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MEMORANDUM FOR: The Director of Central Intelligence

FROM : John N. McMahon
Deputy Director for Operations

SUBJECT : MILITARY THOUGHT (USSR): The Planning of Radioelectronic Countermeasures in Preparing a Front's Initial Offensive Operation

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". This article discusses the organization of radioelectronic countermeasures for a front offensive in the initial period of a war, stressing the need to reduce the effectiveness of the enemy's nuclear attack and effectiveness of his combat troops by disrupting the radiotechnical systems used by him to control his troops and guide his aircraft and operational-tactical missiles. In addition to the need for the destruction or neutralization of the enemy's radiotechnical systems, the authors also point to the need for the protection of the friendly radiotechnical systems. The article lists the types of forces and means for carrying out these tasks, as well as the procedures for doing so. This article appeared in Issue No. 5 (66) for 1962.

2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies. For ease of reference, reports from this publication have been assigned

John N. McMahon

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SUBJECT

MILITARY THOUGHT (USSR): The Planning of Radioelectronic Countermeasures in Preparing a Front's Initial Offensive Operation

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Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 5 (66) for 1962 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The authors of this article are General-Mayor M. Bulanov and Engineer Lieutenant Colonel L. Potiyenok. This article discusses the organization of radioelectronic countermeasures for a front offensive in the initial period of a war, stressing the need to reduce the effectiveness of the enemy's nuclear attack and effectiveness of his combat troops by disrupting the radiotechnical systems used by him to control his troops and guide his aircraft and operational-tactical missiles. In addition to the need for the destruction or neutralization of the enemy's radiotechnical systems, the authors also point to the need for the protection of the friendly radiotechnical systems. The article lists the types of forces and means for carrying out these tasks, as well as the procedures for doing so.

End of Summary

Comment:

After 1962 the SECRET version of Military Thought was published three times annually and was distributed down to the level of division commander. It reportedly ceased publication at the end of 1970.

The Planning of Radioelectronic Countermeasures in Preparing a Front's Initial Offensive Operation

by
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The organized and purposeful employment of nuclear weapons and conventional combat means and the successful actions of troops as a whole in a modern operation and battle are impossible without the integrated use of radioelectronic means that have been combined into multipurpose radiotechnical systems. By disrupting the operation of such systems, it is possible to reduce considerably the effectiveness of the enemy's nuclear attack, sharply reduce the combat effectiveness of his troops, and at the same time contribute to the successful accomplishment of combat tasks by one's own troops.

The disruption of the enemy's radiotechnical system that provides him with control of his troops and combat equipment can only be achieved by implementing an entire system of measures, the main ones being as follows: the destruction of radiotechnical control centers and stations; the generation of active jamming against radio communications, radar, radio-navigation, radio remote control, and television equipment; and the antiradar camouflaging of the troops. To carry out these measures requires the employment of various forces and means: nuclear and chemical weapons; SPETSNAZ radio and radiotechnical units; artillery; missiles and aircraft; airborne landing forces; sabotage-reconnaissance detachments (groups) and engineer units.

The complex of measures employed to disrupt an enemy radiotechnical control system is known to constitute a special type of operational (combat) support referred to as radioelectronic countermeasures.

In modern operations it is just as important, along with the carrying out of radioelectronic countermeasures, to protect one's own radioelectronic equipment from powerful enemy jamming and to provide for stable troop control.

One of the most urgent tasks in organizing radioelectronic countermeasures is that of planning them for a front offensive operation in the initial period of a war. This is the topic under examination in the present article. Its study is based on present-day views concerning the nature and content of the initial operations of a front, as well as on data concerning the state of troop and combat means control in the armed forces of the United States.

It is known that in all front operations, including those of the initial period of a war, the aim of radioelectronic countermeasures is to disrupt the key links of the radiotechnical troop control system in the enemy's operational grouping, as well as the radiotechnical system that guides his aircraft and operational-tactical missiles.

