but as the Blenheim was too slow and too lightly armed to take full advantage of its opportunities, Beaufighters were being substituted for the Blenheims as fast as the Air Ministry and the Ministry of Aircraft Production could make them available.

8. But at best the provision of A.I. solved only half the problem. This airborne Radar had a restricted range which could not be greater than the height of the aircraft, subject to a maximum of 3½ miles. Before the A.I. could detect an enemy bomber in the darkness, the fighter had therefore to be brought to within three miles of it at roughly the same height If searchlights were ruled out, this could only be done by means of directions given to the pilot by a Controller on the ground. It was vital that this controller should have accurate knowledge of the bomber's position. Under my Command, I had No. 60 (Signals) Group, which controlled a chain of some 80 Radar Stations round the coasts, used for giving early warning to the controller of the approach of enemy aircraft across the sea. Over land, information on the raider's position was given by the Observer Corps. Although these sources had proved sufficiently accurate for daylight interceptions, they were not precise enough for successful night fighter operations.

9. Only Radar could provide the answer—special ground search radar stations for the direct control of A.I.-equipped night fighter aircraft. Such stations, termed G C.I. (Ground Control of Interception), were under development when I assumed Command. Nevertheless, the tactics of their employment in conjunction with A.I night fighters had yet to be evolved from practical experience as and when the G.C I stations became available.

10 The Radar Stations used for detecting the approach of enemy aircraft across the sea had only a limited application to this problem, but another kind of ground radar equipment, designed for gun-laying and known as G.L , promised to give good results. Although other varieties of radar equipment were under development, the defects of both ground and airborne search radars were not the most important factors in the establishment of an efficient night fighter defence. Any success A.I. was likely to achieve depended initially on the skill of the ground controller and then on the operational ability of the aircraft A.I. observer There was an acute shortage of personnel for both of these highly specialised tasks.

11. It was clear that many problems of method, maintenance and supply would have to be solved before all this delicate equipment could be expected to yield concrete results, and that their solution was likely to take some months. In the meantime, the Air Ministry were anxious that some immediate attempt should be made to improve the situation

12. A step in this direction had already been taken in the late Summer, when it was decided that the two Defiant Squadrons in the Command, together with a third Defiant Squadron which was about to be formed, should be turned over from day to night duty. Despite its early successes as a day fighter, the Defiant had proved too slow and too vulnerable to attack from below to be effective against the Me109, but it was still likely to prove a useful weapon against bombers.

13. In addition, three Hurricane Squadrons had been turned over to night duty, in the middle of October, 1940.

14. Thus when I assumed Command, the night-fighter force comprised the following squadrons:—

Squadron	*Equipment*	*Station*
No. 23	Blenheim ...	Ford
No. 25	Blenheim and Beaufighter.	Debden
No. 29	Blenheim ...	Digby and Wittering.
No. 219	Blenheim and Beaufighter.	Redhill
No. 600	Blenheim ...	Catterick and Drem
No. 604	Blenheim ...	Middle Wallop
No. 141	Defiant ...	Gatwick
No. 264	Defiant ...	Rochford
No. 73	Hurricane ...	Castle Camps
No. 85	Hurricane ...	Kirton-in-Lindsey
No. 151	Hurricane ...	Digby

15. In addition to these first-line units, the Fighter Interception Unit at Tangmere had the task of developing methods of night interception with twin-engined fighters; and sometimes provided aircraft for active operations, No. 422 Flight had been formed recently at Gravesend to study the problem of night interception with single-engined fighters; while a new Defiant Squadron, No 307 (Polish) Squadron, was forming at Kirton-in-Lindsey, No. 420 Flight (later No. 93 Squadron) had just begun to form for the purpose of sowing and trailing mines in front of German bombers. Finally, the formation of No. 54 Operational Training Unit, to specialize in night training, had been ordered.

16. I also had operational control of the guns and searchlights of Anti-Aircraft Command, under Lt.-General Sir Frederick A. Pile, Bart., K.C.B., D.S.O., M.C., and the balloon barrages of Balloon Command under Air Vice-Marshal O. T. Boyd, C.B., O.B.E., M.C., A.F.C. (succeeded on 1st December, 1940, by Air Marshal Sir E. L. Gossage, K.C.B., C.V.O., D S.O., M.C.).

17. In the early stages of the attack, except in conditions of good visibility, the A.A. guns had to rely on one of three methods of directing their fire. These were: illumination of the bomber by searchlights, which were controlled by sound locators; a combination of rather rudimentary radar and sound locator, or a system of prediction which depended entirely on sound locators. The shortcomings of these sound locators were a great handicap to A.A. gunnery, and the gunners deserve great credit for their achievements at a time when night fighters were almost powerless. By 25th November, 1940, radar equipment for gun-laying was beginning to arrive, and a variant intended for controlling searchlights (S.L.C. or "Elsie") was on the way.

18. Other means of frustrating enemy bombers included measures designed to jam or otherwise interfere with the directional beams that they used to find their targets, and various kinds of dummies and decoys which were intended to attract bombs. With the exception of decoy and dummy airfields, these were not under my control, but liaison was maintained with those responsible for their operation.