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CENTRAL INTELLIGENCE AGENCY
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2 November 1978

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MEMORANDUM FOR: The Director of Central Intelligence

FROM : John N. McMahon
Deputy Director for Operations

SUBJECT : MILITARY THOUGHT (USSR): Troop Control During a Front 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". The author of the article advocates changing the control system of the front by setting up combined front command posts for controlling combat against both the ground and air enemy. In this way, the front commander is able to comprehend the air-ground engagement as a whole, and valuable time, forces, and means can be saved in making a decision to counter an impending enemy nuclear attack. The combined front command post system was tested for the first time by the Northern Group of Forces in an exercise in April 1964. This article appeared in Issue No. 2 (75) for 1965. [redacted]

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 [redacted]

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for John N. McMahon

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COUNTRY USSR

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DATE OF INFO. Mid-1965

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MILITARY THOUGHT (USSR): Troop Control During a Front Operation

SOURCE Documentary

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 2 (75) for 1965 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The author of the article, General-Mayor of Artillery I. Dzhordzhadze, advocates changing the control system of the front by setting up combined front command posts for controlling combat against both the ground and air enemy. In this way, the front commander is able to comprehend the air-ground engagement as a whole, and valuable time, forces, and means can be saved in making a decision to counter an impending enemy nuclear attack. The combined front command post system was tested for the first time by the Northern Group of Forces in an exercise in April 1964.

End of Summary

[redacted] Comment:

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.

[redacted]

Troop Control During a Front Operation

by

General-Mayor of Artillery I. DZHORDZHADZE

The revolution in military affairs has radically changed the character and content of modern operations. Within the framework of a strategic operation in a theater of military operations, air and ground engagements of the operational formations belonging to the composition of a front have become essentially equal parts of a single front operation, the main content of which is the employment of the nuclear means of one's own troops and destruction of those of the enemy.

The air-ground character of front operations is a new phenomenon stemming from the quality of nuclear weapons and the means of delivering them.

If airspace used to be regarded as a zone for coverage of ground forces, and combat against the air enemy did not itself decide the outcome of a front operation (the ground forces groupings decided this), then under modern conditions this situation has undergone drastic changes. Successful combat in the airspace has now to a considerable degree come to predetermine the outcome of the entire front operation.

As we know, the very first exchange of nuclear strikes has a decisive effect on the total situation and determines the nature of the subsequent actions of the troops of the front, for on its effectiveness depend the combat effectiveness, strength of forces, and their capabilities to fulfil the tasks with which the front is faced.

With what is one to oppose the nuclear forces of the enemy in order to best ensure fulfilment of the tasks of the battle, engagement, and operation as a whole?

It can be asserted that we will achieve the best results if we oppose enemy nuclear means with the highly mobile and

instantly acting system of our nuclear strikes, capable of disrupting the organized use by the enemy of his nuclear means.

Let us examine in somewhat more detail the general principles and organization of troop control during an operation, taking for corroboration of our proposals the most complex sphere of activity of a commander -- control of the rapid actions of troops and mainly of combat against enemy nuclear forces on the ground and in the air. Limiting ourselves, to facilitate the examination of the problem, to one, albeit the main aspect of the activity of the commander during control, we must at the same time note that combat against enemy nuclear weapons is not a separate problem, but the core of organized and purposeful combat of all the troops of the front. Therefore, control of all the combat activity of troops is a single process, the basis of which, under modern conditions, is control of combat against enemy nuclear means.

Let us examine this idea in somewhat more detail.

Combat against enemy nuclear means on the ground and in the air still has not been shaped into an orderly mobile system unified by singleness of purpose and actions, and this undoubtedly hinders the flexibility of control and the timeliness of simultaneous actions of all the antinuclear means of the front in cases where this is necessary.

Although combat against enemy nuclear means arose and acquired special acuteness together with the appearance of these new weapons, and numerous methods of destroying them have already been worked out which are widely employed among the troops, still, improvement of the techniques and methods of combat against enemy nuclear means is carried out by us in a disorganized way, mainly on the basis of the tasks of the different branch arms and directorates (rocket troops and artillery, field air defense, aviation, etc.). Unification of the efforts of all the means at the front level into a single system of combat against enemy nuclear means, in our opinion, is not being given due attention.

Nevertheless, the time has come to develop a constantly operating mobile system that ensures unity of control of all the ground and air forces intended for destroying the missile/nuclear means of the enemy.