The organizing of radioelectronic countermeasures for the first offensive operation in the initial period of a war has a number of special features. It is very difficult to organize radioelectronic countermeasures when a war is unleashed by surprise and the front offensive operation is prepared within a limited period of time under conditions of the full mobilization and movement of troops over great distances, for example, from the interior of the country to the theater of military operations, particularly through the territory of allied countries adjacent to the probable enemy.

In the initial period of a war, the following conditions will affect the organizing of radioelectronic countermeasures.

First, at the outset of a war, the enemy will be sure to convert his radiotechnical system of troop and combat means control to one organized for wartime, not only changing the location and operating routine of his radioelectronic means, but also putting into operation previously unknown means. It is probable that the enemy will implement these measures simultaneously with radio deception and the strict observance of radio silence. Needless to say, it will not be possible to discover the changes in his radiotechnical system until the start of and during the combat actions of the sides.

Consequently, at the start of the first operation, the radio reconnaissance of a front will not possess the full information

required for the neutralization or destruction of a whole series of enemy radiotechnical installations in the initial strike. Under these conditions, radioelectronic countermeasures must be readied with due regard for possible changes in the enemy's radiotechnical system.

Secondly, a certain amount of time is required to fully mobilize the SPETSNAZ radio and radiotechnical units present in the military districts. During this time, the troops in constant combat readiness will move out into the territory of allied states and, together with the formations (large units) located there, as well as with the troops of these states, will initiate combat actions to accomplish the immediate task of the front in the operation.

Moreover, if there is taken into consideration the time required to shift radio and radiotechnical units into the area in which the front troops are conducting combat actions, it can be assumed that for the initial offensive operation, the front will have available a limited number of radio jamming forces and means. Of course, in such a situation, the principal radioelectronic countermeasures will be the destruction of the enemy's key radioelectronic installations by fire means. Moreover, a considerable part of these installations will be destroyed coincidentally in the delivery of massed nuclear and other fire strikes against the enemy's troops.

Thirdly, since the paramount task of an initial front offensive operation is to disrupt or repel the enemy's first nuclear strike, and since the principal means for the delivery of this strike are bomber aircraft and missiles equipped with radioelectronic guidance equipment, the radioelectronic countermeasures organized within the front's air (antimissile) defense system acquire particularly great importance in an initial operation.

Precision bombing with the use of radar bombsights and the employment of cruise missiles with self-contained radar guidance systems, such as those of the Mace and Rascal type, require a well-defined representation in the radar image of the installations against which the nuclear strike is to be delivered and of the reference points on the aircraft and missile flight routes. We cannot rule out the possibility that, as a result of

prolonged aerial radar reconnaissance, our probable enemies will have at the beginning of the war a radar contrast map of various installations (reference points) located on the territory of the border military districts and of the allied states adjacent to these military districts.

It is perfectly clear that in the initial operations it will be particularly important to conceal the front's key installations and reference points from enemy radar observation, especially since afterwards, as a result of massed nuclear strikes by both sides, the radar brightness of the terrain and, consequently, the contrast of the reference points (installations) will be greatly changed and require additional aerial radar reconnaissance, for which there may not be enough time. During this period, in connection with a lack in the front of an adequate number of active radio jamming means, the principal method of concealing front forces and rear installations from enemy radar observation becomes that of antiradar camouflaging of them, primarily by the extensive use of the terrain's camouflage properties.

An important feature in organizing radioelectronic countermeasures in the first operation of the initial period of a war is the fact that their planning and preparation are carried out in peacetime in accordance with the probable course of the operation, the special features of the theater of military operations, the time required to make the radioelectronic countermeasures forces and means combat ready, and the possible organization of the enemy's radiotechnical systems. In doing so, all measures to disrupt the enemy's control can be planned in several versions (as can also the operation plan) that take into account the various conditions under which a war can start and provide for subsequent refinements, additions, and even changes.

