

THE FOLLOWING INFORMATION HAS BEEN OBTAINED FROM P/W AS THE STATEMENTS HAVE NOT AS YET BEEN VERIFIED, NO MENTION OF THEM SHOULD BE MADE IN INTELLIGENCE SUMMARIES OF COMMANDS OR LOWER FORMATIONS, NOR SHOULD THEY BE ACCEPTED UNTIL COMMENTED ON AIR MINISTRY INTELLIGENCE SUMMARIES OR SPECIAL COMMUNICATIONS.

G.A.F. SIGNALS INTELLIGENCE IN THE WAR - I.

Organisation.

1. This report is the first of a series of ten comprising a study of the G.A.F. Signals Intelligence Service from the time of its inception onwards. Beginning with the broad principles and organisation, this series will cover the early history, the monitoring of signals and radar, countermeasures, cryptography, advance warning and route tracking, and intelligence of callsign and frequency systems. In some cases the various fronts in the war will be taken separately and dealt with in greater detail.

2. The information has been obtained mainly from the interrogation in England of senior staff officers of Abteilung 3, General Nafü and of Chi-Stelle Ob.d.L.; further evidence from captured O.K.L. documents has, however, been helpful in supporting these interrogations.

FOREWORD.

3. One outstanding characteristic of the G.A.F. Signals Intelligence Service as reflected in P/W statements and captured documents is its constant improvisation and reorganisation to enable it to cope firstly with continually expending and later with contracting but more highly complex theatres of operations. This improvisation was clearly the natural result of the progress of the war as a whole, and had its origins in the Germans original calculations that their Blitzkrieg methods would finish the war quickly; this basic concept of a lightning war gave birth to a correspondingly short-term Signals Intelligence organisation.

4. Up to 1940 emphasis was necessarily laid on the tactical rather than the strategic side of the war, its external manifestation being the preference given to R/T rather than W/T traffic. The monitoring of W/T traffic hypothesises the existence of a large and efficient cryptographic organisation, and despite creditable achievements by certain sections of the Chi-Stelle Ob.d.L. and the W-Stelle it is clear that a completely satisfactory central crypto Organisation did not exist.

5. As the war fronts expanded, the Signals Intelligence Service tended to become decentralised, so that as much work as possible should

be done near the intercept stations. This of course demonstrated a considerable degree of elasticity in organisation, but it is obvious that it was forced on the Germans by sheer geographical necessity and by the diversity of problems presented by such different enemies as the Russians and the Western Allies.

6. The activity of the G.A.F. Signals Intelligence on the eastern front most nearly approximated to the original German concept in so far as Russian air activity was chiefly in support of the army, and the Signals Intelligence was able to concentrate on R/T and D/F. Russian radar was very elementary compared with the centimetre radar of the Anglo-American allies, hence the chief problems on the eastern front were those of distance rather than technical complexity.

7. By way of compensation for the inferior cryptographic results, the degrees of efficiency achieved by the G.A.F. D/F service was extraordinarily high, many of their best results being obtained by this means. It is certain that a large proportion of their most valuable long-term intelligence was obtained from D/F rather than cryptographic results (cf. Part V). The one is admittedly an inferior substitute for the other, but it is impossible to over-emphasise the contribution of the G.A.F. D/F service to strategic intelligence.

8. It will be seen in Part II of this series of reports how the origin of the German Signals Intelligence Service was due to an accident occurring, shortly before the battle of Tannenberg in the last war, and how it was developed in a desultory manner until the collapse in 1918. But in 1924 a small party of civil servants did their best to salvage what they could of the former Imperial Army's "Y" Service by studying current cryptographic problems and evaluation methods.

9. When the G.A.F. was expanded in 1936, it was able to utilise the signals intelligence and intercept experience gained by its Army counterpart; the Army's tendency was, however, centrifugal, each theatre of operations and major unit, such as Army Group, Army, Army Corps staff and even Divisional staff having its own almost self-contained Signals Intelligence unit. This army organisation was copied fairly faithfully by the G.A.F., so that all major units of the G.A.F. had their own Signals Intelligence organisation, the best-known of these in the first phase of the war being the Ln. Rgt. Legion Condor Nr. 3 working with Luftflotte 3.

