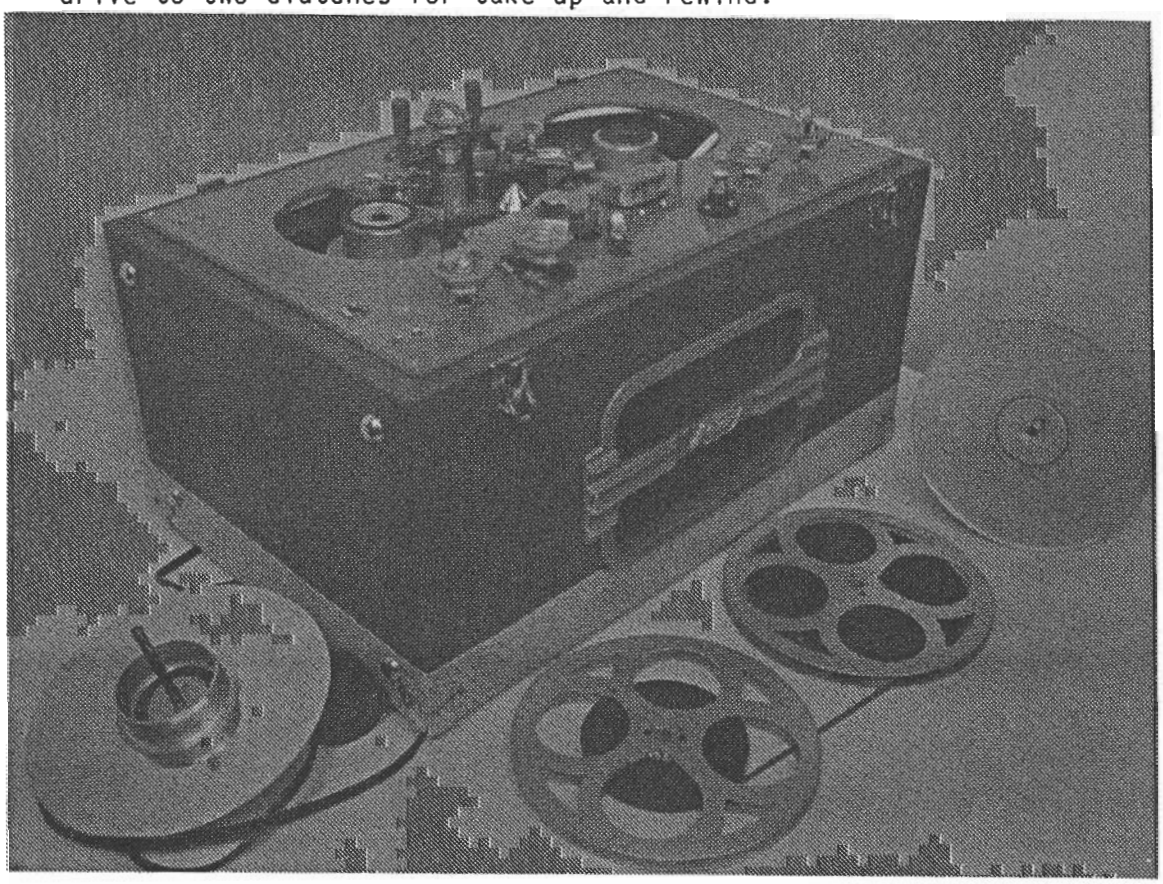


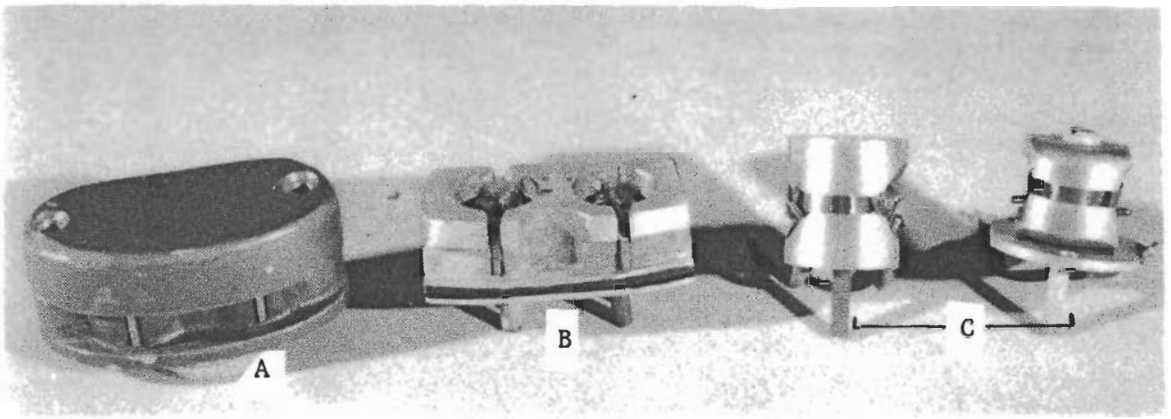
In early 1950 there were no spare spools so we had a die made to mould our own in Bakelite.



Second model of Ferry tape recorder, 1951:
Variable speed, full track and AC bias;
cast aluminium construction

Same Model showing Tapered Cone drive for Variable speed and Belt-drive to two clutches for take up and rewind.

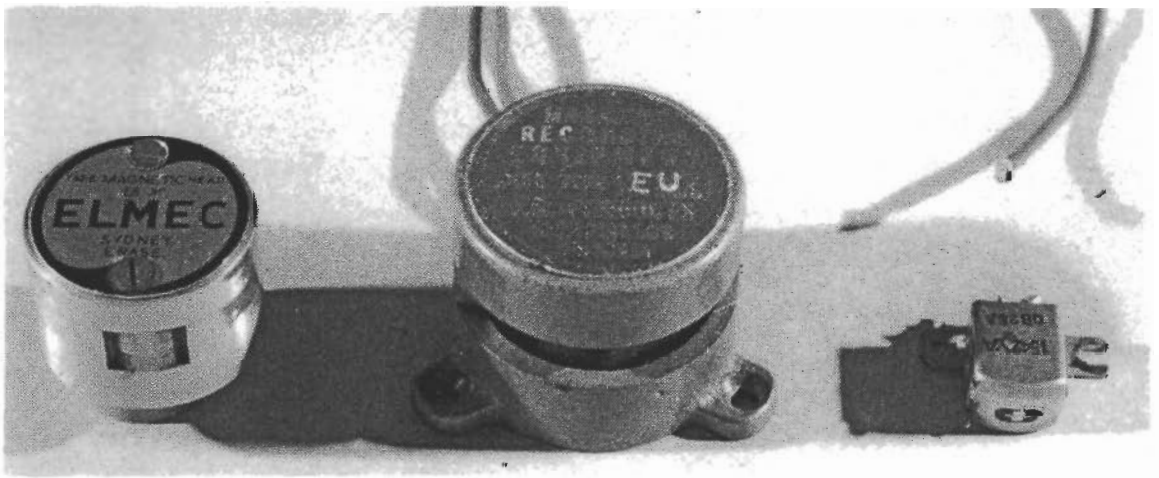




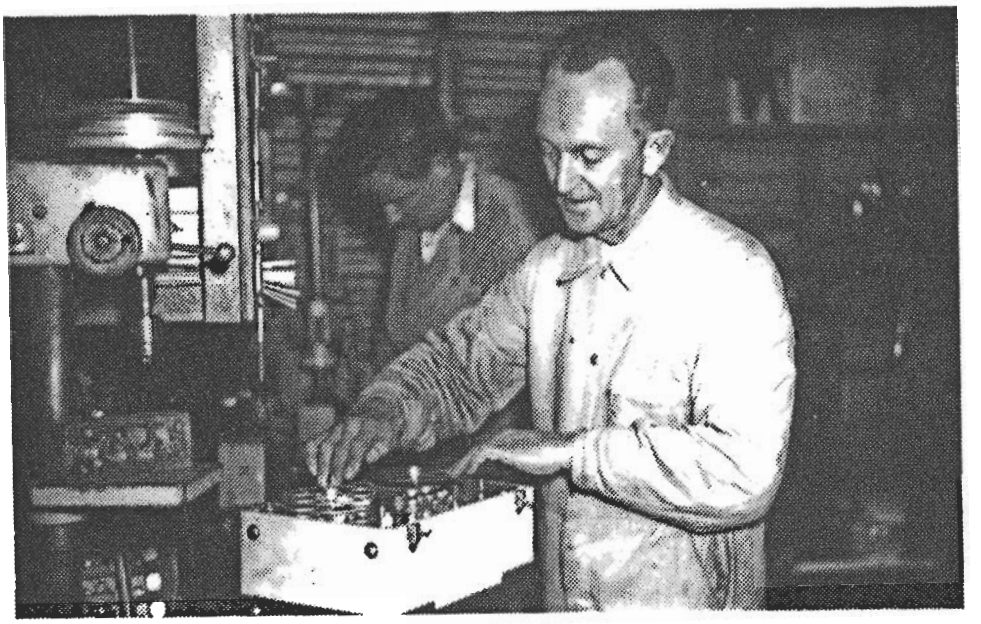
A 1951-3 plug in Full track heads consisted of strips of old transformer "Stalloy" metal with sticky tape for insulation, and 40G enamel copper wire windings (High Impedance in Valve days) with thin slivers of mica to form the gap between the pole pieces. This head assembly was then pressed into an aluminium casting that was machined with a ¼" Groove to guide the tape past the gap.