The prior planning of measures to disrupt the radiotechnical system used by the enemy to control his nuclear weapons and troops is an important factor in the successful carrying out of radioelectronic countermeasures from the very beginning of the operation. But the main thing is to attempt to put into effect the plan that has been drawn up, make timely changes in it in accordance with changes in the situation, and coordinate the actions of the forces and means employed to carry out the radioelectronic countermeasures. Since the forces and means of

the various branch arms (services) and branches of the armed forces participate in destroying and neutralizing the radiotechnical installations of the enemy's control system, these measures can be implemented successfully only with the centralized direction of the radioelectronic countermeasures. The scales of centralized direction will be determined by the specific conditions of the situation and the capability of maneuvering the radioelectronic countermeasures means; however, in all cases, the scales of centralized direction must ensure their integrated, massive, and surprise use on the axis of actions of the main front forces.

The organizational basis ensuring the purposeful and most efficient utilization of all the forces and means enlisted to destroy and neutralize the enemy's radiotechnical means is the radioelectronic countermeasures plan.

In order to plan correctly all the radioelectronic countermeasures, one must collect, collate, and analyze a large amount of varied data on friendly and enemy forces; estimate the enemy's possible operational disposition, grouping and composition; clarify the concept of the forthcoming front operation and, guided by this concept, synchronize the use of all the means of destruction and radio jamming against the most important and vulnerable elements of the enemy's control system, closely coordinating this use with nuclear strikes against other installations and with the tasks of the front troops. Also to be taken into consideration in the planning of the radioelectronic countermeasures are the measures that will be implemented, in accordance with the plan of the higher staff, by the allied armies and adjacent forces for the purpose of disrupting enemy troop control. Furthermore, the planning of the radioelectronic countermeasures cannot be considered complete unless there are taken into consideration the radar characteristics of the terrain in the front's offensive zone, as well as the meteorological conditions and their possible influence on the use of the radioelectronic means and means of destruction.

It can be seen from what has been said above that the planning of radioelectronic countermeasures can only be done by a special department of the military district (front) staff with the participation of representatives of the operations and intelligence directorates, of the rocket troop and artillery

staff, the chiefs of the air defense forces, communications troops, and engineer troops, and the representatives of the air forces and airborne troops. If the operation is to be conducted on a coastal axis, then representatives of the fleet staff will also participate in the planning.

Worked out as a result of the planning is the procedure for using the radioelectronic countermeasures means of the different levels of command in order to neutralize the most important, from the operational point of view, enemy radiotechnical installations. Also worked out are measures that eliminate the possibility of jamming friendly radiotechnical control and reconnaissance means.

In our opinion, the radioelectronic countermeasures plan should indicate the following:

-- the purpose and tasks of radioelectronic countermeasures in the front offensive operation;
-- the allotment of radioelectronic countermeasures forces and means;
-- the enemy radiotechnical installations that are to be destroyed or neutralized by the use of radio jamming means and nuclear and conventional means of destruction;
-- the front installations that are to be provided with antiradar camouflage and the means allocated for this;
-- the procedure for implementing radioelectronic countermeasures when front troops are moving forward and during the operation;
-- the procedure for organizing the radio communications and the signals for the control of the SPETSNAZ radio units;
-- the organization of the cooperation of the branch arms and the branches of the armed forces implementing the radioelectronic countermeasures;
-- the measures preventing the disruption of the operation of friendly radiotechnical means during the production of radio jamming against the enemy.

In our opinion, the overall tasks of the radioelectronic countermeasures employed in the initial offensive operation of a front will be as follows: with the forces of aviation, rocket troops, and artillery, to destroy (neutralize) the key communications centers, radar centers (posts), and radio remote

control stations and systems supporting the enemy's employment of missile weapons and aviation and the troop control of his main ground forces grouping; by producing active and passive jamming, to neutralize the main radio communications means for the control and cooperation of the enemy's ground forces, rocket troops, and aviation, as well as the radiotechnical means used by the enemy to support navigation, precision bombing, and operational-tactical missile guidance.