10. It is almost a truism that Signals Intelligence has its greatest value when a war is going badly and is of least importance when all is going well. Thus Germany's lightning successes were a great handicap to the future development of its Signals Intelligence, for they rendered almost superfluous the help which it could have given if duly appreciated and developed. All that seemed necessary was to listen to enemy R/T traffic while the German Army and the G.A.F. were hammering their way forward, so that as late in 1942 Referat B found it very difficult to induce certain intercept stations, to cover valuable but not so productive W/T frequencies rather than very productive R/T frequencies (cf. Part V).

11. Relations between intelligence sections and cryptographic sections working together appear, according to several of the present P/W, to have been none too cordial, as the former accused the latter of not getting the results which they could have done with greater effort and which they stated were not nearly as good as those achieved by the army. The real reason was not the incompetence of the individual cryptographers so much as the fact that they were not supplied with a sufficient depth of W/T traffic and that the crypto service should have been centralised; the output of a large centralised crypto service exceeds the sum total of the contributions of its individuals members and is higher in quality.

12. It is possible that this centralisation may have been achieved had the war taken a different course, but when the protraction of the war carried operations to widely separated fronts, the Signals Intelligence Service, always closely connected with the operational commands, began to be diffused. The first unit to move into remote parts was III/Ln. Rgt. 5, with W-Leit 5 as a nucleus (later Ln. Abteilung 355) started to operate with Luftflotte 5 at Oslo about the middle of May 1940, and continued to monitor both Anglo-American, and Russian traffic and radar transmissions in that area until the end of the war. (cf. Part I.)

13. The opening of the campaign on the eastern front in 1941 made an expansion of the Signals Intelligence service in that theatre absolutely necessary to cover the enormous front involved.

14. The front resolved itself into three major sectors - the Leningrad, Moscow and Southern Sectors. These sectors coincided to a certain extent with the static intercept stations of Insterburg (later Kobbelbude), Glindow and Pulsnitz of 1936-1937 and the later I, II and III Abteilungen respectively of Ln. Rgt. 353. On the southern sector a considerable volume of information will be found in Part No. VIII of this series. Very little information is available from P/W's. on the central and western Sectors.

15. The war in Italy developed into a war very much on its own from the Signals Intelligences point of view, excepting from a technical and equipment aspect, where information obtained in one theatre of operations was of necessity of value to all theatres. Certain cryptographic results, as for example the grid system mentioned in Report V, obtained in this theatre was of value later on the Western Front.

16. It must be clearly realised that the G.A.F. Signals Intelligence Service did not resolve itself into a large number of small self-contained units but that, just as the German armies were spread out ever more thinly, the expansion of the war compelled the service to become centrifugal and prevented it from achieving that degree of centralisation and concentration which would undoubtedly have increased its efficiency.

17. The technical ingenuity of the Western Allies and development of radar on the western front continually presented new problems for the

G.A.F. Signals Intelligence, making the setting up of new specialised units very necessary. As Germany's war situation deteriorated so it naturally expanded its organisation to cover all forms of Allied radio and, especially, radar activity. Thus arose the Funkmessbeobachtungsdienst, which, although carrying out some of its initial experiments in the East, concentrated on obtaining as much intelligence as possible from radar transmissions in the West.

18. This side of G.A.F. Signals Intelligence continued to increase in importance to the end of the war and, because of the tightening of Allied R/T security especially, became equal in importance to radio interception. In this respect it is interesting to notice how units of the Ln. Rgt. Legion Condor No. 3 were gradually adapted to cope with these new developments as Funkhorch Regiment West, and how eventually towards the end of the war a comprehensive organisation which included all fronts was set up, but much too late to be of real value (cf. Part VIII).

