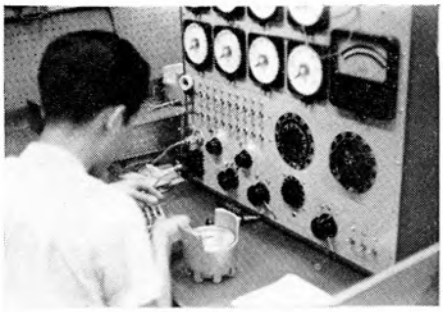
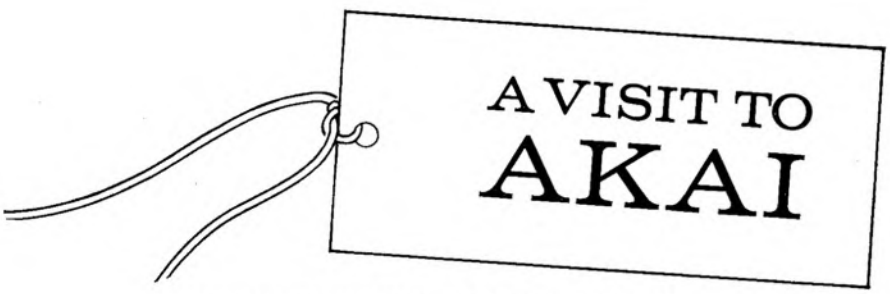
View from the air of the Akai factory

Checking motor dynamic balance



Early stage in assembly of the X-4 battery recorder



ANTHONY EDEN CONTINUES HIS

EXAMINATION OF THE JAPANESE AUDIO INDUSTRY

ON the outskirts of Tokyo, near Haneda Airport, is a company whose products are available in over one hundred countries—*Akai Electric*. Akai is quite small compared with the giant electrical companies of Japan, but in the specialised field of tape recording its name is amongst the best known.

Akai is a progressive and developing concern. Today it boasts a magnificent half million pound, seven storey building which has been constructed alongside overcrowded existing premises. Relationships between management and production floor are very good, wages are high and the whole atmosphere at the company is one of hard working enthusiasm coupled with genuine pride of workmanship. A very informal atmosphere existed and during my one day visit I was allowed to go freely anywhere in the factory, visiting and inspecting whatever production lines I wanted.

MOTOR ACCESSORIES

Akai Electric came into being in 1924, producing motors and electrical accessories for cars. They entered the tape recording field in 1953 when they marketed a tape recorder kit—the *A.T.1*. Since that time they have concentrated exclusively on the production of tape recorders and ancillary equipment and today about 90% of their products are exported. The president of the company, Mr. Saburo Akai, is the son of the founder.

In the older part of the factory the basic components for motors, chassis and tape-heads are made, and in the new factory alongside the old one, the recorders are assembled and tested. Motor parts undergo rigorous inspection and checking and only those parts which are within the tight tolerance limits go forward to the assembly shops. Those motors which do not meet the specification, about 10% of the total, are returned to the assembly floor for dynamic balancing. In the inspection room one piece of checking equipment is used. This monitors the correct winding of the coils, correct speed of rotation (errors here indicate excessive friction in the bearings) and dynamic balance. Any imbalance is marked up automatically on the rotor. Certain of these motors are duplicated on the various types of tape recorder to ease production. It is quite standard to find in the workshops in Japan where the highest precision is required, European tools and machinery being used. Akai are no exception and their grinders and lathes are of West European manufacture.

Before the electronics are assembled the individual components are carefully checked and tested. Akai do not manufacture their own semiconductors, valves or basic components, but buy them from one of the reliable giant manufacturers such as *Hitachi*. As each amplifier module is assembled, it is checked for overall performance, with particular emphasis on noise level.

The final testing and checking of each tape is thorough and comprehensive.

TWO OR THREE DAYS

At the time of my visit to Akai, production was concentrated on the *M8*, the *X150D* (a successor to the *X100D*), and the *X4*. The M8 production was of particular interest to me and serves to illustrate Akai manufacturing techniques. Recorders are produced in batches, each batch usually occupying two or three days. This means that the girls working on the production lines must be trained to work on several different kinds of recorder. In many Japanese factories girls are only trained to work on one piece of assembly. While simpler from a training point of view, this is obviously not economic with a high quality product of which only relatively small numbers are required.

After a preliminary electrical checkover each machine is subjected to life testing. This