

INSTRUMENTAL EQUIPMENT OF THE LABORATORY.

The following is a list of the instruments that were in working order or near completion by January 1st, 1967.

1. Instrumentation for speech analysis.

- 1 Kay-Electric Sona-Graph.
- 1 "Trans Pitchmeter".
- 1 Intensity Meter (dual channel, with active, variable highpass and lowpass filters).
- 1 Electro Aerometer, design Sv. Smith & B. Frøkjær-Jensen (dual channel for ingressive and egressive air).
- 2 Air-Pressure Manometers, type 5734 High Fidelity Blood Pressure Transducers, Electro-Physiological Instruments, Ltd., Edinburgh (employing RCA pressure tubes). A home-made DC amplifier is used with the manometers.
- 1 Segmentator, model IPO (Eindhoven).
- 1 Palatoscope with complete outfit for palatography.
- 1 Meyer-Schneider pitchmeter.

2. Instrumentation for speech synthesis.

- 1 Provisional Vowel Synthesizer (see this report p. 15).
- 1 Larynx Spectrum Generator.

3. Filters.

- 1 LC Highpass Filter (with stepwise variation of cutoff frequency).
- 1 Active RC Lowpass Filter.
- 1 Heterodyne Bandpass Filter (see this report p. 13).

4. Instrumentation for visual recording.

- 1 Elema Mingograph 42 (4 channels).
- 1 Oscilloscope, Solartron type CD 1400 (dual beam).
- 1 Oscilloscope, Telequipment (single beam).
- 1 Kymograph (with electro-motor).

5. Tape Recorders.

- 2 Lyrec Professional Recorders (mono, speeds $7\frac{1}{2}$ " and 15").
- 3 Revox Semi-Professional Recorders (stereo, speeds for one of the recorders $3\frac{3}{4}$ " and $7\frac{1}{2}$ ", for the others $7\frac{1}{2}$ " and 15").
- 7 Tape-Recorders for general practice work (Eltra, Tandberg, Philips).

6. Gramophones.

- 1 Gramophone, Delphon (mono, Ortofon pick-up).
- 1 Gramophone, B&O (mono, Ortofon pick-up).
- 3 Gramophones, HMV (Ortofon pick-ups).

7. Microphones.

- 1 Neuman Microphone KM 56.
- 1 Sennheiser Dynamic Microphone MD 21.
- 4 Crystal Microphones of various brands.
- 1 Altec Microphone.

8. Amplifiers.

- 1 Laboratory Amplifier (mono/stereo, with matching for different impedances).
- 1 Telefunken Microphone Pre-Amplifier.
- 4 Headphone Amplifiers for use with gramophones.

9. General-purpose electronic instrumentation.

- 1 Oscillator, Hewlett & Packard type CD 200.
- 1 Function Generator, Wavetec VGC III (0,003 c/s - 1 Mc/s).
- 1 Frequency Counter, Rochar type A 1360 CH (5 digits).
- 1 Brüel & Kjaer Vacuum-Tube Voltmeter type 2409.
- 1 Heathkit Vacuum-Tube Voltmeter type V-7A.
- 1 Universal Meter, Philips type P 817.
- 3 Resistance Decades, Danbridge.
- 1 Condenser Decade, Danbridge.
- 3 Stabilized Rectifiers (0-20 V, 5-30 V, and 150-300 V, respectively).

(Additional oscillators, rectifiers, etc. for special purposes.)

10. Outfit for photography.

- 1 Minolta Camera SR-1 (with various accessories).
- 1 Complete outfit for reproduction (including 1 Liesegang
UNI-RAX with frame).

11. Projectors.

- 1 Liesegang Epidiascope.
- 1 Leitz Projector for slides.
- 1 16 m/m Tone Film Projector, Bell & Howell "Filmsound 644".
- 2 Overhead Projectors with accessories.