19. When in 1944 deep R.A.F. bomber penetrations into Germany became possible, they were accompanied by a very complex system of countermeasures and "spoof" attacks, very largely carried out by 100 Group. Thus the Signals Intelligence Service was further expanded by the inclusion of specialist radar technicians. Specialisation became the order of the day and each unit was allocated a specific function. Thus Ln. Rgt. 351 became responsible for monitoring Allied air activity in the West - except for heavy bombers, which became the primary task of two specialist Abteilungen 356 and 357.

20. No aspect of Allied countermeasures was more important than radar jamming, both passive and active (Window and noise modulation). This became so important as a potential means of obtaining early warning and route-tracking that a special Abteilung (359) was set up to deal with it.

21. The channels of communication varied according to the type of traffic involved. In the case of low-grade R/T or W/T tactical traffic, as for example A.S.P. traffic, the work was often done entirely on the fighter unit as in the case of the Horch Verbindungskommandos (= warning squads) described in Part V. As far as strategic bombing was concerned, a much more complicated system was necessary to coordinate the results of all forms of radio interception, radar observation and countermeasures. Where the work was being done within the framework of the Signals regiments, results were passed from the intercept units to the Meldekopf and thence to the competent fighter authorities, usually the Zentrale Gefechtsauswertung of Jagdkorps I, and ultimately to the Operations Staff via IC who co-related the results of signals intelligence with other forms of intelligence (see A.D.I.(K) 394/1945).

22. Always bearing in mind the fact that the picture of the G.A.F. Signals Intelligence Service was constantly changing in conformity with the changing war situation, the Appendices to this report set out the functions, locations and chains of command of the Regiments and Abteilungen of the Service.

23. Appendix I shows the connection between the component parts of the regiments and the referats of Chi-Stelle Ob.d.L., and the relations on a higher level with the Army and Navy Signals Intelligence Services, the Funkleitstand, the Leitstelle der Funkaufklärung and the G.A.F. Operations Staff IC.

24. Appendix II illustrates the expansion of Signals Intelligence in the West from its beginnings in Ln. Rgt. Legion Condor No. 3 in 1941 to the Funkhorch Regiment West in 1942, and then to its final form of Ln. Rgt. 351 and Ln. Funkaufklärungs Abteilungen 356 and 357 in 1945.

25. The final form of the chain of command in 1945 is shown in Appendix III. The radar observation service had by this time become so important under Abteilung 3, General Nafü, that it had to be coordinated in service matters along with the ordinary radio intelligence by a still higher authority.

FUNCTION, LOCATION AND COMPOSITION OF UNITS.

Ln. Rgt. 351 (Formerly Funk Horch Rgt. West).

26. The germ of this Regiment lay in the Ln. Rgt. Legion Condor No. 3 at Paris-St. Cloud in 1940/1941. Its function was to observe the Allied Air Forces in the West, excepting for the heavy bombers, which was done by Ln. Funkaufklärungs Abteilung 357 in co-operation with 356.

27. Its chief interest thus lay with the R.A.F. 2nd T.A.F. and U.S. IX Air Force, whereas R.A.F. Bomber Command and the U.S. 8th Air Force were dealt with by the specialist Abteilungen (356 and 357). To all intents and purposes Ln. Rgt. 351 was responsible for monitoring the combat areas, but it was not always possible in practice to avoid overlapping on someone else's territory, especially as work was often duplicated by the Ln. Rgt. organisation and the evaluation sections of the Chi-Stelle Ob.d.L.; Referat 5, for example, was housed at Limburg in the same building as Ln. Rgt. 351. and was also employed in supplying intelligence directly to the IC of the Operations Staff.

28. Ln. Rgt. 351 consisted of 3 Abteilungen - I/351 at Limburg II/351 at Heidelberg and III/351 at Burg Schwalbach. I/351 was composed of an evaluation Company (25/351) a W/T Company (26/351) a Technical Company and a short-range intercept company for picking up A.S.P. traffic, etc. The second and third Abteilungen had 2 - 3 short-wave reception companies.

