

LISTENING To The WORLD

By

CHRISTOPHER CROSS



Hellschreiber and Morse Special Listening Section monitors at work. World-wide transmissions were monitored at all times.

Goebbels' instructions to his network of newspapers and broadcasting units were tapped by this BBC Hellschreiber machine.

BBC's achievements in the development of its famous monitor service—equivalent to our own FBIS.

WHEN Keren fell, it was the BBC's Monitoring Service that picked up the news in Arabic from a Cairo transmission and flashed it to Prime Minister Churchill ten minutes before the operational telegram from the War Office arrived.

When Mussolini resigned it was BBC's Monitoring that picked up the news in Italian at 22:51 and flashed it to the news department of the BBC at 22:53.

When Holland was invaded, Hilversum was putting out intermittently the announcements "Parachutists over . . . Parachutists coming down . . ." BBC's Monitoring Service got these messages through to the Air Ministry before the parachutists had even touched the earth.

Von Krosigk's broadcast announcing



The main listening room in which BBC monitors listen to transmissions from all over the world, in over thirty different languages. The numbered blocks, shown in the photograph, are to indicate that a recorder is in use from that listening position.



the liquidation of the German Eighth Army was flashed out within six minutes and reached Washington five minutes before the Associated Press carried the news as urgent.

These are but a few of the achievements of the Monitoring Service of the British Broadcasting Corporation which, at the time of the German surrender, had developed into the largest and most efficient listening post in the world.

The location of this service was one of the most closely guarded secrets of the war. It was in the Oratory School for Boys at Caversham, Berkshire, that John Jarvis, a blind man with amazing hearing and memory supervised this activity.

From a few perspiring young men struggling rather on their own initia-

tive to keep a record of what the enemy was saying, the Monitoring Service grew in five years to a highly organized professional news and intelligence service comprising over six hundred employees and listening to every audible broadcast worth mentioning throughout the world. Before the German surrender it was listening to about one and a quarter million words a day in thirty-two languages. Some three hundred thousand words were daily transcribed into English, of which approximately one hundred thousand were published in a Daily Digest of World Broadcasts, and twenty-five to thirty thousand a day flashed as an urgent service on teleprinter to 19 War, Government, and BBC departments. In addition, the daily Monitoring Report, giving the main slants of world radio propaganda and news and a short daily report for the War Cabinet offices, were issued. Specialists produced a daily digest in German, French, and Italian.

The world monitor requires explanation. Before the war there was, by international agreement, a technical station at Brussels which checked on all wavelengths and warned broadcasting stations when they wandered too far off their allotted frequency. This machine was the *monitor*, Latin for advisor.

Listening in to other nations' broadcasts did actually start in Britain by the BBC as long ago as the Italo-Abyssinian campaign. But the application of the word monitor, derived from the Brussels machine, did not occur until

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the time of Munich. The Monitoring Service of the BBC did not begin until the late summer of 1939.

The Hellschreiber, a German invention, does for radio what the tape machine does by land-lines. An elaborate

Hellschreiber organization was used by Goebbels for service and instructions to his network of newspapers and broadcasting units all over Germany and occupied Europe. There
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RADIO-CONTROLLED TARGET AIRPLANE DEVELOPED BY ATSC

THE restricted lid was lifted recently from one of the Army's most ingenious training devices, the radio-controlled, pilotless target airplane developed at Air Technical Service Command Headquarters at Wright Field, Ohio.

Able to fly at speeds ranging from 100 to 200 miles-per-hour and at altitudes up to 3000 feet, controlled by radio from the ground, the target airplane is the result of eight years of intensive research work by Lt. Col. Chester O. French, Jr., and his Control Equipment Branch, Equipment Laboratory staff.

Two models are now standard equipment for the Army Air Forces, the OQ-3 and OQ-14. They are used as targets for aerial gunnery practice by B-29 gunners and also for anti-aircraft practice by ground forces. The Navy is using the radio airplane target in its training program for automatic weapons target practice aboard combatant ships. Navy officers and enlisted personnel have been trained in the operation of the pilotless airplane.

The radio airplane target has recently found another use, that of a training aid for students of radar in tracking flying objects in the air for gunnery practice.

Manufactured by the *Radioplane Company*, Van Nuys, Calif., and *Globe Corporation Aircraft Division*, Joliet, Ill., the OQ-3 airplane target is a high-wing monoplane, 9 feet long, with a wing span of 12 feet, 3 inches. It weighs 100 pounds and is capable of flying 103 miles-an-hour. It is constructed of welded steel tubing covered with airplane cloth. The power plant is an 8 horsepower, 2-cylinder, 2-cycle gasoline engine.

The OQ-14, a later model, has a wing span of 11 feet, 6 inches and is powered with a 22 horsepower engine. This model will fly 140 miles-per-hour.

Take-off is accomplished by the use of a catapult, powered by compressed spring coils or rubber shock cord. After launching, the target is radio-controlled and is operated by elevator and rudder controls only. Landing is made by parachute, released either by the control operator or automatically as a result of damage from vital hits.

The elevator and rudder servo controls remain in effect after the engine is stopped and the parachute released, providing the radio has not been damaged, so that *dead-stick* landings can be made in the event the parachute attachments are shot away.

The basic system of radio control for the target involves the use of an ultra-high frequency carrier wave, modu-

lated by five different audio frequencies. A small control box attached to the transmitter by means of a flexible extension cable, equipped with a stick to simulate actual airplane control, is used to select the proper radio signals.

