

ITEM NO. 1
FILE NO. I - 2

ETABLISSEMENTS ORA-GRANDIN M. CHAUCHAT, METOX

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COMBINED INTELLIGENCE OBJECTIVES
SUB-COMMITTEE

LONDON—H. M. STATIONERY OFFICE

HS 10/1/455

ETABLISSEMENTS ORA-GRANDIN, PARIS
METOX, RUE BELLEPORT, PARIS
M. CHAUCHAT, RUE REAMUR, PARIS

Reported By

F/Lt. D.C. NUTTING, R.A.F.

C.I.C.S. Target Numbers 1/35, 1/34, 1/23
Radar

COMBINED INTELLIGENCE OBJECTIVES SUB-COMMITTEE
G-2 Division, SHAEF (Rear) APO 413

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I. TARGET: 1/35 ETABLISSEMENTS ORA - GRANDIN,
Rue des Entrepreneurs, 96 Paris 15e.

Date: 28th August 1944

1. Sources of Information:

- a) M. PONTHEUX and the CHIEF ENGINEER were both interviewed, together with various other members of the Staff.
- b) The entire research laboratories and most of the factory were inspected.
- c) All the German equipment that had been manufactured was examined (samples) and several of the Firms present non-German contracts were examined.

2. Information Obtained:

- a) ii) It was established that the only German contracts upon which the firm had been engaged had all been placed by Marine Abnahme Kommando, Paris VIII, Boulevard Haussmann 79.
- iii) The firm was doing a small amount of work for the French Administration

3. Summary of Significant Findings:

- a) Amplifier type A 410 appeared to be a straightforward R.F. amplifier, provided with single pole, ceramic insulated, input and output leads. Operating frequency given as 20 Kc/s to 1.0 Mc/s. Believed to be intended for Ultra- Sonic equipment.
- b) Some specimens of brass-encased, heavy-duty, solenoids were seen, of various sizes of the order of 10 inches in length by 4 inches diameter. Encased in two concentric brass cylinders, so as to be hollow down the centre, the casing was pitch-filled and tested to be waterproof at a pressure of 2 Kg/cm². Internal resistance of solenoid 5000 ohms.
- c) The receiver type R 600 was built to German specifications and covers 106 to 230 Mc/s, the contract being divided between O-G and Metox.

The R.F. unit is detachable, and consists of 2 valves type 4671 operating a Lecher line system. Four broad band I.F. stages follow, and, by using 1st, 2nd or 3rd harmonics of the tuned frequency, continuous tuning from 106 to 960 Mc/s is possible without change of coil units.

The contract was for the manufacture of 1000 of these sets, but the order was cancelled when 850 had been made. About 400-500 were subsequently returned for breakdown and it is estimated that the Germans must have retained about 500 of these sets is all.

Engr. Henlet, until he left the firm in November 1943, had been working on a development of the R 600. In this the normal R.F. unit was replaced by a pair of Lecher lines stages with ganged tuning and using the valves LG1 (triode) and LD1 (double diode). The object was to make an automatically tuned unit which would sweep the whole, or any desired portion, of the band and lock itself on any signal picked up.

To obtain mechanical tuning, an A.C. motor (220v 0.23a) was used. The project had been dropped whilst still in the early stages, the chief reason being that the inertia of the mechanical tuning system was too great and it could never be made to stop exactly on the signal position.

The firm pointed out, however, that the Engineer was unwilling to work for the Germans and performed several acts of sabotage on the contracts. If this is true, the latter is the more understandable reason for dropping the automatic tuning project.

d) Another development entrusted to M. Henlet was that of a small pocket transmitter-receiver, ordered by Poliz Nachrichten Mittel who specified the valves to be used and the characteristics required of the apparatus. It was to have a 2-way range of 20 Kms. and to be able to reach Berlin from Paris, using CW.

The "sabotaged" result comprised two boxes approximately 6 x 4 x 5 inches! The contract was finally placed with another firm who produced a unit measuring about 1.5 x 4 x 6 inches capable of working on batteries or 110v mains.

e) The firm also manufactured the keyboard and automatic print unit of a teleprinter. The box for the complete equipment was, they state, supplied by the Germans and contained space for further unit of roughly 8 x 6 x 6 inches.

4. Conclusions and Comments:

As far as could be judged, the above synopsis covers the entire field in which the firm was engaged in German work. They stated that they do not work on radar or any equipment involving pulse technique. The equipment produced was of chief interest to the Naval Representatives.

