

«New Technologies of Education in Mountain Regions»

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As you know, with the purpose of preservation and sustainable development of the mountain regions, maintenance of well-being of the inhabitants of mountains and valleys, the year 2002 under the UN decision was announced as the International year of mountains. Holding in the same year in Johannesburg World summit on sustainable development and Global mountain summit, carried out in Bishkek for the first time have attracted attention of a world community to the problems, with which the majority of the mountain countries encounter. By results of Bishkek Global Mountain Summit was adopted the Bishkek mountain platform and agreed the program of the International mountain partnership focused on consolidation of efforts of the mountain countries with the purposes of sustainable development. All this has formed the basis for acceptance by UN General Assembly two major resolutions for the mountain states: 59/238 from February 24 of 2005 «Rendering assistance to poor mountainous countries in overcoming obstacles of socio-economic and ecological spheres» and 60/198 from December 22 of 2005 «Sustainable mountain development».

Supporting these initiatives and the program «International mountain partnership», Kyrgyz Republic is planning to hold the international meeting of parliamentarians of the mountain states in 2007 with the aim of progress assessment of the mountain countries toward the UN Millennium development goals. Thus the most important aspects, as specified in Bishkek mountain platform, will be the issues of: finance / investment in mountain regions, management (agreements, conventions, laws, policy), education (capacity building, training, knowledge, schools and other establishments), information

(communications, creation of network, exchange of experience), infrastructure (communications, public health services, transport).

It is known, that the living in mountain regions, frequently, because of big costs, manages much more expensively, than lowland. Mountain regions are remote for realization of education due to absence of a common infrastructure of high-grade realization of educational process by a traditional method.

One of major aspects of assistance to sustainable development is any form of education, which should be recognized as process helping the man to increase the level of his knowledge and can open potential to the full. Both formal and not formal education enables the people to estimate and solve the problems, facing to them, in the field of sustainable development. They also have crucial importance for increase of information dissemination among the population, formation of values, reception of skills ensuring their effective participation in decision-making process.

Because of inaccessibility of traditional methods of teaching the distant form of education, using informative-computer technologies, is a unique opportunity for the mountain regions inhabitants to get education.

In this direction by Contemporary Humanitarian Academy (CHA) in Moscow were developed and introduced into educational process the unique computer means of teaching for individual training of the students.

MHA is high school realizing the educational programs using distant educational technologies (DET), based on application of telecommunication (informative-satellite) technology for transfer and TV broadcasting, and also Internet and local information networks for providing of access to information educational resources.

At each educational center, irrespective of its location, the completely identical training technologies are realized and the identical information resources are given. Informative-satellite educational technology of CHA is based on digital satellite connection through the satellites «Express - AM22» and «Yamal – 201» and wide application multimedia of manual complexes.

The zone of «covering» of these two satellites covers practically all Eurasia (fig. 1 and 2).

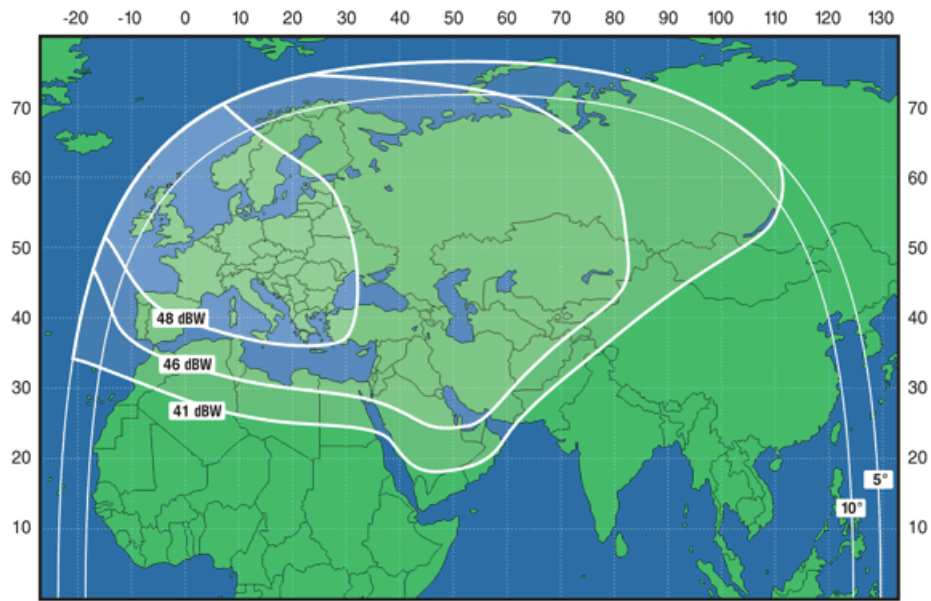


Figure 1. Зона покрытия спутниками «Экспресс-AM22»