B The original experimental head where the pole pieces were filed away to form a ½ track head.

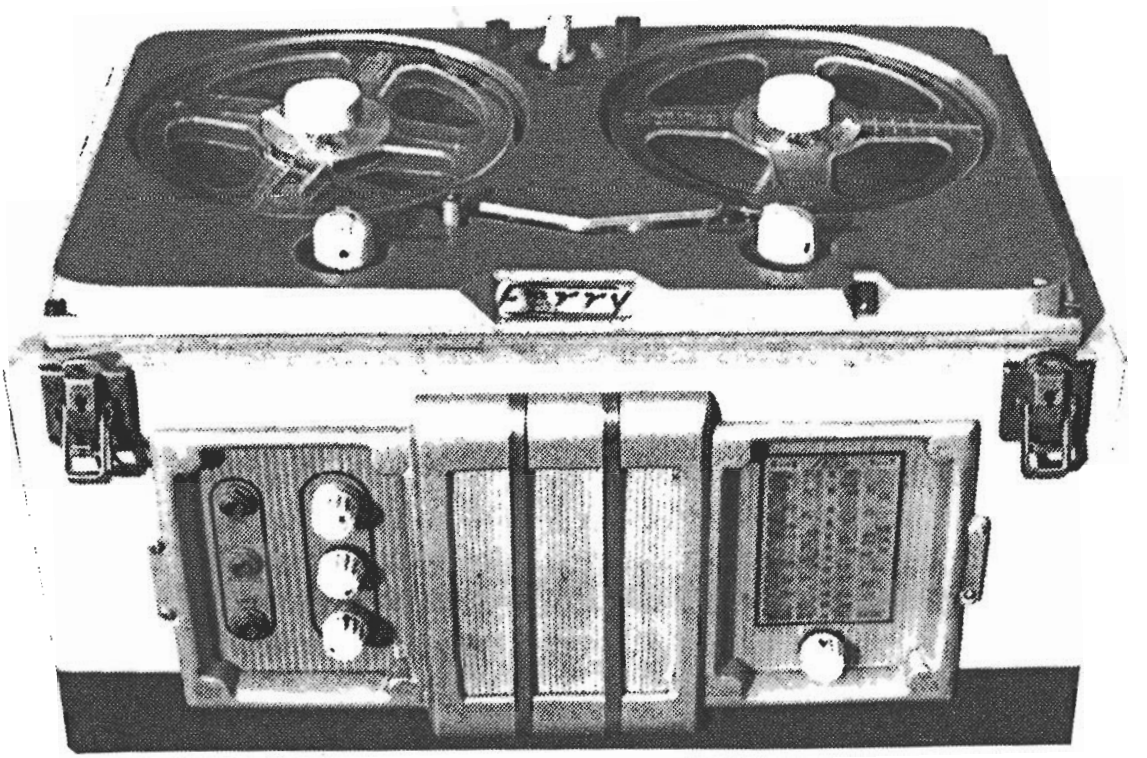
C In 1953/4 we punched laminations from "mu" metal for the pole pieces, and used Aluminium foil (from cigarette packets) for the material to form the gap and the resulting assembly clamped between machined Aluminium formers.



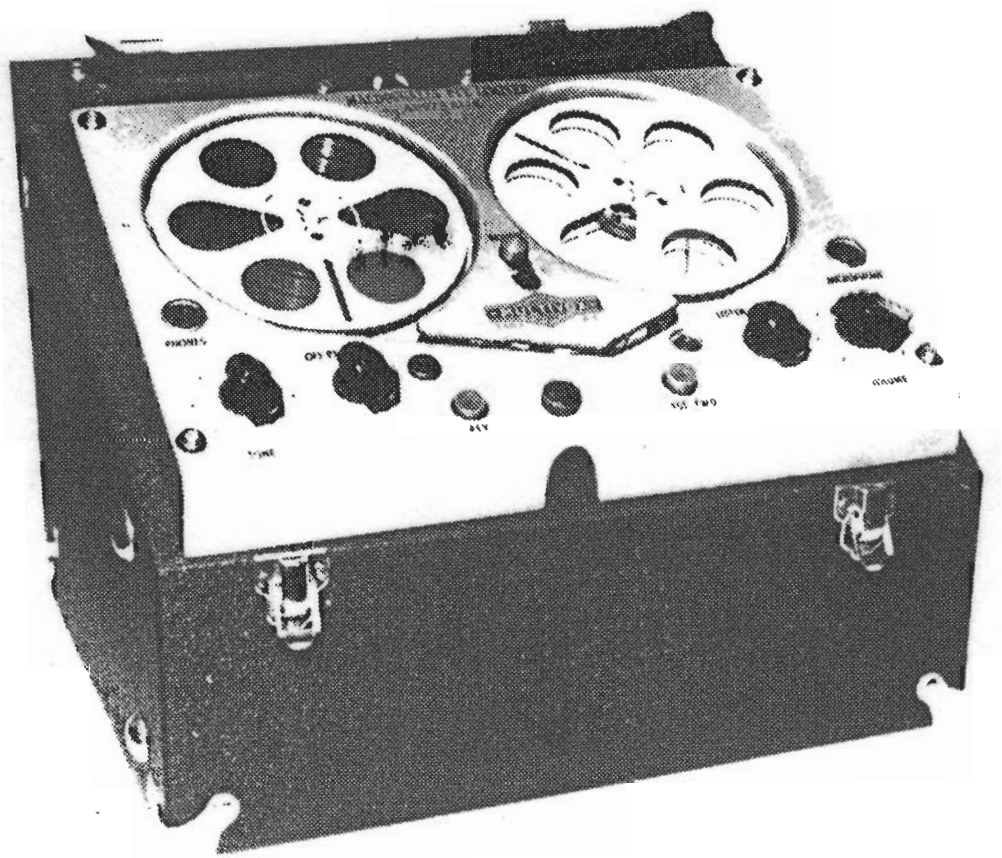
By 1954 we could purchase "Elemec" brand heads and by 1956 came the "Ultron" brand heads that were used in all our professional Tape recorders.
Compare them with the modern cassette recorder Head on the right.



Jack Ferry in his workshop Early 1950s assembling a Ferry Tape Recorder.



Ferry tape recorder Model M 5: Twin-speed, half-track with radio tuner; cast aluminium construction; 1953 or 1954

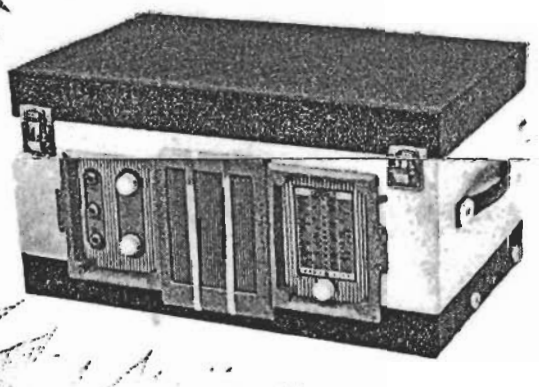


Multivox Dictation Recorder made by Jack Ferry
for Sands and McDougalls; 1953-54

"Radio and Hobbies," then "Radio, Television and Hobbies,"
and finally became today's "Electronics Australia"

YOUR! INFORMATION

FOR ON FERRY



TAPE RECORDERS

LET'S—

LIFT the + + + LID!

A clever advertising leaflet in 1954
Folded so that whem the flaps are lifted you see the top and inside of the recorder.

General Details of the *Ferry Tape Recorder*

• The Recorder consists of FOUR separate units or sections The MECHANICAL SECTION, which provides for the steady transport of the Tape past the Recording and Reproducing Heads. The POWER SUPPLY and Power Output Valve, together with the Super-Sonic Bios Oscillator, ore grouped on a separate chassis which is secured to the Handle end of the carrying case. The PRE-AMPLIFIERS and their associated tone controls and Frequency Correcting circuits The RADIO TUNER, complete with its Dial, its Station selecting and amplifying circuitry.