The front commander now carries out the direction of the destruction of enemy nuclear means mainly through the chief of rocket troops and artillery and the commander of the air army. The chief of the air defense troops, as a rule, is not included in the planning and conduct of combat against nuclear means, although it is under his direction that this combat is continually conducted in the air. It can be seen from this that there exists a somewhat one-sided understanding of the nature of combat against enemy nuclear means, wherein the main emphasis is placed on the means participating in combat on the ground. And such an important factor as the capability of surface-to-air missiles to deliver precise nuclear strikes on ground targets is not taken into consideration.

The planning itself of combat against enemy nuclear means is carried out in greater detail only in the beginning of the operation.

In exercises one can observe a picture wherein several nuclear strikes are delivered on one enemy division, while only one nuclear strike or two or three strikes with chemical missiles are delivered on the airfields of the allied tactical air force, which is capable of carrying out over a thousand aircraft sorties per day.

Nevertheless, the detection and correct evaluation of targets for a nuclear attack under any conditions of a front operation and their immediate and unerring destruction with a minimal loss of time in the adoption of the decision and its execution are the very first task. In connection with this, it is extremely important that the commander of the front have at his disposal such a control system as would ensure him instantaneous reaction and immediate destruction of detected enemy nuclear targets.

It is no secret that right now the means participating in combat against enemy nuclear means are controlled by various systems from various command posts, and specific control of the actions of nuclear forces begins only after the receipt of a task from the command post of the front commander. Consequently, from the moment of detection of a nuclear target until the receipt of a task all the means of combat are in a state of forced idleness, the duration of which is determined by the time spent on the

report of the chief of intelligence to the front commander about the detected target and on the adoption of a decision by the latter (here similar reports may also be made by the chief of rocket troops and artillery and the commander of the air army or the chief of air defense troops, inasmuch as each of them has at his disposal his own means of reconnaissance). The front commander, before making a decision, will often be in need of the qualified assistance of specialists (located, as a rule, at their own command posts) in respect to how it is most advisable to use the means of combat, and after making the decision, he will have to set the task for one or several means participating in the combat. If, for instance, he assigns the task to the chief of rocket troops and artillery or the commander of the air army, then they, having received the tasks and only after the corresponding preparatory work or calculations, will finally be able to assign the tasks to the executors. As it has developed, the system of obtaining reconnaissance data, making a decision, setting tasks, and delivering the decision to the executors requires so much time that the enemy can deliver a nuclear strike or change his location. An astonishing discrepancy results: in spite of the fact that all the main forces and means of combat against enemy nuclear means are in the hands of the front commander, the imperfect procedure of using them leads to a considerable and extremely dangerous loss of time.

The experience of a number of exercises permits us to affirm that this dangerous discrepancy can be eliminated if we change the control system somewhat and develop a command post which combines all the necessary specialists (there are not many of them) and from which the front commander could, without wasting valuable time, make a decision and immediately begin combat against the nuclear means of the enemy.

Various arguments corroborate the advantage and correctness of going over from autonomous systems of separate control from various command posts to control from combined command posts and, correspondingly, also the necessity of restructuring on this basis the whole system of control and staffs from top to bottom.

The first argument is the fluidity and rapidity of troop actions and the necessity, in connection with this, of going over to a corresponding fast-acting system of troop control.

The existing principle of control from autonomous command posts has come into an irreconcilable contradiction with the basic factor of the present -- rapidity.

Rapidity requires going over to direct and simple immediate control, and any autonomous command post begets multiplicity of levels. Rapidity forces one to dismiss everything secondary, everything not urgent, and to single out the main thing in control; it compels us to integrate all urgent tasks, for we cannot waste time coordinating them.

Therefore, the main thing now is to single out in a practical way the rapid processes and create a command post that meets the conditions of rapidity of control.

Many years of experience in control of the rapid actions of the air defense troops provides a wealth of experimental material for the establishment of a new system of control of the rapid actions of troops on the whole. This experience teaches us that, for prevention of surprise from the side of the enemy and for instant control of the rapid processes, we need a constantly operating command post that permits simultaneous control of all forces and means of combat against the enemy.

During various exercises one could have become easily convinced of the fact that not one combat order nor one operational directive has stood the test of time. In view of the great rapidity of events and the drastic changes in the situation, these previously compiled and labor-consuming documents were, within a few hours after the start of combat actions, already getting out-of-date. Immediate personal control of troops on the commander's part became the main and -- at high rates -- the only form of control. Control of relatively prolonged troop actions, which, in the form of cartographic and written documents, has so far constituted the main aspect of the matter, should, in fact, only supplement the control of the rapid actions and independently involve those aspects of troop control where the limit of time allows the use of written and cartographic combat documents.