The accomplishment of the above-mentioned tasks and the putting out of action of this number of means, which the enemy will be unable to replenish by drawing upon his reserve, is possible only if the enemy's radioelectronic equipment is simultaneously acted upon by the various means and methods. This must be given particular consideration in the planning of radioelectronic countermeasures.

The radiotechnical installations which have to be neutralized by means of radio jamming or which have to be destroyed, including the installations which are to be neutralized (destroyed) first, are selected on the basis of an analysis of the organizational structure of the enemy's branch arms and branches of the armed forces and of his possible operational disposition at the start of combat actions. However, the real capabilities of the front have to be taken into account in calculating the radioelectronic countermeasures forces and means required for this. Thus, based on the experience gained in exercises, it can be assumed that for the production of jamming against enemy radio communications means in an initial operation, a front will have one front and one army SPETSNAZ radio battalion with different degrees of mobilization readiness and the overall capability of simultaneously neutralizing up to 25 to 35 shortwave and 50 ultra-shortwave radio contacts; and, for the production of jamming against radio navigation bombing systems, radar bombsights, and panoramic stations, it will have one radiotechnical battalion. Naturally, a strictly limited number of enemy radio contacts and radar means can be neutralized with these forces.

Moreover, it cannot be relied on that adequate artillery means and aviation resources or the necessary number of missiles will be allocated to support radioelectronic countermeasures. It is very difficult to determine beforehand the aviation and

artillery allocation required to destroy (neutralize) the enemy's radiotechnical installations. However, under all conditions, in determining the aviation, artillery, and missiles required for the destruction (neutralization) of the enemy's radiotechnical means, it is necessary, first of all, to take into account the other targets in the front offensive zone against which the delivery of nuclear strikes (including nuclear strikes by the means of the General Headquarters of the Supreme High Command) and the use of conventional means of destruction are planned, and also to take into account the degree to which they may contribute to the disruption of the enemy's control.

Calculations show that a considerable part of the enemy's radiotechnical means can be destroyed coincidentally with the delivery of strikes against his missile launching sites, artillery firing positions, control posts, troops, etc., and that some of them lose their importance due to the destruction of the control posts or installations. For example, if, in the course of a nuclear strike, several of the enemy's formation (large unit) command posts or missile launchers are destroyed, it may be inexpedient to neutralize, and even more so, to destroy the enemy's respective radio contacts (radio communications centers) or radio remote control systems. According to our calculations, which were made with respect to the organization of the radiotechnical system of a US army group, on the axis of the actions of a front's main forces and on the flight routes of its aviation, out of all of the radar centers, posts, and stations deployed by the enemy, only 35 to 40 percent of them can be considered to be separate and distinct key targets for radioelectronic countermeasures.

The radioelectronic countermeasures plan must be closely coordinated with the planned employment of nuclear weapons in the operation. At the same time, in the delivery of nuclear strikes against installations whose destruction has been provided for in the operation plan, the yield of the nuclear warhead, the ground zero, and the type of burst should be selected with a view to the simultaneous destruction of the key radiotechnical means of the enemy's control system.

Thus, the central points in planning radioelectronic countermeasures are, first, to determine the most important links in the enemy's radiotechnical system whose destruction will in

the greatest degree contribute to the success of the operation, and, secondly, to correctly distribute the radioelectronic countermeasures tasks among the executors, taking into account their capabilities and combat function.

When front forces are moving forward into the combat actions area, the principal task of radioelectronic countermeasures is to weaken to the utmost the enemy's radar reconnaissance and thereby prevent his aviation from carrying out precision bombing against the main forces of the front, which are regrouping and concentrating, and against the front's key installations. This task is accomplished by the antiradar camouflaging of the troops and installations and, as the SPETSNAZ radiotechnical units become fully mobilized, by neutralizing the enemy's radar or panoramic radar bombing systems with active radio jamming. The amount of forces and means and the extent of the antiradar camouflage measures required for this are determined according to the camouflage properties of the terrain, the radar contrast of the installations, the presence of radar reference points near them, and the probable density of the enemy's air attacks. To cover individual installations located near the areas where the SPETSNAZ radiotechnical units are completing their mobilization, it is expedient to plan the temporary use of the active radio jamming means of these units, provided, of course, this does not interfere with their timely relocation to cover the front's main body that is moving into the combat actions area.

