

CLASSIFICATION SECRET

CENTRAL INTELLIGENCE AGENCY
INFORMATION REPORT

REPORT

CD NO.

COUNTRY East Germany

DATE DISTR. 5 May 1955 25X1

SUBJECT Testing of the Anti-Collision Device by VEB Funkwerk K...

NO. OF PAGES 4

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NO. OF ENCLS. (LISTED BELOW) 25X1

SUPPLEMENT TO REPORT NO.

[Redacted]

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[Redacted]

1954. On 13 August, the set and assembly experts [Redacted] The instrument was installed and ready for operation aboard the STRALSUND in about three days. The individual parts of the unit were placed as follows: 25X1
The transmitter and receiver and one indicator unit in the map room, the second indicator left of the helmsman's stand on the bridge and the antenna on the upper deck on the port side. The antenna, a plain cast aluminum reflector, about 1.5 m wide and about 40 cm high, was mounted on a triple braced mast, 14 meters above the waterline. Since the Meddo set had been insufficiently tested in [Redacted] numerous defects were found during the first experiments aboard STRALSUND. Although improvements on the set would have been of great value for the experiments, all modifications were left for the planned second version of the Meddo set. Most faults were the result of poor quality tubes.

2. The experiments were hampered by the fact that the STRALSUND was immovable in the careening basin and could not be warped to Salzhaff because oil escaped through the sleeve of the propeller. The ship was loaded at the bow and the sleeve was dismantled from inside. It was found that the rubber sleeve had been installed without any supporting material. The repairs were completed on 3 September 1954 and, after a 72-hour test run, the sleeve was to be installed. In the careening basin, the experiments with the Meddo set were seriously handicapped by numerous close targets and by the very small angle of sight to the open sea. Perfect results were obtained during the tests up to a distance of 9 nautical miles.
3. In early September, three development engineers and one projecting engineer were alternately stationed aboard the ship. For the test run, the ministry had assigned [Redacted] Projecting Engineer Scheuer (fnu) and the development engineer [Redacted] and Lingenfelder (fnu), while it had refused for this period [Redacted] suggested by the plant because of their doubtful political reliability.
4. A ship officer stated that faults, among others a too high [Redacted] were also determined on the STRALSUND. She was designed for [Redacted] [Redacted] equipped [Redacted] the Baltic Sea and [Redacted] as far [Redacted]


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ARMY	X	AIR	#X FBI


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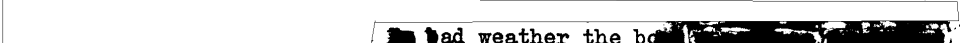
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5. No basic development errors but, except for tube failures, only mechanical defects were noticed during experiments by early October. All defects could be eliminated aboard the ship. After mid-September, the entire installation operated with two indicators about 9 hours daily without any further defects becoming apparent. The sailing of the STRALSUND was again delayed by repeated dismantling of the capstan and repairwork of the gears. The sailing date on 23 October 1954 was not yet finally fixed. Funkwerk Koepenick received detailed reports from the experts on board and controlled the activities there. In a conference held in October 1954 by representatives of the departments TEA (Technical Development Antennas), TET (Technical Development Decimeter and Centimeter Units), TKM (Technical Construction Measuring Instruments) and TKK (Technical Construction Miniature Instruments), it was decided that in 1955 two sets with one indicator each were to be built in the original shape as measuring control models. From the variable results obtained in the experiments it was concluded that it would be of essential importance to make the length of the transmitting impulses adjustable, and that, in addition to some basic constructional modifications, an automatic control of the set would be required in order to obtain better scanning at a close range.

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7. On 17 October 1954, the STRALSUND left Wismar harbor and put out.  25X1
 The Meddo set operated perfectly in the high voltage transformer. The magnetron failed because of a fault between winding and connecting cable as a result of poor assembly. The fault could be eliminated by the development engineers and the set operated perfectly again. The distant target measured was allegedly about 28 nautical miles away. In anticlutter unit (sic) installed for experimental purposes failed during the tests. Screen photography allegedly indicated that this switching system had proved to be successful. The coast line and rain clouds could easily be identified. The staff of the

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 In bad weather the boat was not visible on the screen than visually. A pilot who guided the ship back into Wismar harbor knew these type radar returns from foreign boats and stated that the set was not equipped with English instruments, but that English instruments were a high level of development. The trip of the STRALSUND to the Baltic Sea was because of defective gears. Before entering Wismar harbor the ship had to be towed into the harbor.

8. Since long overhauling work was required to repair the clutch, the Meddo set was dismantled from the STRALSUND and installed in the WISMAR, a 3,000-ton freighter, in late November. On 21 November, the WISMAR left for Riga with Lingenfelder, Munte and Scheuer aboard. By 3 December, Funkwerk Koepenick had received only insignificant daily reports from these engineers. On the return trip the WISMAR was allegedly to call at several Baltic and East Prussian harbors.