29. The tactical R/T, W/T and Fu.M.B. messages were sent at once either by landline, teleprinter or, where not available, by R/T to the appropriate H.Q.s of the G.A.F., the Army and the Navy, as well as to the Zentrale Gefechtsauswertung at Jagdkorps I. This was done by Meldekopf at 25/351 (The origin of the Meldekopf is discussed in Part V of the present series).

30. The organisation of Ln. Rgt. 352 (Italy and Yugoslavia), 353 (Eastern Front) and Ln. Rgt. 355 (Norway) will be dealt with

in special reports as they became special problems on their own with less direct influence on the course of events in the West.

Ln. Abt. 356 (Formerly Funkaufklärungs Abteilung Reich).

31. Abteilung 356, with its H.Q. at Berlin-Wannsee, consisting of five Kompanien - 1/356 at Wannsee, 2/356 at Hamburg for monitoring approaches to the North-West and North, 3/356 and 5/351 at Stuttgart-Böblingen for incursions to the South and 4/356 for watching the U.S. Fifteenth Air Force. This Abteilung was a pure radar observation unit, operating within the Reich. Its task was to monitor and evaluate Allied airborne radar transmissions for the use of the Reich defence authorities in route-tracking of raids. The individual outstations transmitted the results of their observations to their Meldekopf for use in the air situation picture.

Ln. Abteilung 357 (Formerly I/Ln. Fu. H. Rgt. West).

32. Abteilung 357, consisting of six Kompanien with H.Q. at Heiligenstadt/Harz, was responsible for monitoring the Allied heavy bomber formations and had to provide early-warning and route-tracking data for use in the defence of the Reich. The results of observation by this Abteilung were evaluated by Meldekopf I, who passed them on to the central report centre at Jagdkorps I.

FINAL ORGANISATION.

33. In the final stages of the war the following radio intelligence units were in operation:-

West.

- (a) Ln. Funkaufkl. Abt. 351 with three Abteilungen.
Task: Observation of Allied Air Forces in the West.
- (b) Ln. Funkaufkl. Abt. 357.
Task: Observation of the heavy bombers and route-tracking in collaboration with Ln. Abt. 356.

Germany.

- (a) Ln. Funkaufkl. Abt. 356.
Task: Following routes of enemy formations over Germany (cf. Ln. Abt. 357).
- (b) Ln. Funkaufkl. Abt. 359.
Task: Radar jamming in the West and in Germany.
- (c) Ln. Funkaufkl. Abt. 350. (with Chi-Stelle Ob.d.L. and Funkleitstand Ob.d.L.)
Task: Concentration and final evaluation of all radio intelligence.
- (d) Ln. Abt. 358.

Task: Training of replacement personnel for the radio intelligence units.

South (Balkans and Italy).

Ln. Funkaufkl. Rgt. 352 with 3 Abteilungen (Major FEICHTIER).
Task: Observation of Allied Air Force in the Mediterranean.

EAST.

Ln. Funkaufkl. Rgt. 353 with 3 Abteilungen (Oberst DICK).
Task: Observation of the Russian Air Force.

North (Norway)

Ln. Funkaufkl. Abt. 355.
Task: (a) Observation of the Allied air forces over Norway.
(b) Observation of the Russian air force in Northern Norway.