Special attention must be devoted to covering the disposition areas of the missile launching sites, missile bases, nuclear warhead depots, bomber aviation airfields, major railroad centers, bridges, etc. The antiradar camouflaging of these installations must be carried out in full conformity with the operational camouflage measures and measures for the radio deception of the enemy. In order to emphasize the importance of this requirement, it is sufficient to point out, for example, that the rebasing of front aviation onto the territory of the allied states can be concealed from the enemy only by the correct combination of such measures as maintaining the flight routines within the airfield network for the purpose of deceiving the enemy's radio reconnaissance and by the simulation and antiradar camouflaging of the climb (descent) of aircraft when they take off and land.

In order to carry out the antiradar camouflaging of front troops and installations, it is necessary already in peacetime to photograph and study the radar map of the theater of military operations (including the part across the border), prepare insofar as possible the necessary number of antiradar corner reflectors and concentrate them near the installations that are to be camouflaged, make provisions for the forces and means that are to perform the camouflage work, and, finally, fix the readiness time of the antiradar camouflage.

If front forces are to carry out the antiradar camouflaging of installations, for example, of bridges or crossings over major water obstacles located on the territory of allied states, then a reserve of corner reflectors should be set up near the state border, which, with the start of the forward movement of the front troops, will be put in the areas of these installations.

Used for the camouflage work are the engineer troops of the military district and the armies, as well as the combat engineer units (subunits) of the divisions. The responsibility for antiradar camouflaging is assigned to the chief of the engineer troops of the military district (front) and to the commanders of the appropriate formations (large units). Forces of the air army check the effectiveness of the antiradar camouflage.

First to be neutralized or destroyed by missile/nuclear and conventional weapons strikes during the operation are (as they are discovered) the enemy's radiotechnical means on the axis of the actions of the front's main forces and on the flight routes of friendly aviation. The enemy's systems (means) for the radio remote control of his operational-tactical missiles and the guidance of his bomber aircraft must be subjected to strong pressure. No less important is the timely destruction (neutralization) of the enemy's radio jamming means and the primary communications centers that provide control over his first-echelon formations and large units. It is very important, even if only for a short time, to neutralize the warning and command radio communications of large units hit by a nuclear strike, since to do this may significantly hinder the enemy in restoring the combat effectiveness of the large units (units) and also make it difficult for aid to come to him from the outside.

The top priority installations for neutralization and destruction by aviation and artillery are the radar centers (posts) controlling, guiding, and warning the enemy's tactical aviation, and his radiotechnical centers supporting the batteries of free-flight rockets and guided missiles and operational-tactical missiles.

In view of the fact that the enemy's radiotechnical posts, centers, and means of control are dispersed over large areas, chemical weapons must be considered to be an effective means of destroying them. Therefore, in the interests of disrupting the enemy's radiotechnical system, extensive use should be made of toxic chemical agents, especially in his operational depth.

To support the overflights of the long-range aviation or fleet aviation cooperating with the front, front air army forces produce active and passive jamming against the radiotechnical means of the enemy's air defense in the overflight zone of the aircraft. At the same time, from the line at which the radiotechnical system of the enemy's air defense can detect air targets, jammer aircraft launch deception actions on diversionary axes.

In developing the offensive of the front forces in an initial operation, the main task of radioelectronic countermeasures is the timely neutralization (destruction) of the enemy's radiotechnical means (systems) used to control rocket troops and aviation, support the organized withdrawal of his forces and their occupation of new defensive lines, and control his troops in counterattacks against the front troops. In addition to the previously discussed radioelectronic countermeasures means and methods, it is particularly important, when fulfilling this task, to use in a coordinated and purposeful manner the fully mobilized SPETSNAZ radio and radiotechnical units. A SPETSNAZ type "F" radio battalion (by ionospheric wave) is frequently moved forward and deployed primarily against the enemy's rocket troop radio nets and against the key radio nets of an allied tactical air forces or ground forces operational formation on the axis of actions of the front's main body. Of great importance are the radio nets of the enemy's tactical air army control (guidance) centers, army group command posts, and first-echelon field armies.