The last two units, together with the Reproducing Speaker, are mounted on the front Escutcheon which is readily detachable for inspection

• All main members are of SAND CAST ALUMINIUM, ensuring rigid support and permonent alignment of the moving parts.

• Tape Reels may be left in position when the lid is closed and the Recorder used without fear of tape breaking.

INPUT JACKS for Microphone and Phono.

•

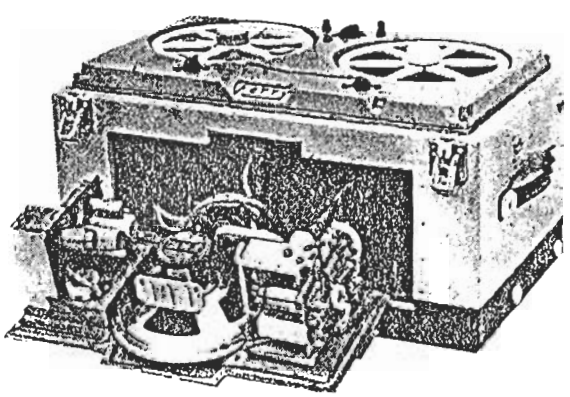
MONITORING of programme whilst recording

•

OUTPUT JACK for External Speaker SINGLE or TWIN Track Recarding

•

SPEED CHANGE is knob controlled



THREE MOTOR Tape Transport Mechanism.

•

INTERLOCKING of Switches and other controls — almost completely foolproof

•

FAST FORWARD and REWIND provided by "Motorised" Push Buttons

•

SELF RE-SETTING SERVO BRAKES in both Reel direction

• The Recorder gives Brilliant Performance at all speeds and may be had with Half Track at $7\frac{1}{2}$ and $3\frac{3}{4}$ Ips. (Type MB) or with full track at the same speeds (Type MA). Type MD provides half or Twin Track at the speeds of $3\frac{3}{4}$ and $1\frac{7}{8}$ Ips., whilst the MC provides for full trock recording at these speeds.

• RADIO TUNER is a two-stage unit complete with in-built aerial and may be added to any of the above Recorder Types. The Tuner is fitted into the right front side of the Control Escutcheon

• INVERTERS, EXTENSION SPEAKERS, MICROPHONES and accessories are availoble in a variety of types to suit all conditions.

Designed and Manufactured by

FERRY SOUND INDUSTRIES

99 SPRINGBANK ROAD, CLAPHAM, S.A. + + 175 WOODLANDS STREET, BALGOWLAH, N.S.W.

The new model for 1955: Three motors, with DC being applied to the motors for braking; three-speed, twin-track; plastic top and front escutcheon

1955 advertising on Adelaide trams

Ferry

FOR SOUND QUALITY!

Another Outstanding Release!

THE "FERRY" MP SERIES . .

Single speed for Quality Music and clear natural speech.

Tape speed—3¾ I.P.S., Twin Track.

New 3 motor deck, Latest Valves,

Fast Rewind & Forward.

Model MP7-R—with Supersensitive Radio

Model MP7—without Radio.

MODEL QS7-R—Quality Radio-Tape Unit

MODEL QS7—Quality Tape Recorder

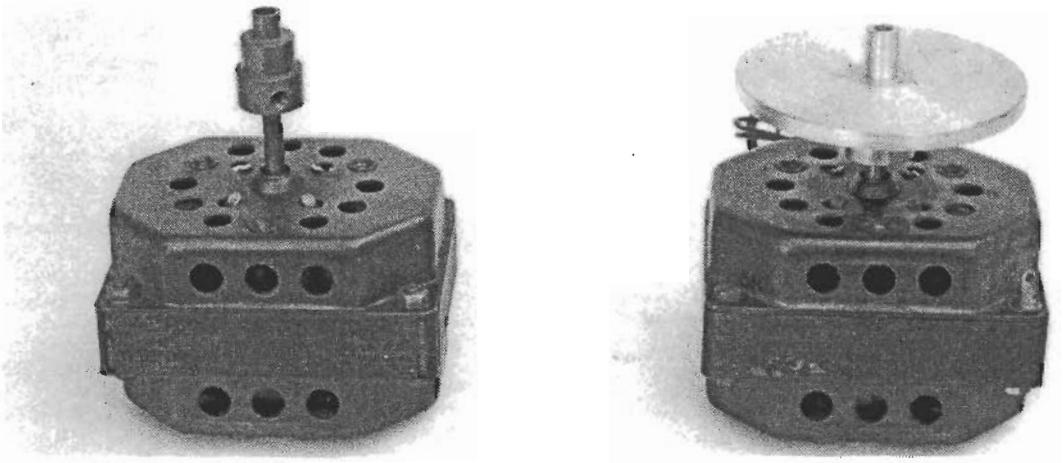
Push-pull output, new 3 motor 2-speed deck, latest type valves, and new supra-fidelity sound heads. Instant Speed and Equalisation change, Fast Rewind and Forward, pause Button.

Speeds 7½ & 3¾ I.P.S., Twin Track, Terrific Sound Resolution; the delight of all true Connoisseurs.

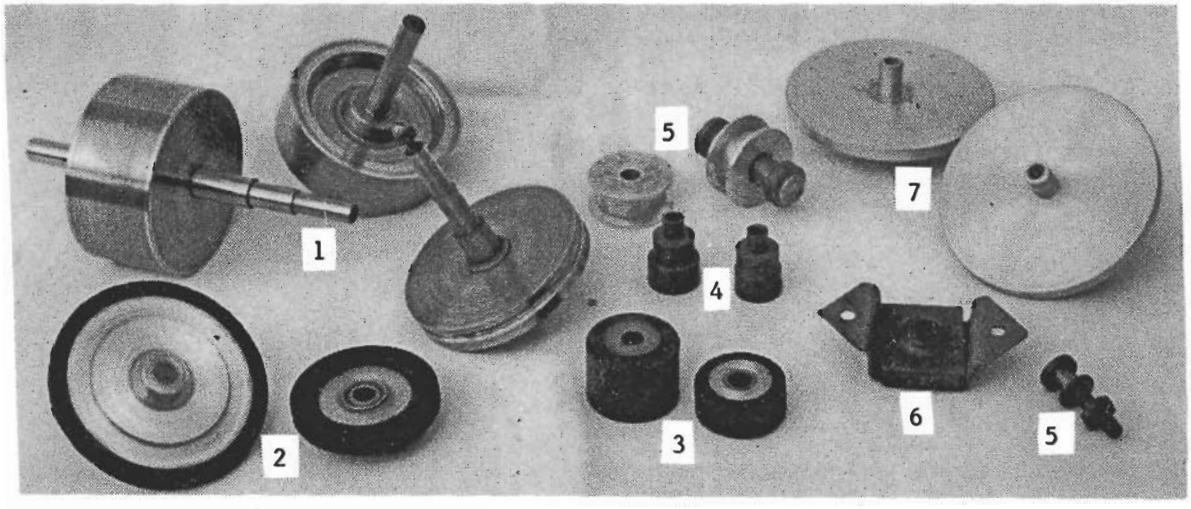
S.A.: FERRY SOUND INDUSTRIES
99 Springbank Rd., Clapham—UM1850.
S.A.: A. G. HEALING LTD.
155 Pirie St., Adelaide—WO171

N.S.W.: FERRY SOUND INDUSTRIES
175 Woodland St., Balgowlah—XJ1856
QLD.: DENRADIO INDUSTRIES
Adelaide St., Maryborough—359

VIC.: TOPLINE RECORDING SERVICE
5 Buckley St., Noble Park—UM9402
W.A.: SUBURBAN RADIO CO.
334 Charles St., Nth. Perth—BA2395