5. Members of Inspecting Party:

F/Lt Nutting, RAF
Sub/Lt Long, RNVR
Sgn/Lt Gray, RNVR

/s/ D. C. Nutting
Flight Lieutenant,

AIR TECHNICAL INTELLIGENCE.

II TARGET: 1/34 METOX, Rue Pelleport, 104 bis, Paris
20e; and

1/23 M. CHAUCHAT, 124 Rue Reamur, Paris 2e.
(Target given as M. Canchat, 18 Rue Pelleport,
Paris.)

Date: 30th August 1944.

1. Sources of Information:

a) The following members of the Staff of Metox were interviewed:

M. CHAUCHAT, Managing Director,
M. Andre CORRIEZ, Technical Director,
M. Pierre NICOLARDOT, Engineer,
Mr. RANSOM, Chartered Accountant (English, just re-
leased from in-
terment)

b) The research laboratories at 124 Rue Reamur and the factory at 104 bis, Rue Pelleport were both inspected, accompanied by the above members of the staff.

c) The equipment inspected included that which had been built to German contract, equipment designed and built for the French Administration, Laboratoire Nationale Radioelectrique, Bureau National Meteorologie, and their standard products.

2. Information Obtained:

a) 1) Prior to the war, the Firm had acted as agents for many American products and themselves manufactured under licence Sylvanus and Meissner equipment.

ii) No actual designing of equipment for the Germans was undertaken by the firm, the blueprints being supplied. A Dr. Boede, of Nachrochten-Mittel-Versuchs Kommando, Kiel, called at Metox every week.

iii) The research section was engaged on work, completely independent of German control, in close connection with the above mentioned French Institutions.

3. Summary of Significant Findings:

a) The Firm had manufactured for the Luftwaffe (General Luft Meister, Rue St. Honore, Roge Galle Building) quantity 50 of the receiver R 203, covering 2-5 metres, and about quantity 2,500 antenna filters (7.5 metres pass) of the type used in Benito Day Fighter Control Stations.

A quantity of the standard Metox product THF 517 had been supplied to Luftgaukommando at 12 Rue d'Agess-eau. This apparatus is a High Frequency Oscillator generating signals between 20 and 130 Mc/s, which can be modulated by a built-in oscillator or by an external source.

The Metox designed receiver type R 703, a fairly cheap pattern of "Communications" receiver covering about 10-150 Mc/s, had been purchased in quite large quantities by the Luftwaffe through normal trade channels.

b) They had manufactured for the Army a transmitter and separate receiver covering 2-3 metres, of conventional design.

c) For the Kriegsmarine, a quantity 1,000 of the receiver R 600, covering 60 cms. to 2 metres. The sets were returned to the factory after about 30 months of operational use since the Navy had discovered that, due to re-radiation, the set could be D/F-ed by the enemy.

d) A quantity 10 of the transmitter-receiver type TR 525 had been supplied to the German Embassy. Complete in three boxes, the apparatus operates on 12-60 metres, R/T or C/W, with a maximum aerial output of 60 watts. Power can be supplied either by the electric mains or by a 12 volt battery (contained in one of the boxes)

The dimensions are: T-R unit, 47.5 x 32.5 x 41.5 cms.; Mains power unit, 45.0 x 33.5 x 21.0 cms.; battery box, 31.5 x 44.5 x 25.5 cms.; and the total weight of all three 60kgs.

The transmitter uses a Colpitts circuit with a 6L6 and anode modulation is obtained on two 807s in parallel. Modulation depth 50% is possible on mains operation and 100% on battery working. This is intended to compensate for the fact that the maximum aerial power is only 40 watts on battery working.

The receiver uses ; RFA, one HF 1851; FC, one 6E8 (hexode-triode); IF, one HF 6M7; Det., 1st AF, AVC, one 6B8; 2nd AF, one 6J7; paraphase PA (also used to modulate Transmitter), two 6V6G; BFO, one 6C5.

4. Conclusions and Comments:

Chiefly due to the fact that the Firm was not engaged on any laboratory work in connection with German equipment, nothing of any major importance was obtained for the Intelligence picture as a result of the visit. The staff were at pains to point out that they had kept secret from the Germans their potentialities in this respect, chiefly in the case of M. Nicolardot who had been across to England during the war to work on radar under Sir Robert Watson-Watt.

M. Corriez specialised particularly in the design of Meteorological equipment such as Radiosondes and had produced an electrical humidity meter. None of the equipment had been given to the Germans and much of the work had, it was stated, been done in secret for the National Office of Meteorology.

5. Members of the Inspecting Party:

F/Lt Nutting.

/s/ D. C. Nutting
Flight Lieutenant,

AIR TECHNICAL INTELLIGENCE.