Control of the rear should, in our opinion, be set apart as a special part of troop control, freeing the operational levels

of control as much as possible from the solution of these problems.

Consequently, troop control has to be regarded as the aggregate of control of rapid actions, control of relatively prolonged actions, and control of the rear.

The system of control of rapid actions must be structured on the basis of a combined command post with a specially-trained, coordinated, and constantly-working apparatus. It is not obligatory to have all the chiefs and only chiefs here. Some of them will be in charge of their own axes at the main command post, and others at the alternate command post (equivalent in respect to its technical equipping), but on the whole the basis of the command posts must consist of trained and coordinated teams from among the staff officers for now and, later on, of T/O ones. One can, of course, concentrate all the chiefs at the main command post, but this will not favor maintenance of the necessary stability and survivability of control.

The seriousness of all the arguments in favor of establishing combined command posts is fully confirmed by an exercise of the Northern Group of Forces in April 1964. As the result of a long search there was established such a combined front command post, at which all the rapid processes of control were placed on plotting diagrams that ensured the grasp and simultaneous conduct of the whole air-ground engagement by the front commander. It was necessary to introduce a new method of compiling and keeping planning documents, based on the unification of the planning of the main task of the operation in one integrated document and on the continual keeping and refining of this plan transferred onto the plotting board.

In this matter, consequently, it is a question of going over from separate, one-time planning documents, which quickly become out-of-date, to integrated documents continually in effect (schematically, from a plan to a plan-and-plotting board). This ensures that the plans do not get out-of-date and that the planning aspect of control is kept up until the end of the operation.

Taking as an example the accomplishment of the most complex task -- combat against enemy nuclear means -- we shall show the

advantage of a combined command post, which has already been practically tested in exercises, and of the new method of planning.

The accomplishment of this task is served by a corresponding chart, which must, on the one hand, be the main planning document for combat against nuclear means of attack simultaneously on the ground and in the air and, on the other, become the main plotting board of the front commander for conducting this combat (Figure 1).

As can be seen, on the chart are summed up all the air and ground means of nuclear attack and their groupings and capabilities, and on it are shown the front's forces and means participating in combat against the enemy nuclear means, their composition and capabilities, and -- as the general conclusion of the whole -- the decision itself of the commander on the distribution of efforts of the forces and means of the front.

The chart affords the opportunity for both the branch arms taking part in combat against the enemy nuclear means and for the headquarters of the front to simultaneously, independently, and immediately set about working out their own problems, which to a considerable degree saves time in compiling the whole document and so speeds up the decision-making process itself.

Blank forms of the charts, prepared typographically, are provided to the chiefs of the forces and means taking part in combat and to the persons in charge of the operations groups. This is followed by the process of making calculations and entering on the chart the data necessary for making a decision quickly.

The chief of intelligence (operations group) enters on the chart the presumed echeloning and grouping of hostile nuclear forces and the specifically detected and reconnoitered nuclear targets, consolidating the data of all types of reconnaissance.

The chief of air defense troops (operations group) calculates and shows on the chart the capabilities of the enemy air means of attack and the presumable disposition of raids and he summarizes the capabilities of all the air defense means of the front for combat in the air. On the basis of analysis, he

determines the percent of the possible breakthrough with impunity of targets through the air defense system and he reflects in his proposal on the chart the need for allocation of nuclear means of the front to destroy means of air attack from the ground.

The chief of rocket troops and artillery (operations group) enters on the chart information about the readiness of the nuclear means of the front to deliver strikes and shows the capabilities of the rocket troops and artillery to destroy detected targets.

The commander of the air army (operations group) shows the capabilities of aviation to deliver strikes on the ground and carry on combat in the air.

The operations directorate reflects on this chart its proposal on how to allocate nuclear warheads in support of combat against enemy nuclear means in order to deliver the nuclear strike and retain the necessary reserve. During the work of filling in the columns, the very form of the chart obliges the executors to coordinate all problems among themselves before it is presented to the front commander. For instance, during the completion of sections of the chart, ground reconnaissance data will necessarily be required by the commander of the air army and the chief of air defense troops, and aerial reconnaissance data, in turn, by the chief of air defense and the chief of rocket troops and artillery, i.e., without a mutual exchange of data and without coordinating them, it is impossible to fill in the chart correctly.

In other words, the necessity, inherent in the chart itself, of preliminary coordination of the various data among the organizers of combat against nuclear means favors the concentration in this document of only the already coordinated cumulative reconnaissance data, and, on this basis, it guarantees the most rational assignment of tasks to the executors.