A SPETSNAZ type "A" radio battalion of one of the front armies can be used to neutralize the shortwave and ultra-shortwave radio communications of tactical nuclear weapons units, the radio communications of aviation forward guidance posts (centers), and the principal radio communications of the enemy's army corps and divisions on the axis of actions of this army's main forces.

Of equal importance is the role a SPETSNAZ radiotechnical battalion plays in a front's air defense system. This battalion is employed integrally with the other means providing area coverage of the troops or coverage of individual installations of the front, primarily in the zone of action of its principal grouping. On a coastal axis, it is expedient to use this battalion to conceal from aerial radar surveillance the sectors of the coastline that are good radar reference points for leading the enemy's aircraft to the areas of the targets of destruction and for carrying out precision bombing, especially in a straits zone.

In the operations conducted by a front on coastal axes, the main efforts of radioelectronic countermeasures are concentrated on covering the front troops and key shore installations from the nuclear weapons of the aircraft carrier and missile-carrying large units of the enemy's fleet and on neutralizing his cooperation radio communications with the ground forces grouping. In addition, when straits zones are seized, there is a disruption in the radiotechnical systems of the enemy's fortified defense areas (centers), straits, ports, and naval bases. The enemy's radiotechnical system supporting the defense of a straits zone must be subjected to especially strong pressure during the period when front troops are making an assault crossing of the straits, as well as when amphibious and airborne forces are making landings.

All of these tasks are accomplished by the joint employment of the radioelectronic countermeasures means of the front troops and of the naval forces. The joint radioelectronic countermeasures of front troops and naval forces consist of reconnoitering the enemy's radiotechnical systems (means) and carrying out radioelectronic countermeasures tasks that support the front and the fleet, as well as of implementing measures that preclude the mutual jamming of the operation of friendly

radiotechnical means.

As shown by the experience gained in exercises, in the initial offensive operations, the enemy's control can be disrupted very effectively by means of airborne landings, sabotage-reconnaissance groups, and special detachments, which are brought in to raid, capture, or destroy radar aircraft control (guidance) centers, missile radio remote control means, radio communications centers, intermediate radio-relay stations, and other of the enemy's radiotechnical means in his operational depth. The capture or destruction of the radiotechnical means of the principal control posts can completely disrupt the enemy's control on a given axis.

The complexity and variety of radioelectronic countermeasures require the skilful control of the forces and means employed to carry them out and make it necessary:

-- to maintain at all times the combat readiness of the radioelectronic countermeasures forces and means;
-- to plan radioelectronic countermeasusres within a short period of time and carry them out in a timely fashion;
-- to assign to the troops in a timely fashion the tasks of deploying, shifting, and employing radioelectronic countermeasures means; to organize and maintain uninterrupted cooperation among these troops;
-- to constantly monitor the actions of the forces and means brought in to destroy and neutralize the enemy's radiotechnical means;
-- to skilfully maneuver the radioelectronic countermeasures means.

Control of artillery, aviation, and engineer troops in the carrying out of radioelectronic countermeasures is exercised with the use of conventional methods.

In the planning of radioelectronic countermeasures, special attention must be devoted to the organization of the actions of radio jamming units: to the establishment of the necessary grouping of these units; to the organization of control and cooperation radio communications; and to the organization of direct control over the radio jamming units during the operation.