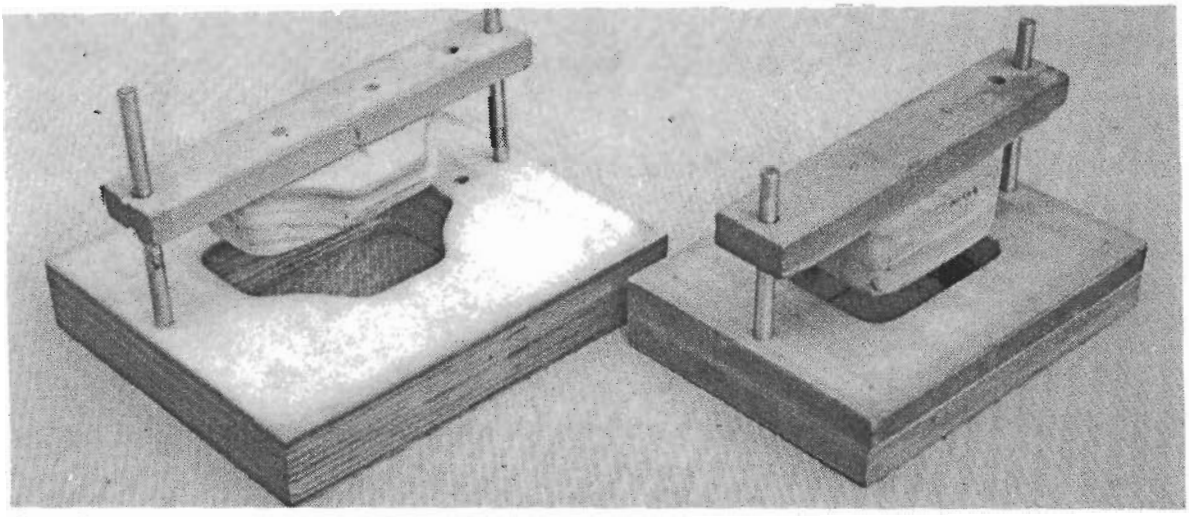


English B S R Motors that were used in various models from 1954 onwards. One with two feed drive and one with spool table.



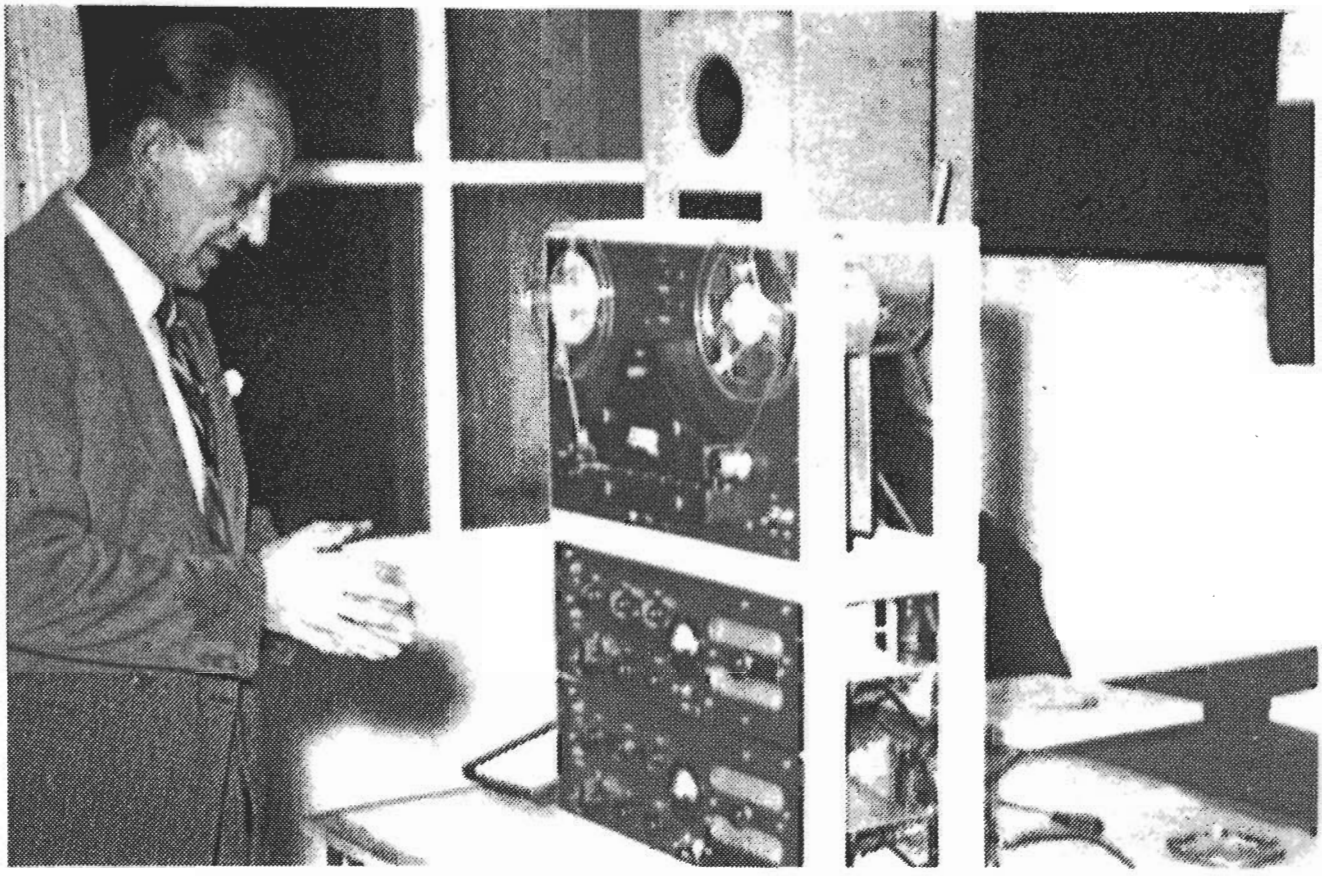
A collection of parts for Various models.

1. Capstans. 2. Rubber tyred drive wheels. 3. Pressure rollers.
4. Motor drives. 5. Tape Guides.
6. Oilite Self aligning Capstan Bearings. 7. Spool tables.

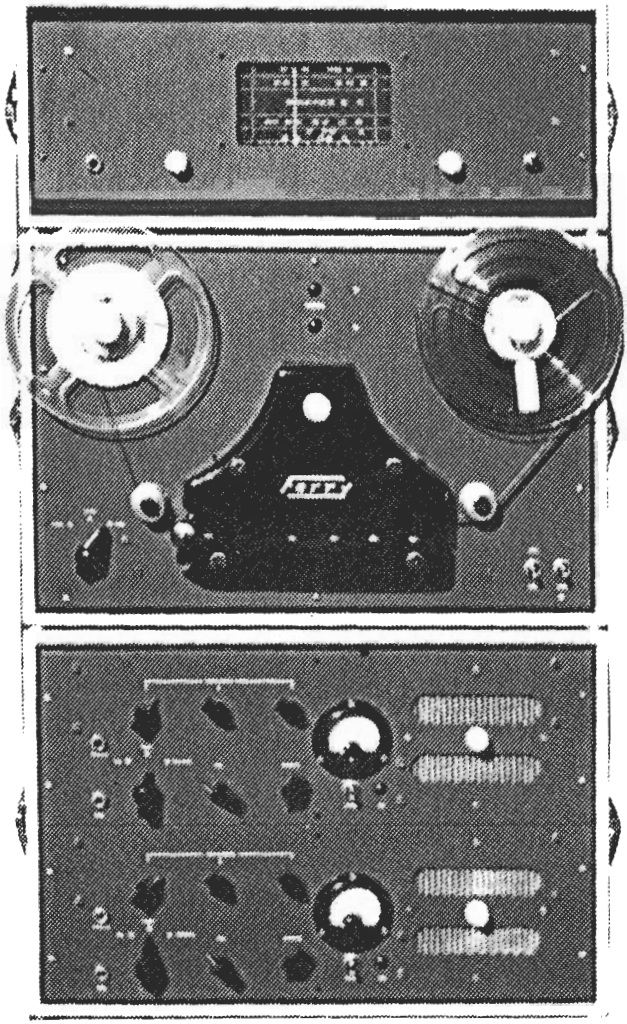


Simple pressure Moulds or presses for Head covers, Acrylic sheet heated in the oven at 400°F for 20 minutes, placed between formers and the weight of the author stepping on them and waiting until cold: then with the flashing removed left a plastic head cover.