On the other hand, on the chart are summarized the capabilities of our own means of combat against enemy nuclear weapons. This is done by the chiefs of the branch arms on the basis of a sound preliminary calculation, which is performed simultaneously by all the branch arms taking part in the combat and directorates according to their own standardized documents or

to the mathematical algorithms worked out.

It should be mentioned that the computational tasks connected with determining the capabilities of our means in combat against enemy nuclear means as a form of rapid actions must be fully automated. In exercises, in the absence of the necessary automation and using only keyboard calculators, the speed of performing computational tasks was still able to be improved two to four times.

The advantage of working with the recommended chart consists in the fact that simultaneously, without disturbing one another, each chief prepares and enters his own data. The chief of staff of the front summarizes the prepared and coordinated data and presents the chart, as a draft of the decision, to the commander of the front.

In this form, the "Chart of Combat Against Enemy Nuclear Means" becomes the document in which are concentrated all the necessary data for making the decision. And there is no need for the commander to waste time on preliminary coordinations and on setting separate tasks for each branch arm. He can, with full justification, regard the chart as a collective plan and proposal compiled on the basis of reliable data with the participation of all the main organizers of combat against enemy nuclear means. Therefore, the commander, if necessary, introduces certain corrections or he approves the chart as presented, giving it the force of a formalized decision, which immediately becomes known to the executors since they have the same kind of charts.

Let us examine in more detail also a second interdependent aspect of the problem -- the organization and work of the command post.

At the present time, as we know, each branch arm endeavors to set up its own separate control post under whatever conditions. Even in so-called "combined posts," the same place is shared, but the autonomy and isolation of each of the posts of the chiefs of the branch arms are retained.

However, it is our firm conviction that one cannot speak of the successful accomplishment of tasks in operations until we have made radical changes in the whole structure of control in

order to go over to a method of combined control in place of the deep-rooted methods of isolated control.

Again, taking as an example the accomplishment of the main and most complex task -- control of combat against enemy nuclear means -- we shall try to show how we can in practice combine into a single whole the separate organs of control and thereby save time, forces, and means.

The proposed combined command post of the front was established in March 1964 in the Northern Group of Forces (Figure 2). It consists of two inseparably connected parts. One is for control of the rapid actions with a system of plotting board equipment, and the second is for control of the relatively prolonged combat actions with equipment for work on maps.

In turn, according to the nature of the combat actions, the whole center is, as it were, subdivided into a post for control of combat against the air enemy and a post for control of combat against the ground enemy. The plotting board set-up in the part for control of rapid actions includes:

-- the plotting board of combat against enemy nuclear means (an enlarged copy of the chart examined earlier);
-- the plotting board of the overall air situation (or the plotting board to reflect combat in the air);
-- the plotting board of the combat activity of rocket troops and artillery (or the plotting board of nuclear strikes);
-- the plotting board of the activity of aviation of the front;
-- the plotting board of reconnaissance data of the front.

Set up alongside the plotting boards are lighted panels showing "Readiness of the means of air defense, rocket troops and artillery, aviation, and reconnaissance units of the front." This same place is equipped with work positions for the commander of the front, the chief of air defense troops, the chief of rocket troops and artillery, the commander of the air army (air forces of the front), and the chief of intelligence of the front. These persons or their representatives form the basic combat team of the main and alternate command posts, which are equal in respect to their technical equipping.

In the planning part of the command post, work is carried out by the operations groups. This placement of work positions ensures constant personal contact among the main organizers of combat against nuclear means.

The command post is fitted out with equipment that ensures direct communications with executory command levels, cooperating fronts, the Air Defense of the Country, the General Headquarters of the Supreme High Command, and the alternate command post.

The availability of direct communications and the existing possibility in practice of providing "plotting boards" with all necessary data allow us to reproduce in detail the whole picture of combat against nuclear means of attack on the ground and in the air, as well as, incidentally, all the other data necessary to the commander for control of the operation as a whole.

Combat against the air enemy is reflected on the plotting board of the overall air situation, on which are represented the combined efforts of the air defense troops and the fighter aviation of the front; combat on the ground is represented on the plotting boards of nuclear strikes and of the combat activity of the aviation of the front; here in turn are reflected the combined efforts of the rocket troops, artillery, and aviation. Reconnaissance data are shown on the plotting board of the reconnaissance data of the front. A consolidated picture of combat on the ground and in the air is shown on the main plotting board of combat against enemy nuclear means. With the start of and during the course of combat all the data are constantly being refined and updated.

Thus, the plotting boards reflect the fluidity of combat in the air and on the ground; the panels reflect the condition of each means. The main plotting board, as the monitoring device, shows the overall total status of combat as a whole on the ground and in the air.