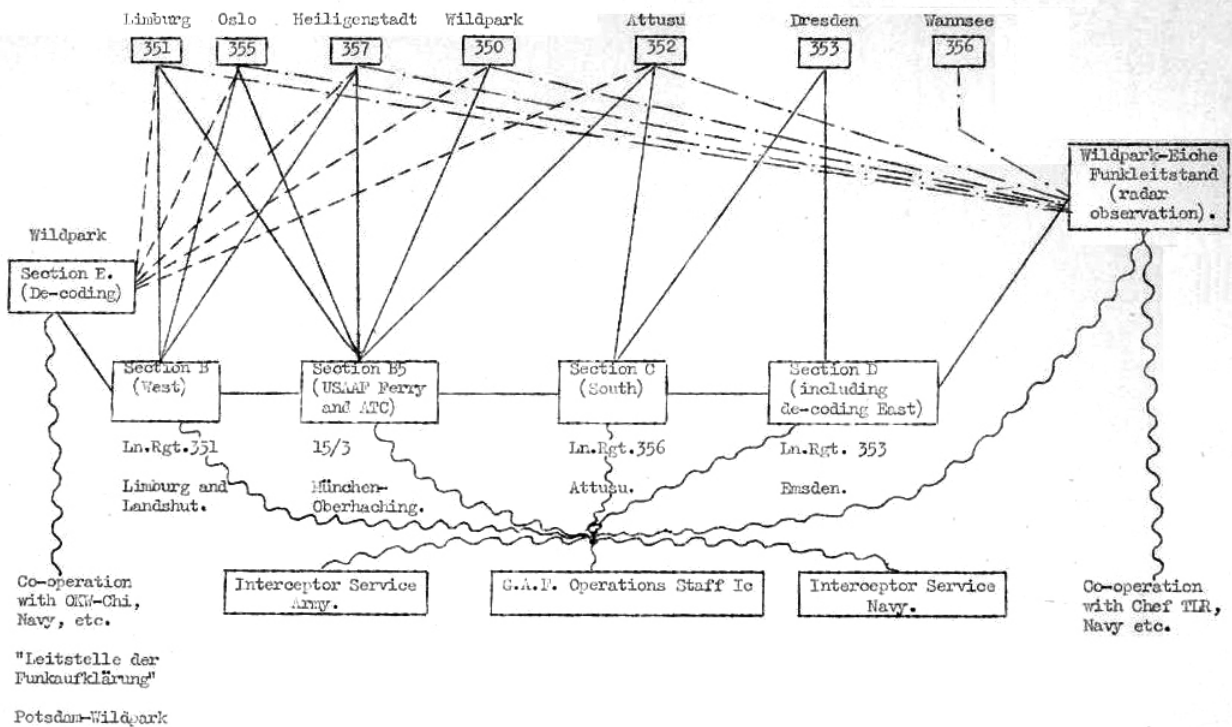
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A.D.I.(K) and
U.S. Air Interrogation.
25th October 1945

S. D. FELKIN.
Group Captain.

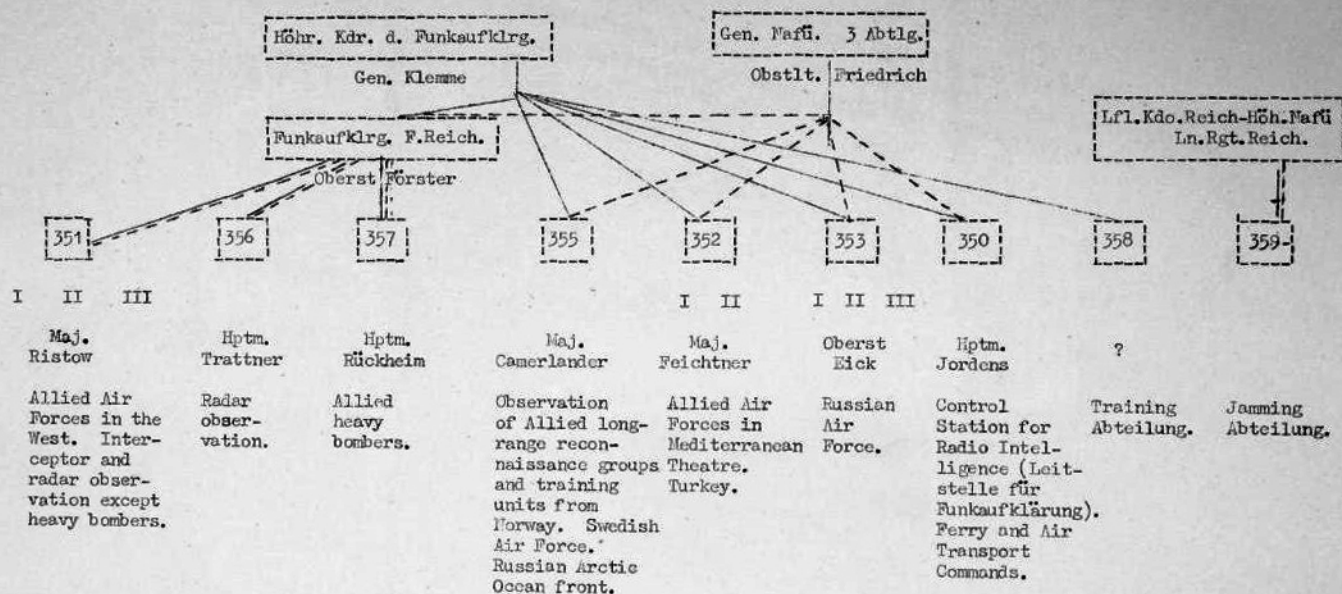
ORGANISATION OF G.A.F. SIGNALS INTELLIGENCE.
(April 1945)