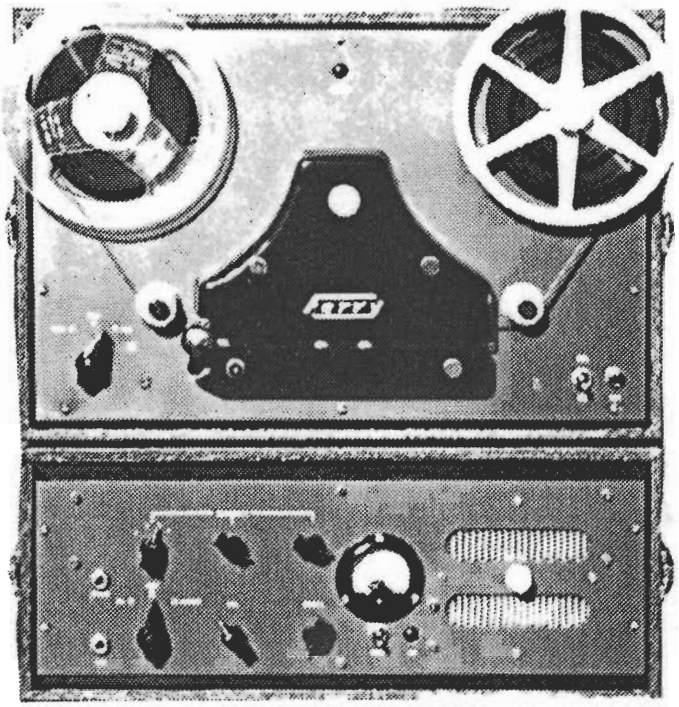
Jack Introducing his Stereo T R called Frankenstein the Monster to the Tape Recordist Meeting July 1956.



This machine had 3 speeds ½ track with separate heads the gaps being staggered 1 7/32" apart - volume controlled monitor and speakers and tone controls that could be altered during recording.
The Amplifiers were valve operated with 7 watts per channel and mic and aux inputs could be mixed.

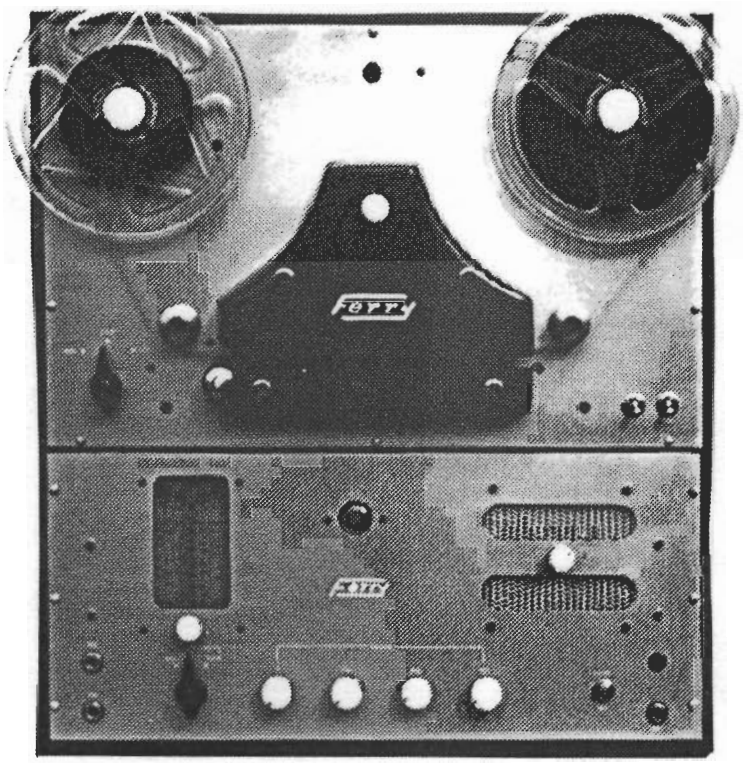


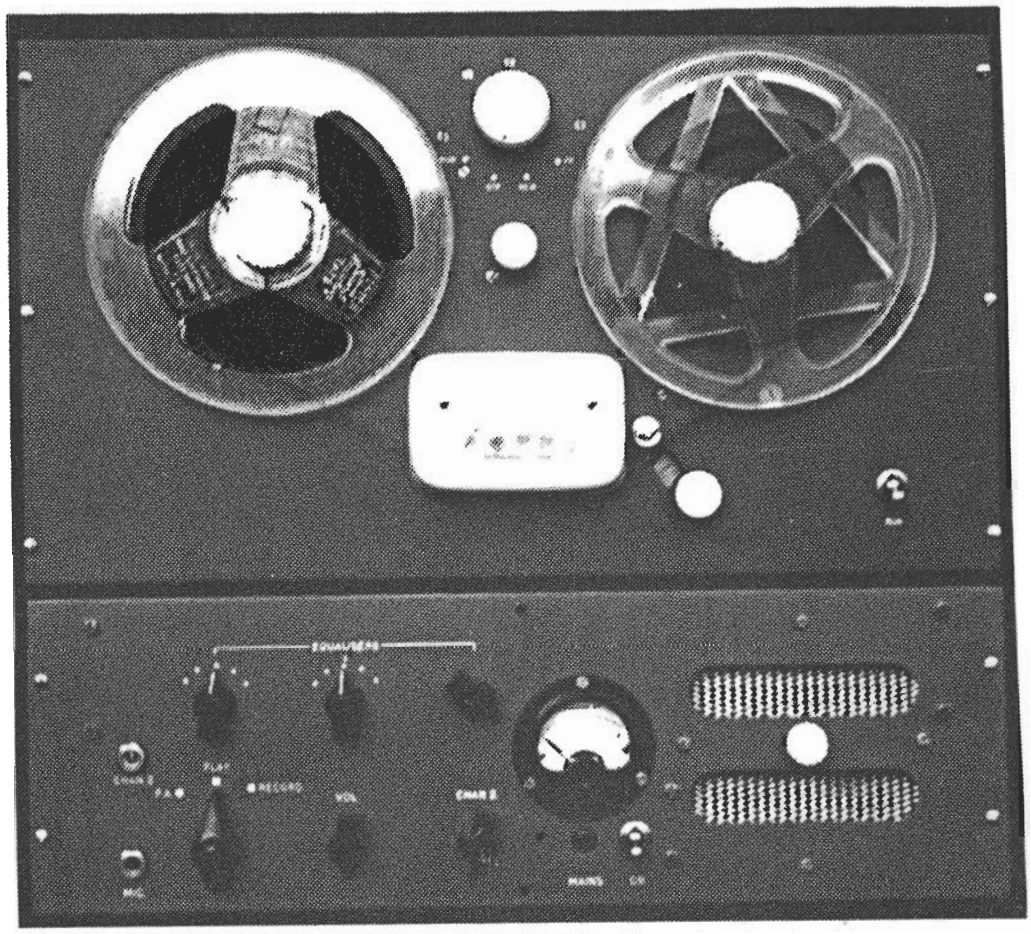
Here is the big stereo recorder with a matching tuner to go with it.



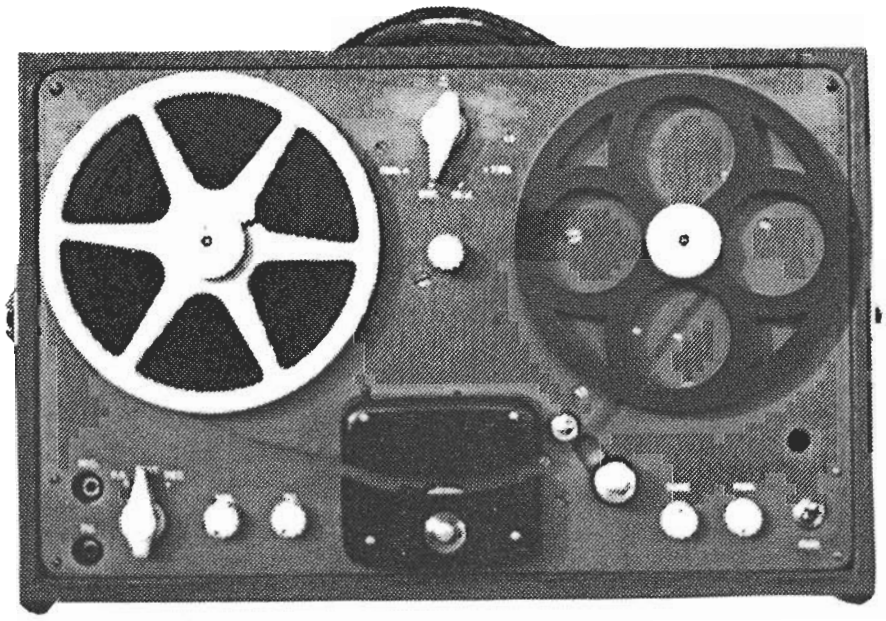
Another of the professional machines: Three heavy-duty motors, three-speed, two-track and mono with a push-pull amplifier of 7 watts output

Similar to the last recorder but with a radio tuner, but a different colour on request from the customer.