In other words, such a combined command post which answers the accomplishment of all the rapid tasks for control of combat against enemy nuclear means ensures:

-- the arrival of reconnaissance data about all detected enemy means of attack, both ground and air ones, and of data

about the possible nature of his actions;
-- display of the situation in the air engagement;
-- constant information about the availability of nuclear means in the front and their degree of readiness;
-- data about the condition of all forces and means of combat and their capabilities;
-- the capability of immediate control of all forces and means of combat against enemy nuclear means.

Therefore, one part of the command post, intended for control of rapid actions, essentially represents a post for immediate control of air-ground combat; the other part retains the staff functions of planning and controlling relatively prolonged combat actions.

With unification of all systems of control in a single center, the main problems of the planning and conduct of the whole front operation are solved in a new way. This single center creates completely new conditions for the front commander to make a decision, set tasks, and direct the armed combat (Figure 3).

Uniting in a single command post the main organizers of combat against enemy nuclear means, in whose hands are the main means of reconnaissance (radar, air, and ground), has afforded the opportunity, first of all, to unify the types of reconnaissance themselves and to concentrate all the data about detected enemy nuclear means in one center without delay. Thus, the data of the radar reconnaissance coverage will come in to the "Overall Air Situation" plotting board; reconnaissance data from aviation and instrument reconnaissance, to the "Combat Activity of Aviation" and "Combat Activity of Rocket Troops and Artillery" plotting boards and simultaneously to the "Front Reconnaissance Data" plotting board, where all the reconnaissance information from the reconnaissance means directly subordinate to the chief of intelligence of the front is gathered. After collation by the chief of intelligence, these data will go onto the "Overall Plotting Board."

Thanks to the simultaneous receipt of tasks by all the organizers of combat against nuclear means, the possibility is created of immediately proceeding to the setting of tasks for the executors, which the chiefs of branch arms or persons

representing them at the command post do.

The executors send out to the lighted panels reports on the receipt of tasks and the readiness of means. With the start of combat, data are continually coming in over communications channels to the plotting boards and panels about the combat activity of every branch arm carrying out combat. All data about newly-discovered nuclear targets come to the same place. All this information, preliminarily analyzed and collated synchronously, comes in to the "Main Plotting Board," which is constantly functioning during the course of the entire operation.

The front commander, located in the center of the "plotting board situation" and concentrating his chief attention on the main plotting board, has the opportunity constantly to see the fluidity of combat and to execute without delay control of the air-ground engagement. The absence of autonomous levels ensures speed of control, and immediate control ensures unity of decisions and actions.

If, for instance, the allocated air defense means are not in a condition to prevent nuclear strikes from the air, then the commander, seeing all this on the plotting board diagram, can instantly switch over part of the forces and deliver additional strikes on airfields, cruise missile launching platforms, and control and guidance centers of hostile aviation, and thereby weaken the strike of the air enemy and so ensure favorable conditions for the outcome of the whole air-ground engagement.

Such is the overall picture of the equipping and the work of the combined command post of a front, the essence of which we have set forth, taking as an example control of combat against enemy nuclear means.

And so, in our opinion, it is necessary in the front, in place of the multiplicity of existing isolated command posts or so-called combined command posts which do not ensure the accomplishment of the main task -- control of rapid actions and unity of control of an air-ground engagement -- to establish a combined command post which will permit the commander to comprehend the air-ground engagement as a whole and ensure control of both rapid and relatively prolonged combat actions of troops, reduce to a minimum the time to make a decision, and it

will allow the delivery of tasks to the troops in good time and the instantaneous coordination of the efforts of the main means on the ground and in the air.