Four audio-frequency tones are used to control the target airplane in flight, one each for left, right, up, and down. A fifth frequency centers rudder and releases the parachute. Only one of these audio frequencies is used at a time. When one of the control frequencies is not in use, the fifth, or parachute frequency, is automatically switched on.

Installed in the plane is a radio receiver selector, which translates the radio waves and actuates, by electrical energy, the servo unit in the airplane. The servo unit provides the mechanical action to control the elevators and rudder. Operation has been so simplified that anyone without previous experience can learn to fly the target plane in 6 hours.

Use of the plane has provided a realistic target for student gunners because of its ability to simulate flight attitudes, dives, and evasive action.

The development of the radio-controlled pilotless plane started with an idea by Reginald Denny, stage and screen actor, who in the early 1930s built a radio controlled airplane model. Its possibilities became evident to the Army after a newspaper account of it appeared. In 1937, the Army Air Forces entered the picture and took over the project for development, assigning it to the old AAF Materiel Command.

The first experimental models had a 3 horsepower engine with counter-rotating props to counteract torque, square cross-section fuselage, and tricycle landing gear. The method of control included a telephone dial. Experiments, tests, and further development by ATSC finally eliminated the counter-rotating propellers, landing gear, and telephone dial control. Torque action was eliminated through design incorporating inherent stability. With the use of steel tubes for the framework, the landing gear became unnecessary as the rugged construction of the airplane absorbed the landing shock.

By 1942 the radio airplane target had been developed enough to go into production and student gunners began practicing on them. Experimentation with the planes is still being carried on at ATSC headquarters, Wright Field.

get of attack from all three Canadian political parties, whose counterproposals run the gamut from an outright BBC monopoly to a variation of the "American system."

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QTC

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M. J. CESTONE, an ol' timer from the Gulf ports, is shipping from the West Coast and is now doing a stretch on the *Nancy Lykes* . . . Don Mealy, ex-marine opr, is with Consolidated Airlines, flying an LB 30 between 'Frisco and Honolulu . . . Les Grogan is back from Alaska fishing and on the *Richard Harding Davis*, a Liberty, but he is looking for a passenger wagon and the "good ol' days."

John Lutterman, ex-Texas Co. opr on the *SS Sea Blaney* . . . Lieut. M. A. Stiltner, former fighter pilot off the *USS Enterprise*, wants his friends to know he is in the merchant marine after he "got it" and if he can't keep 'em flying he will help to keep 'em sailing to bring the boys back home; he's on the *Dennison Victory* out of 'Frisco.

M. F. JOHNSON making his "first trip" aboard a Liberty from the West Coast . . . F. Jones is riding his "first" also—as chief on the *T. A.*

Johnston . . . T. A. Temple was in port for a few days and was assigned to the *Peter Donhue* . . . Pete Johnson is now a former radio officer—he is doing a stretch as mate, but did not report the name of his ship . . . Norman William reports he is on his "second" trip aboard the *SS John B. Floyd* . . . Geo. Meak is now chief on the *James A. Butts*. George was riding the *President Coolidge* when she hit a mine field; good luck on this one, George! . . . Harry A. Morgan, who resigned as vice president of ACA's marine division some months ago, is now with ACA's local No. 3 at 'Frisco and feeling OK once again. Harry resigned as vp due to ill health. . . . 73

Listening to the World

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was only one way to intercept these messages—by obtaining a Hellschreiber. The BBC got one, and then more machines. Thus, they were able to monitor fully both Goebbels instructions and news. At first this was kept secret since it was not known whether the Goebbels organization knew or suspected that Britain was eavesdropping systematically on all his private conversations; or whether, though he knew it, he could do nothing about it since his own Hellschreiber setup was too valuable and elaborate to be scrapped.



The Morse Listening Room, where ordinary telegraph service signals in Morse code are intercepted and copied on the typewriters. High-speed signals are recorded and slowed down later for transcription.

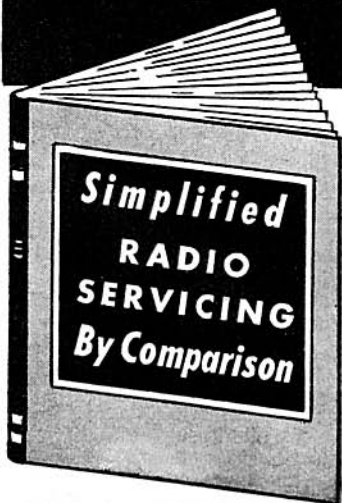
All voice broadcasts are not only heard by the individual monitors (the listeners) but simultaneously recorded on equipment very similar to that of a dictaphone, to insure that what the monitor hears can be checked. The moment a monitor has finished his listening and has made such notes as he requires for his own guidance, he goes into the Information Bureau to confess. This means that he reports every item monitored to a supervisor who knows where this information should be flashed first. This supervisor indicates the appropriate treatment of what the monitor has heard.

The military leader who said that the BBC Monitoring Service had the value for the Allied Forces of 40 divisions was not exaggerating.

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FIX ANY RADIO

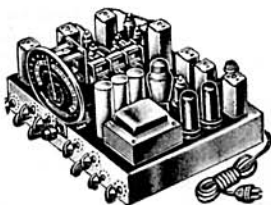
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