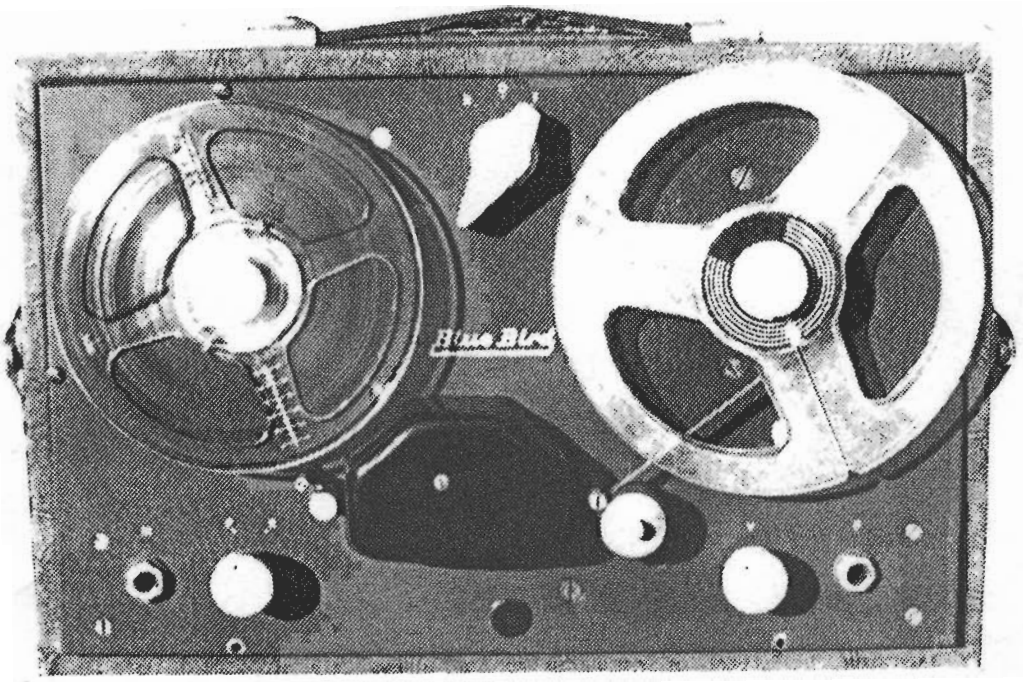




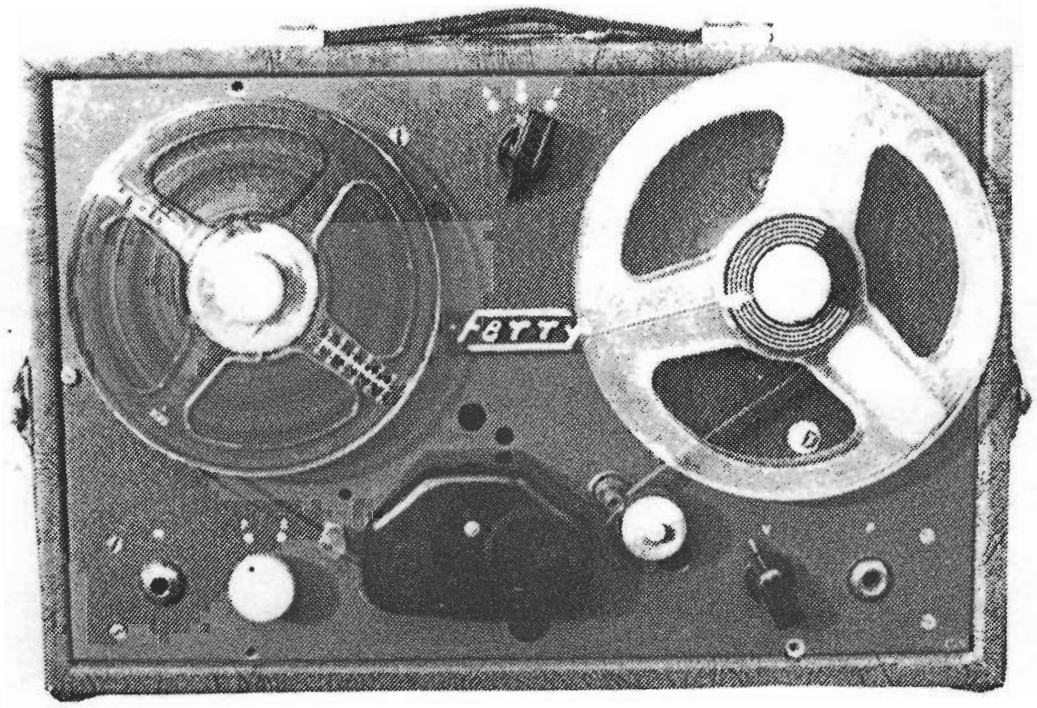
Another of the semi professional machines 3 speed 2 track and mono with a push pull amplifier of 7 watts output.

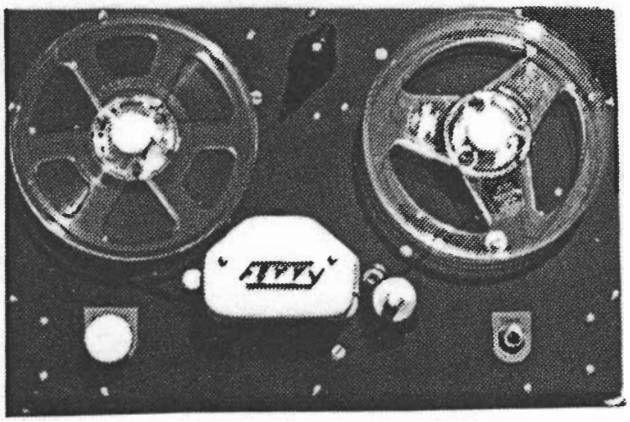


At the encouragement of the Department of Supply, Jack developed this prototype to the specifications of the Royal Australian Navy in 1957-58 in the hope of a contract. The circuitry was a valve design and the Navy took so long to make a decision that the transistor arrived on the scene to win out.

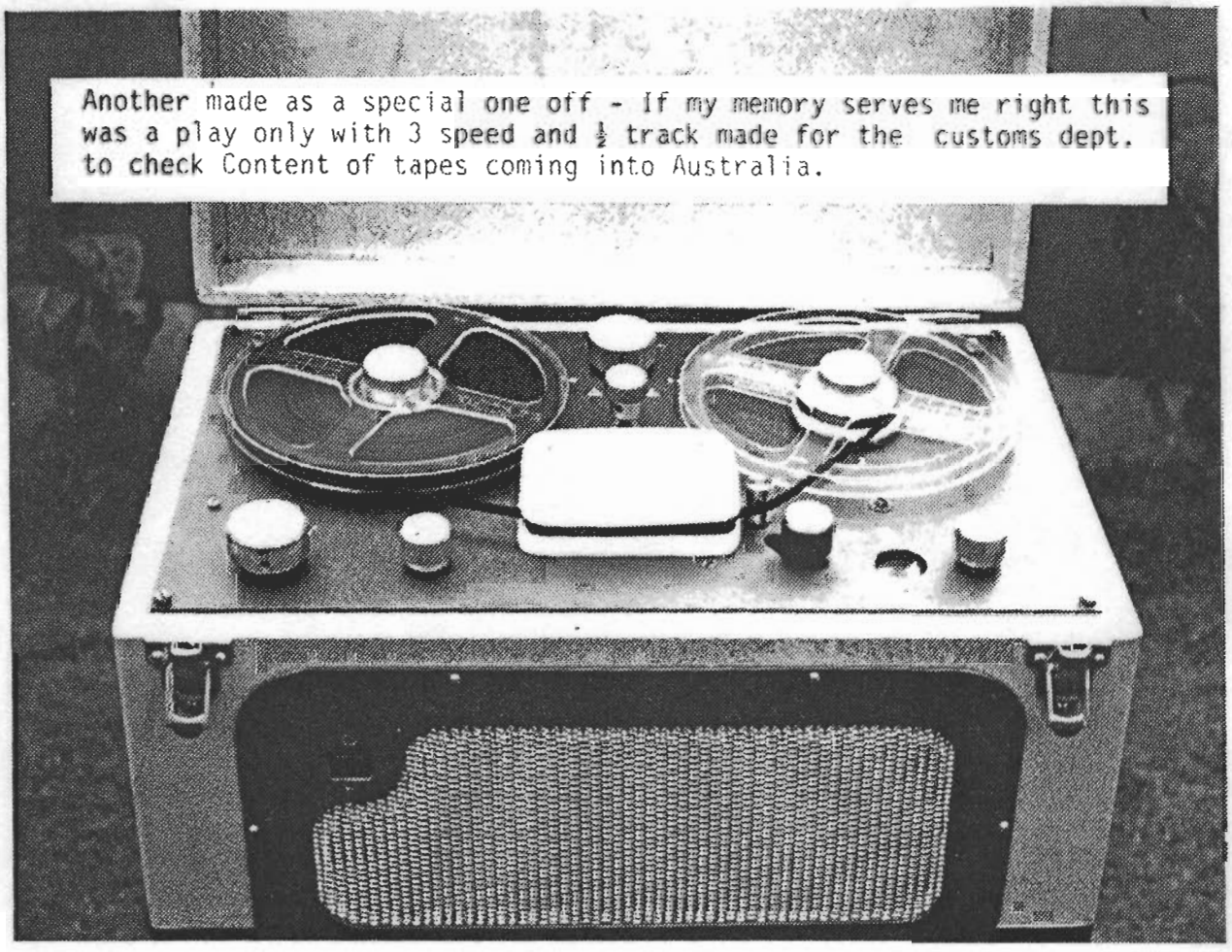


Bluebird dictation recorder, made for Ralph A. Petersen's line of office equipment, and (below) a few of the same model sold direct from the workshop