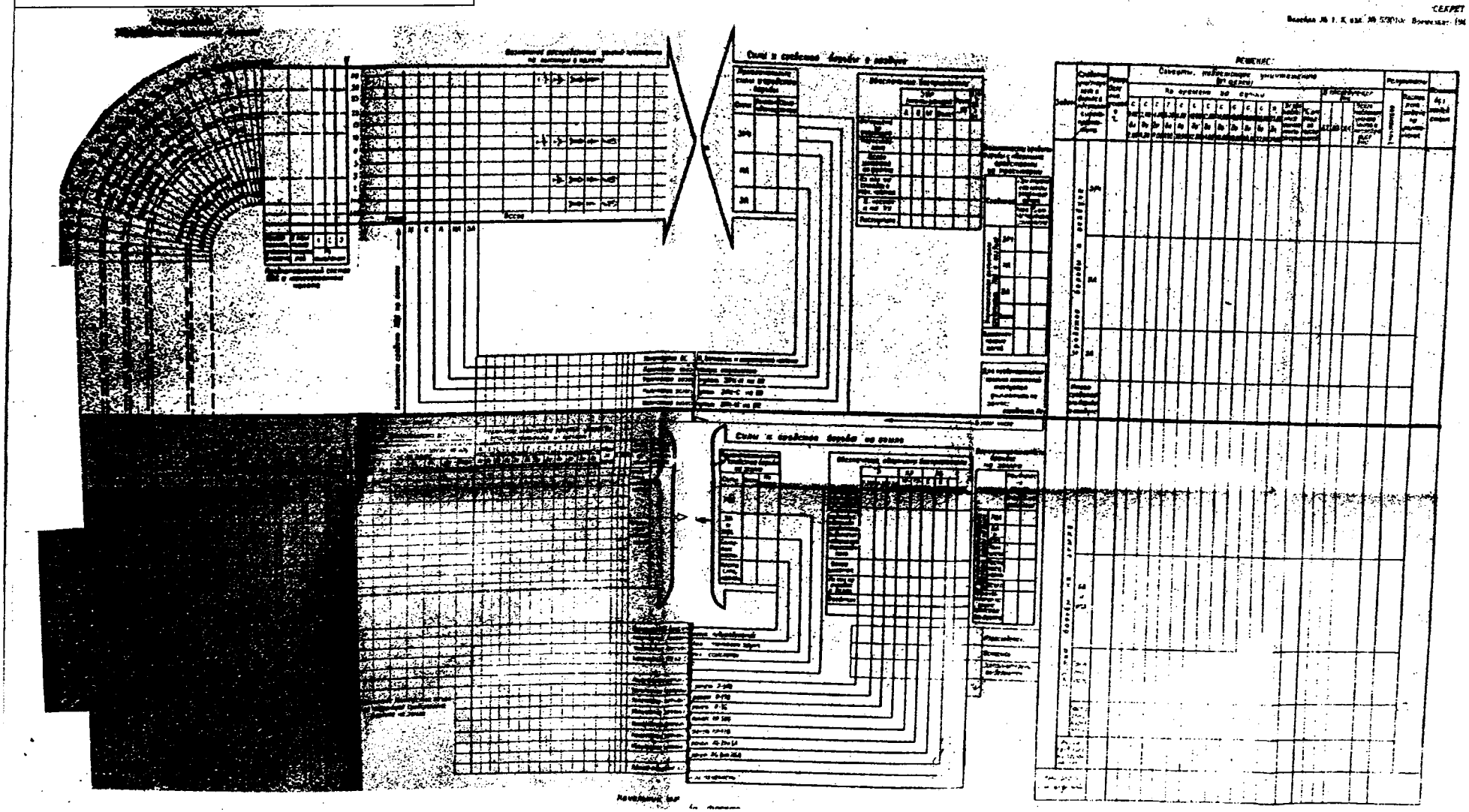
In the first stage, such combined command posts in military districts (groups of forces) should be formed out of the existing non-T/O command post of the front, using the existing control structure of the staffs. Subsequently, it is necessary to form standard complexes of such a control center and define by T/O the composition and organization of the command post in the front.