SECRET.



SECRET.

FINAL CHAIN OF COMMAND OF SIGNALS INTELLIGENCE.
(April 1945).



EXPANSION OF SIGNALS INTELLIGENCE.
(1941 to 1945)1941.

Lfl.Kdo.3 HSh.Nafl.

Ln.Rgt.Legion Condor Nr.3.
(Paris St. Cloud).I./Ln.Rgt.L.C.Nr.3.
(Operations Abt.?)II./Ln.Rgt.L.C.Nr.3.
(Construction Abt.?)III./Ln.Rgt.L.C.Nr.3.
(Bougival La Celle St.
Cloud).
(Interceptor Abt.)7./Ln.Rgt.L.C.Nr.3.
(Evaluator Company)
(Bougival La Celle St.
Cloud).8./Ln.Rgt.L.C.Nr.3.
VHF Interceptor Company
(Cherbourg-Urville)9./Ln.Rgt.L.C.Nr.3.
Short-wave Interc.Company
Deauville.10./Ln.Rgt.L.C.Nr.3.
Short-wave Interc.Company
St.Malo.16./Ln.Rgt.L.C.Nr.3.
Short-wave Interc.Company
Brest.9./Ln.Rgt.2 - II Platoon.
VHF Interc. Platoon
Calais-Cap Gris Nez.

with

with

1942/43.

Lfl.Kdo.3 HSh.Nafl.

Ln.Fu.H.Rgt.West
(Bougival La Celle St.Cloud)III./Ln.Rgt.L.C.Nr.3.
(Bougival La Celle St.Cloud)
(Interceptor Abt.)14./Ln.Rgt.L.C.Nr.3.
(Evaluator Company)
(Bougival La Celle St.Cloud)8./Ln.Rgt.L.C.Nr.3.
VHF Interceptor Company.
(Cherbourg-Urville)9./Ln.Rgt.L.C.Nr.3.
Short-wave Interc.Company
Deauville.10./Ln.Rgt.L.C.Nr.3.
Short-wave Interc.Company
Montpellier.16./Ln.Rgt.L.C.Nr.3.
Short-wave Interc.Company
Angers.5./Ln.Fu.H.Rgt.West.
VHF Interceptor Company
Calais-Wissant.II./Ln.Fu.H.Rgt.West
(La Jonchere).7./Ln.Fu.H.Rgt.West
8./Ln.Fu.H.Rgt.West
9./Ln.Fu.H.Rgt.West.I./Ln.Fu.H.Rgt.West
(Zeist).1./Ln.Fu.H.Rgt.West
2./Ln.Fu.H.Rgt.West
3./Ln.Fu.H.Rgt.West
4./Ln.Fu.H.Rgt.West1945.Ln.Rgt. 351.
(Limburg).

I./Ln.Rgt. 351.

II./Ln.Rgt. 351.

III./Ln.Rgt. 351.

Ln.Abt. 357.