The experience of front command-staff exercises has shown that in order to control front and army radio jamming units, it is necessary to allocate independent radio and radio-relay communications channels that will ensure the rapid transmission of orders from the front command post (forward command post) to the radio jamming units and the receipt of reports from them, the conduct of direct communications between radio jamming units, and the timely receipt of data on the operation of enemy radiotechnical means from the radio reconnaissance units. The radioelectronic countermeasures plan indicates the signals following which radio jamming is to be produced for the purpose of first of all neutralizing the radio communications controlling the enemy's aviation and rocket troops in the period during which his nuclear strike is being repelled and in the interests of safeguarding the flight of friendly aircraft. Retargeting radio jamming means to neutralize the radio communications of the enemy's ground forces is also carried out according to previously prescribed signals.

Also specified in the radioelectronic countermeasures plan is the cooperation procedure between the radio reconnaissance and radio jamming units and between the combat units carrying out tasks in support of the radioelectronic countermeasures. The essence of this cooperation lies in the coordination of the time and priority established for the neutralization of the enemy radiotechnical installations and in the establishment of a system for the mutual exchange of information and reconnaissance data. In doing this, greatest attention must be devoted to organizing cooperation between the radio jamming and the radio reconnaissance units, since the effectiveness of the utilization of radio jamming means depends directly on the degree to which the actions of these units are coordinated. Furthermore, during an operation there may be cases when the information on the combat activities of the enemy's troops obtained by monitoring the operation of his radiotechnical means may prove more valuable than the disruption of the operation of these means by radio jamming. In order to ensure continuous cooperation between radio jamming and radio reconnaissance units, there are established between them reliable communications and a continuous exchange of information. Mutual information exchange is effected through liaison officers sent out to the radio reconnaissance units from the SPETSNAZ radio units. The radio communications used for cooperation between these units are organized with the organic

means of the SPETSNAZ units, and radio-relay communications are established according to the decision of the front chief of communications troops.

All information on the operation of enemy radio means that has been obtained by front reconnaissance must be immediately transmitted to the radio jamming units. The production of radio jamming against these means is permitted only upon a signal from the front command post (forward command post). So as to prevent the neutralization of friendly radiotechnical means when jamming the enemy, the radioelectronic countermeasures plan must also indicate the frequencies on which the production of radio jamming is categorically forbidden and the operating frequencies of friendly troops on which the production of radio jamming is permitted in special cases. The shifting of friendly radio means to unjammed wavelengths in case it is necessary to produce jamming on their operating wavelengths is done through the communications duty officer. The radioelectronic countermeasures plan also indicates the signals to begin and stop jamming enemy radio communications, including the signals for cooperation with the adjacent front or fleet, and the sectors where the SPETSNAZ radiotechnical units are to produce jamming.

In our opinion, it is advisable to formulate the radioelectronic countermeasures plan in written form, with an attachment that depicts graphically on a chart the radioelectronic countermeasures of the front forces according to the tasks, location, and time of the operation. A written plan makes it possible to set forth more concretely and fully the procedure for the employment of the radioelectronic countermeasures forces and means in various alternative operational situations without requiring, in so doing, the working out of separate attachments for each alternative.

In conformity with the radioelectronic countermeasures plan, the staffs of the branch arms and branches of the armed forces, as well as the chiefs of services, should make provisions for and prepare to accomplish those tasks that the plan has specified for them. They should plan the specific means and the methods of employing them, formulate the instructions to all of the units and large units enlisted to carry out the projected tasks, prepare the calculations required in order to destroy (neutralize) the enemy's radiotechnical installations, and

establish continuous radio monitoring of these installations. As new data come in on the enemy's technical system, especially at the beginning of the war, appropriate additions and refinements should be incorporated into the radioelectronic countermeasures plan and orders.

In conclusion, it should be noted that all of the radioelectronic countermeasures against the enemy in the initial period of a war that have been provided for in the plan must be thoroughly studied and checked during the operational and combat training of the troops. We must constantly study the present-day state of troop control in foreign armies, discover the vulnerable links in the radiotechnical system controlling the nuclear weapons and troops of our probable enemy, and explore the methods of disrupting this system that will allow us to disrupt the control of his missile/nuclear means and ground forces groupings and thereby ensure our troops a high rate of advance and the successful execution of the tasks of the initial operation.