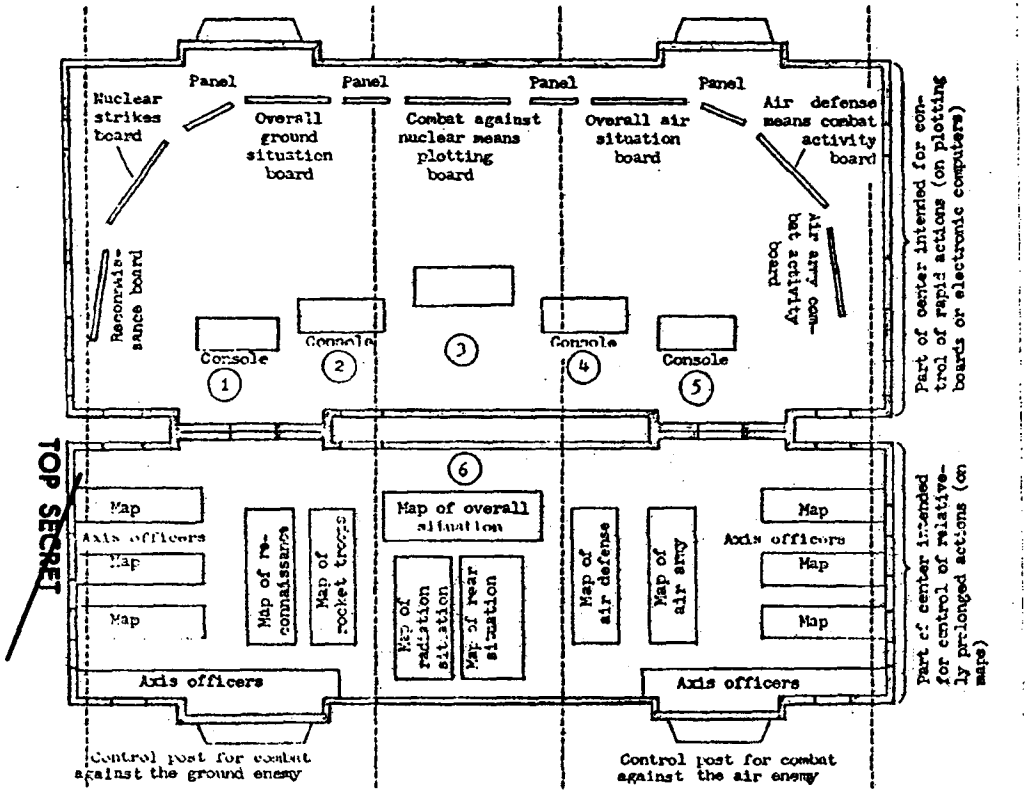
The combined command post of the front can and must rely on a single communications system. This will substantially simplify its layout, increase dependability, and eliminate the dissipation of communications means among isolated command posts.

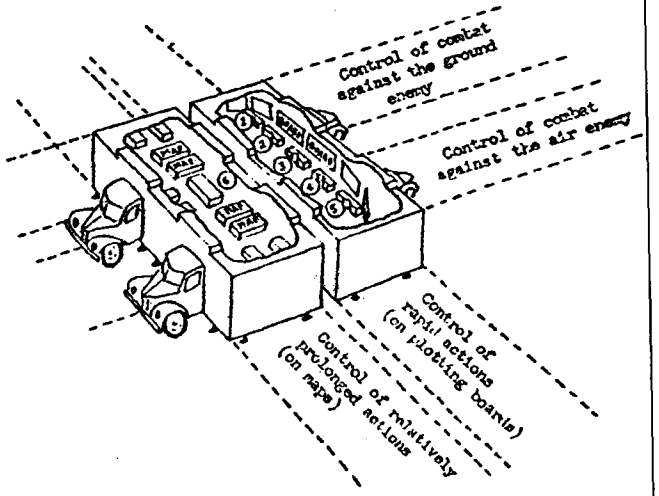
The creation of structurally new combined command posts in the front will solve the problem of the discrepancy between the existing separate systems of control and the unified nature of air-ground combat.

Singling out the processes of control of rapid actions also solves the difficult problem of automation of control. There is now taking place, in our opinion, ineffective automation of a long-established and obsolete control structure, i.e., autonomous control systems are being automated in the rocket troops and artillery, air defense, etc., or -- which is the same thing -- various subsystems of control corresponding to the number of branch arms and means of combat are being developed. To establish a goal of automating all control processes is not merely to advance unrealizable tasks to the present time, but also to compromise for years all the principles of automation. Therefore, it is above all necessary to determine just what is necessary to automate in the first place and as quickly as possible, and what does not so far require automation. This is the first question, the answer to which is self-evident: it is necessary to automate above all the rapid processes of control. The second question is which way to implement the automation of the rapid processes of control. For this it is above all necessary to put an end to autonomy of the systems of control of rapid actions and to combine them into single organs -- combined posts that ensure control of all the rapid actions.