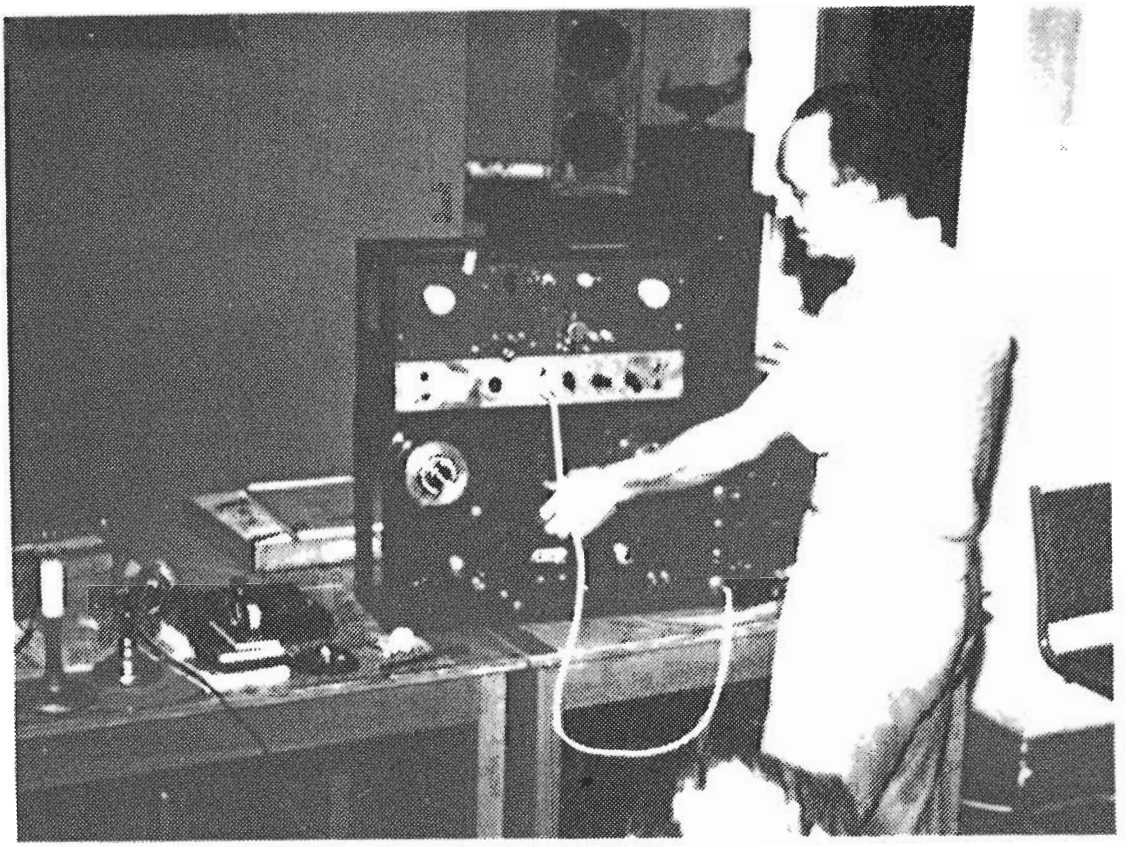




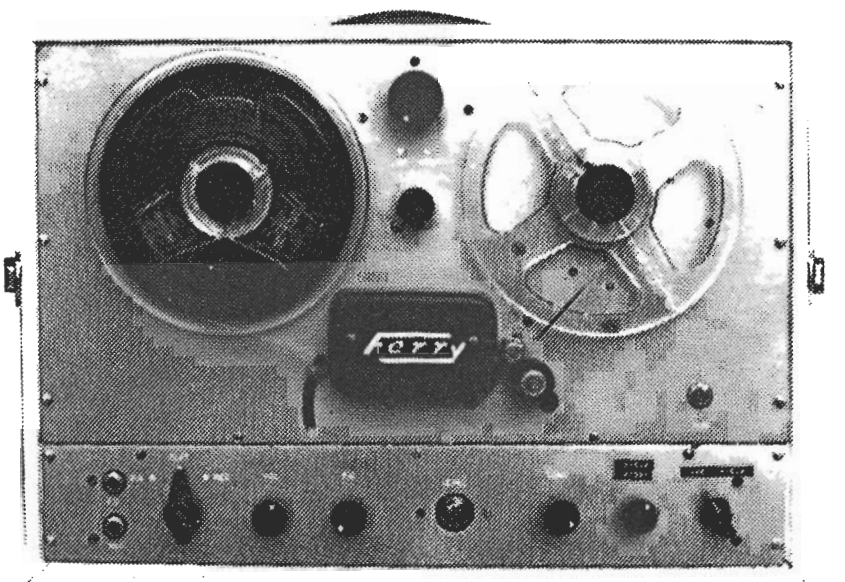
This was a prototype called the workshop special made in about 1957 and was used with a vibrator inverter off a car battery a number of times by a radio station for location recordings and also by private investigators gathering evidence for divorce cases.



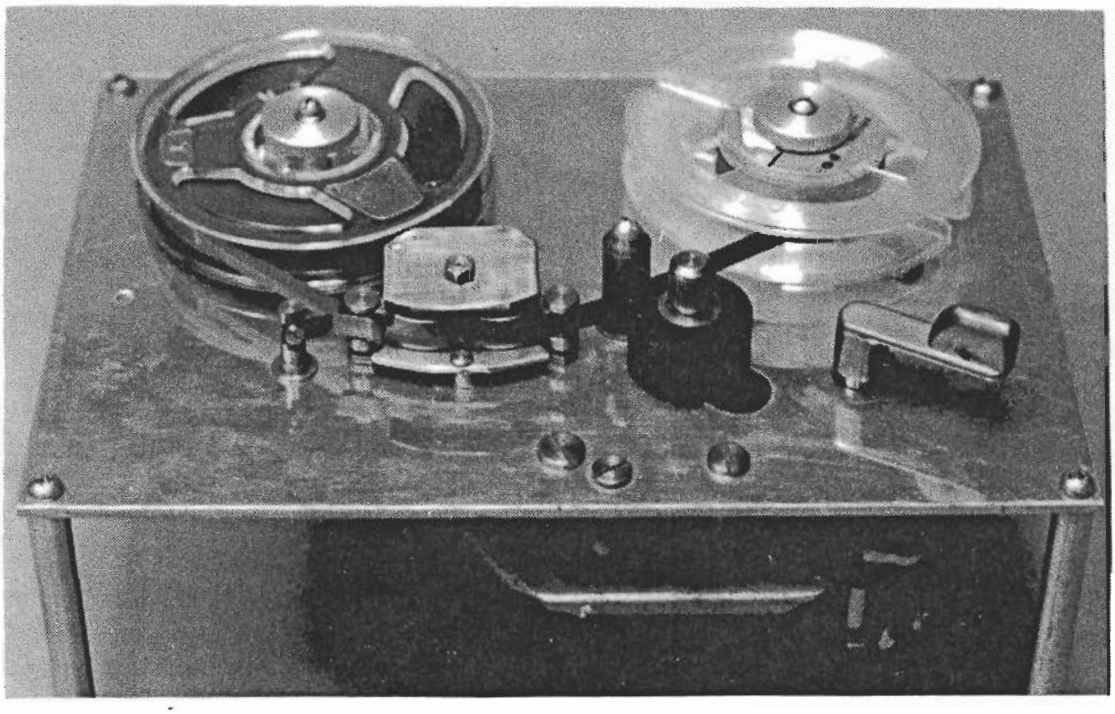
Another made as a special one off - If my memory serves me right this was a play only with 3 speed and ½ track made for the customs dept. to check Content of tapes coming into Australia.