9. The 1955 research and production plan for the further development of the Meddo set was published in late August. Two indicators were to be developed, one of them specially for long ranges and the other one for average use. Both indicators were to be equipped with 12" picture tubes which were allegedly already being produced by the Plant for Telecommunications. In order to reduce the size of the Meddo set, only miniature tubes were to be used in the future for the indicator unit. A new transmitter unit with adjustable impulse length was also to be designed.



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10. In early October, however, it was decided that only one indicator should be built instead of two as previously planned. The order, received from the Ministry of Interior, did not

(Seeregister) would be cancelled for financial reasons. The construction of the second indicator was cancelled for financial reasons. The new set was to be designed with an impulse length adjustable from 0.05 to 1.0 microseconds. In early October, the first 12" picture tube arrived at Funkwerk Koeppenick. The same type tubes were installed already in Rembrandt type television sets and provided with a different layer they were to be used for the improved version of the Meddo set. It was tested for focusing and deflecting characteristics. The Plant for Telecommunications delivered new picture tubes of various thicknesses of layer and color components developed by Mr. Some of these tubes seemed to be better than the ones previously. They were being further developed.

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11. The departure of ^{Epich} in late September 1954, caused a noticeable decrease in the projecting and planning activities for the further development of the Meddo set. In addition to this, the plant had to wait for the testing data obtained aboard the ships, in order to evaluate them for the new development specifications to be prepared by the Projecting Department.

12. In any case, the indicator unit was to be converted to miniature tubes.

These tubes were much better than the types of the former Oktal series. In spite of all efforts involved, the production of the pertinent small structural parts was behind schedule and hampered the development of a smaller Meddo set. Some slight improvements were achieved with the resistances. Funkwerk Koeppenick received models of high capacity boron-treated mass-type resistances. Satisfactory results were obtained in experiments with these small resistances.

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13. The TET (Technical Development Decimeter and Centimeter Units) Department of Funkwerk Koeppenick was ordered to develop a reflection measuring instrument. The order was probably given by the Ministry of Interior. Additional development orders were received for a rectangular wave generator and for a measuring oscillograph for impulse purposes. It was learned that very good impulse measuring instruments were being produced at Funkwerk Dresden.

14. In early August 1954, the experimental model ^{the anti-collision device} was shipped to Wismar to be installed. Dipl Ing Munte and some assistants went to Wismar to assemble the instrument there. When Munte returned on 28 September, the assembling work was completed, but the ship could not sail for the experimental trip because a large crane mounted on the bow was overloading the bow.

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**CENTRAL INTELLIGENCE AGENCY
INFORMATION REPORT**

REPORT

CD NO.

COUNTRY East Germany

DATE DISTR. 9 MAY 1955

SUBJECT Testing of the Anti-Collision (Radar) Device by V&B Funkwerk Koepenick

NO. OF PAGES 4 25X1

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DATE OF INFO.

SUPPLEMENT TO REPORT NO.



THIS IS UNEVALUATED INFORMATION

1. Preparations for the sea testing of the newly developed collision preventing unit (Meddo set) were under way at Funkwerk Koepenick in early August 1954. On 13 August, the set and assembly experts left for Wisnar. The instrument was installed and ready for operation aboard the STRALSUND in about three days. The individual parts of the unit were placed as follows: The transmitter and receiver and one indicator unit in the map room, the second indicator left of the helmsman's stand on the bridge and the antenna on the upper deck on the port side. The antenna, a plain cast-aluminum reflector, about 1.5 m wide and about 40 cm high, was mounted on a triple braced mast, 14 meters above sea level. Since the Meddo set had been insufficiently tested in laboratories, numerous defects were found during the first experiments aboard the STRALSUND. Although improvements on the set would have been of great advantage for the experiments, all modifications were left for the planned second version of the Meddo set. Most faults were the result of poor quality tubes. 25X1
2. The experiments were hampered by the fact that the STRALSUND was immovable in the careening basin and could not be warped to Salzhaff because oil escaped through the sleeve of the propeller. The ship was loaded at the bow and the sleeve was dismantled from inside. It was found that the pure rubber sleeve had been installed without any supporting material. The repairs were completed on 3 September 1954 and, after a 72-hour test run, the sleeve was to be installed. In the careening basin, the experiments with the Meddo set were seriously handicapped by numerous close targets and by the very small angle of sight to the open sea. Perfect results were obtained during the tests up to a distance of 9 nautical miles.
3. In early September, three development engineers and one projecting engineer were alternately stationed aboard the ship. For the test run, the ministry had specially assigned Projecting Engineer Scheuer (fm) and the development engineers Heinzfunte and Lingenfelder (fm), while it had refused for this period any other engineer suggested by the plant because of their doubtful political reliability.
4. A ship officer stated that faults, among others a too high center of gravity, were also determined on the STRALSUND. She was designed for short runs and allegedly equipped with maps covering the Baltic Sea and the North Sea as far as Brest Litovsk.