Figure 1. Chart of combat against enemy nuclear means





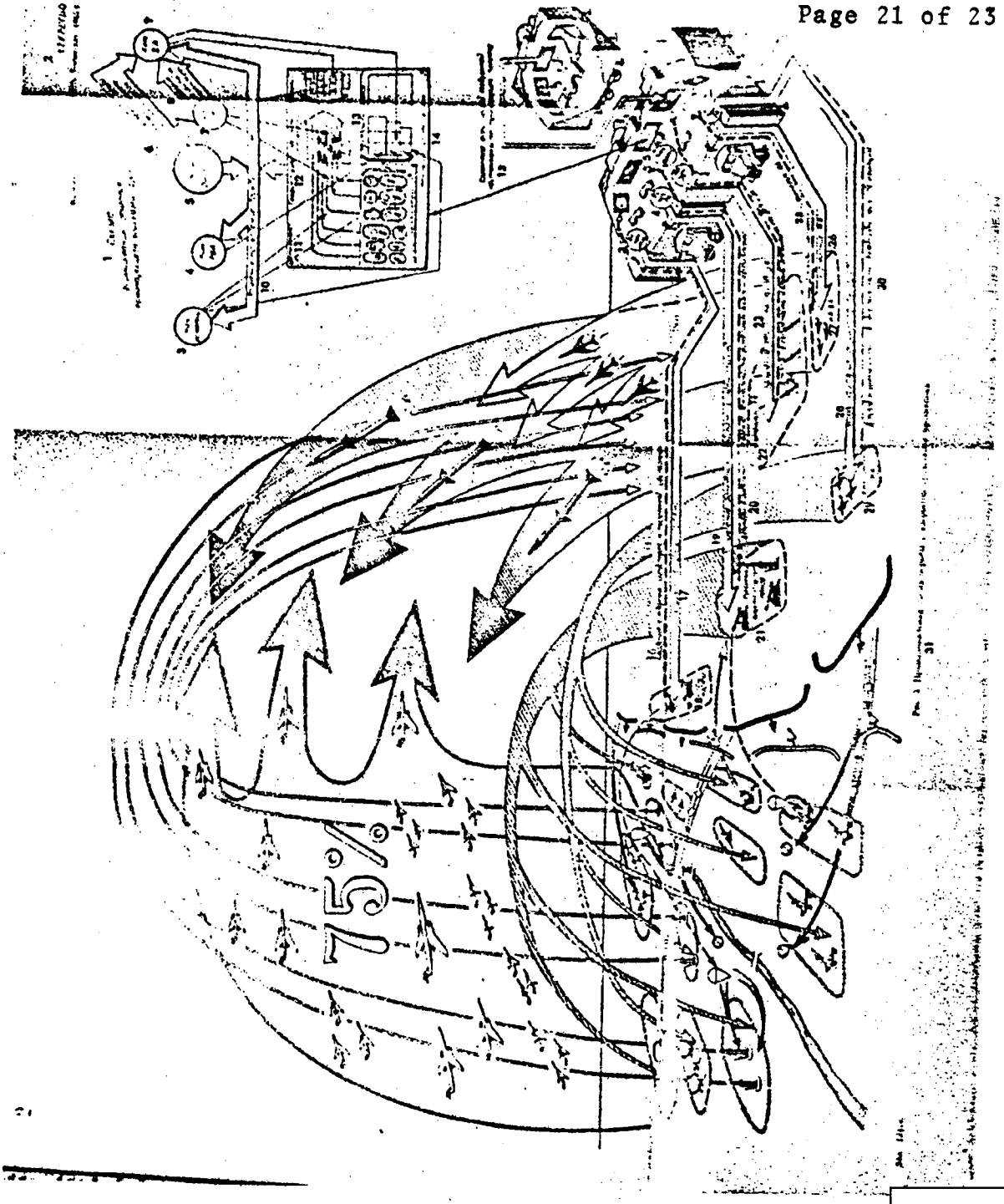


1. Chief of intelligence
2. Chief of rocket troops and artillery
3. Commander of the front
4. Chief of air defense troops
5. Commander of the air army
6. Operations directorate - Chief of staff

Figure 2. Diagram of combined command post of front for control of combat against enemy nuclear means.

[redacted]

[redacted]



[redacted]

KEY TO FIGURE 3.

1. Diagram of the formulation of the decision of the commander of the front
2. SECRET
3. Chief of intelligence
4. Chief of rocket troops and artillery
5. Commander of the front
6. Decision on the conduct of combat against enemy nuclear means in the air
7. Chief of air defense
8. Decision on strikes on airfields
9. Commander of air army
10. Decision on combat on the ground
11. "Approved"
12. Chart of combat against enemy nuclear means
13. Means of Combat
14. "Chief of staff of front" (signature)
15. Nature of the whole overall air situation on flight axes
16. Information about nuclear means and ground situation
17. Control of special units
18. Special units

KEY TO FIGURE 3. (cont.)

19. Control of rocket troops and artillery
20. Data about the condition and combat activity of rocket troops and artillery
21. Rocket troops and artillery
22. Surface-to-air missile units and antiaircraft artillery means
23. Control of surface-to-air missile units and antiaircraft artillery means
24. Data about the condition and combat activity of surface-to-air missile units and antiaircraft artillery
25. Data about the condition and combat activity of fighter aviation
26. Control of fighter aviation
27. Fighter aviation of air army
28. Control of bomber aviation
29. Bomber aviation of air army
30. Data about the condition and combat activity of bomber aviation
31. Basic diagram of combat against enemy nuclear means