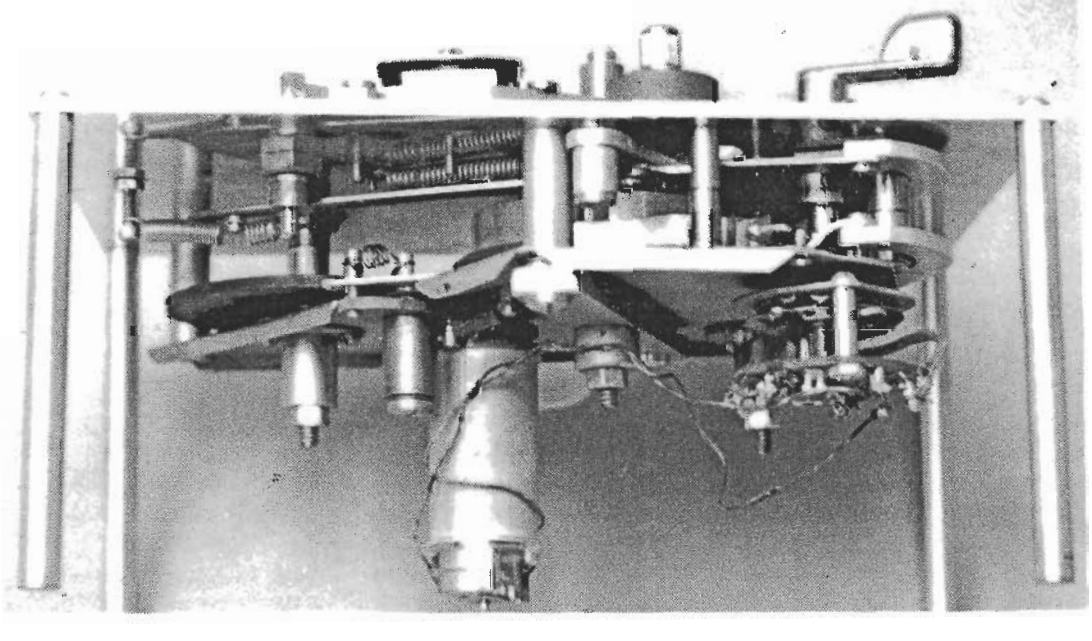
Again in July 1959 Jack demonstrating editing and dubbing at various speeds, to the Tape Recordists Association monthly meeting.

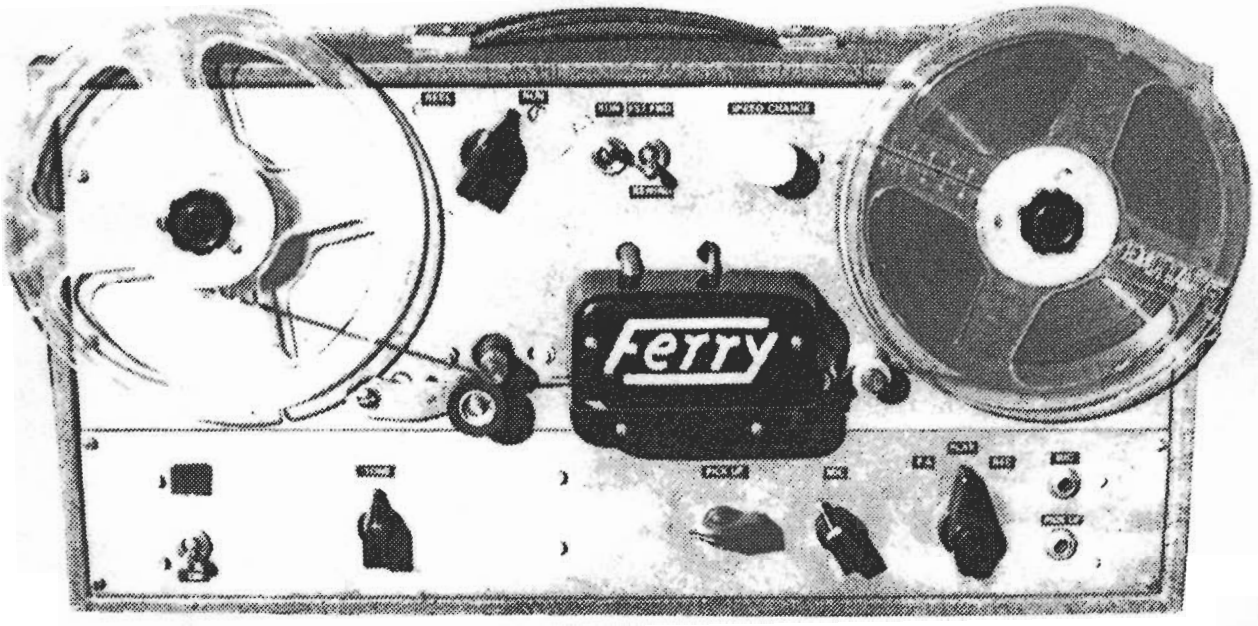


Another semi-professional tape recorder
3 speed ½ track used for a number of years at the Loxton Drive-in Theatre and modified by them for their particular use as per the two controls at bottom right.



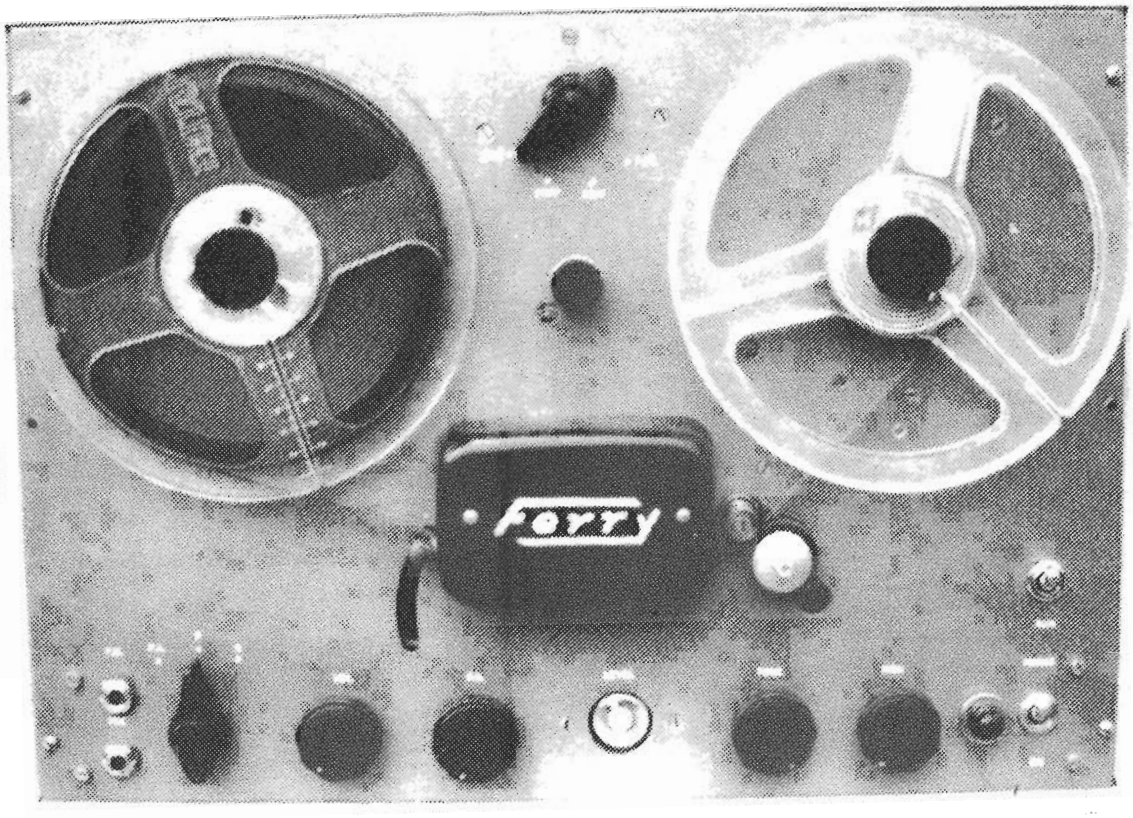
This prototype, featuring 3" spools and 6 volt DC motor would have been the basis for a portable battery operated recorder but the appearance of Japanese portable transistor recorders made the project uneconomical.





Another one-off special - made to fit a customer's bookshelf

By 1960 the demand for tape recorders had dropped and it was cheaper to buy a ready made deck and add the Electronics. This was a Collaro deck with Electronics by J. Ferry and a case made in his factory by myself.



Another special one off made in 1956 with a magic eye as a level indicator and returned from Tasmania.

In the 1960s a P A speaker box made in the factory continuing the blue anodised aliminium format.