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5. No basic development errors but, except for tube failures, only mechanical defects were noticed during experiments by early October. All defects could be eliminated aboard the ship. After mid-September, the entire installation operated with two indicators about 9 hours daily without any further defects becoming apparent. The sailing of the STRALSUND was again delayed by repeated dismantling of the capstan and repairwork of the gears. The sailing date on 23 October 1954 was not yet finally fixed. Funkwerk Koepenick received detailed reports from the experts on board and controlled the activities there. In a conference held in October 1954 by representatives of the departments TEA (Technical Development Antennas), TET (Technical Development Decimeter and Centimeter Units), TKM (Technical Construction Measuring Instruments) and TKK (Technical Construction Miniature Instruments), it was decided that in 1955 two sets with one indicator each were to be built in the original shape as measuring control models. From the valuable results obtained in the experiments it was concluded that it would be of essential importance to make the length of the transmitting impulses adjustable and that, in addition to some basic constructional modifications, an automatic control of the set would be required in order to obtain better scanning at a close range.

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7. On 17 October 1954, the STRALSUND left Wismar harbor and put out to sea. The Meddo set operated perfectly in the beginning, but the high voltage transformer for the magnetron failed because of flashovers between winding and connecting cable as a result of poor assembly work. The fault could be eliminated by the development engineers and the instrument operated perfectly again. The most distant target measured was allegedly about 28 nautical miles away. An anticlutter unit (sic) installed for experimental purposes failed during the tests. Screen photography allegedly indicated that this switching system had proved to be successful. The coast line and rain clouds could easily be identified.

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In bad weather the boat sometimes navigated only with the help of the Meddo set. Even in day time, buoys and ships were sometimes noticed much earlier on the screen than visually. A pilot who guided the ship back into Wismar harbor knew these type radar instruments from foreign boats and stated that the Meddo set was better than earlier English instruments, but that English equipment had now reached the same level of development. The trip of the STRALSUND was repeatedly interrupted because of defective gears. Before entering Wismar harbor the clutch was damaged and the ship had to be towed into the harbor.

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8. Since long overhauling work was required to repair the clutch, the Meddo set was dismantled from the STRALSUND and installed in the WISMAR, a 3,000-ton freighter, in late November. On 21 November, the WISMAR left for Riga with Lingenfelder, Munte and Scheuer aboard. By 3 December, Funkwerk Koepenick had received only insignificant daily reports from these engineers. On the return trip the WISMAR was allegedly to call at several Baltic and East Prussian harbors.
9. The 1955 research and production plan for the further development of the Meddo set was published in late August. Two indicators were to be developed, one of them specially for long ranges and the other one for average use. Both indicators were to be equipped with 12" picture tubes which were allegedly already being produced by the Plant for Telecommunications. In order to reduce the size of the Meddo set, only miniature tubes were to be used in the future for the indicator unit. A new transmitter unit with adjustable impulse length was also to be designed.

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10. In early October, however, it was decided that only one indicator should be built instead of two as previously planned. The order, received from the Ministry of Interior, did not give the technical specifications.

[redacted] the specifications of the Soviet nautical register (Seeregister) would be used for the new indicator unit. The construction of the second indicator was probably cancelled for financial reasons. The new set was to be designed with an impulse length adjustable from 0.05 to 1.0 microseconds. In early October, the first 12" picture tube arrived at Funkwerk Koepenick. The same type tubes were installed already in Rembrandt type television sets and provided with a different layer they were to be used for the improved version of the Meddo set. The model tube was tested for focusing and deflecting characteristics. In early November, the Plant for Telecommunications delivered new picture tubes with various thicknesses of layer and color components developed by Mrs. Thurley (fnu). Some of these tubes seemed to be better than the ones previously received. They were being further developed.

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11. The departure of Dr Erich Schuettloeffel in late September 1954, caused a noticeable decrease in the over-all projecting and planning activities for the further development of the Meddo set. In addition to this, the plant had to wait for the testing data obtained aboard the ships, in order to evaluate them for the new development specifications to be prepared by the Projecting Department.

12. In any case, the indicator unit was to be converted to miniature tubes.

[redacted] These tubes were much better than the types of the former Oktal series. In spite of all efforts involved, the production of the pertinent small structural parts was behind schedule and hampered the development of a smaller Meddo set. Some slight improvements were achieved with the resistances. Funkwerk Koepenick [redacted] received models of high capacity boron-treated mass-type resistances. Satisfactory results were obtained in experiments with these small resistances.

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13. The TET (Technical Development Decimeter and Contineter Units) Department of Funkwerk Koepenick was ordered to develop a reflection measuring instrument. The order was probably given by the Ministry of Interior. Additional development orders were received for a rectangular wave generator and for a measuring oscillograph for impulse purposes. It was learned that very good impulse measuring instruments were being produced at Funkwerk Dresden.

14. In early August 1954, the experimental model of the anti-collision device was shipped to Wismar to be installed aboard the STRALSUND. Dipl Ing Munte and some assistants went to Wismar to assemble the instrument there. When Munte returned on 28 September, the assembling work was almost completed, but the ship could not sail for the experimental trip, allegedly because a large crane mounted on the bow was overloading the boat.

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