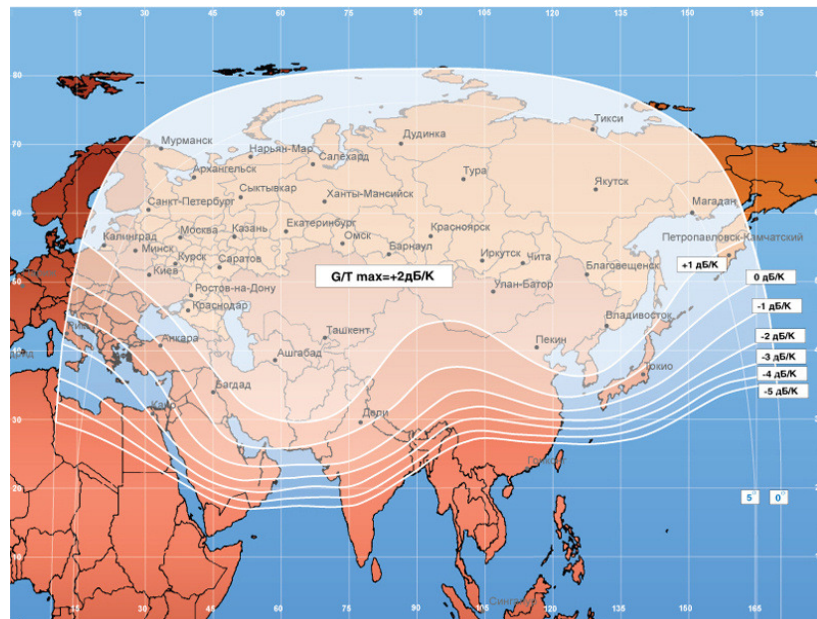


Figure 2. Зона покрытия спутника «Ямал-201»

The average high school textbook прокачивается on the CHA channel in 3 seconds, and at night prior to 10 thousand textbooks.

Central satellite unit has teleport care of the digital information through the satellites and servers with total volume of memory more than 1 terabit. And about 16 Tb of total volume of memory have servers of branch of telecommunications connected with servers of central unit by local computer

networks. Total amount of the contained information – 5 Tb, – is comparable with the largest libraries of the world.

As an educational base on granting knowledge is fixed the modular principle supposing division of educational discipline on logically closed blocks, called modules (or credits – according to a terminology Bolon process). As a technological basis of distant education is used the informative-satellite educational technology constructed on the basis of informative-satellite educational system (ISES). ISES – informative-satellite educational technology allowing independently provide the educational centers of the CHA with significant information and library resources and to give a lessons on electronic educational places of a various type. For realization of the given technology is necessary the presence of appropriate hardware (both computer, and satellite and video equipment) and software (both for educational purpose, and for maintenance of the control and administration of high school).

The realization of ISES is carried out with the help of the following components:



For ISES realization is used the complex of electronic devices uniting in the base terminal teleport which transfers through the satellite rented by CHA (Moscow) on the channel of satellite connection, electronic educational materials and rates of video-lectures in all subjects of training in each semester.

With assistance of the Contemporary humanitarian academy (CHA) in Bishkek the Kyrgyz-Russian institute of distant education (KRIDE) realizing the distant form of teaching on informative-satellite educational technology is created.

The student of KRIDE in the beginning of each educational semester is provided with educational materials in electronic and printed (unit) kinds, receives rates of video lectures, that is very convenient for independent preparation of the students.

The presence of a personal complete set of educational materials reduces time of search of the educational literature and other sources of the information that is one of major elements of training on the job (distant).

The modern lines of development of education are characterized by wide introduction *ИННОВАЦИОННЫХ* of the forms and methods of training of the students, among which in the market of educational services the major importance is got by systems of distant training. The KRIDE realizes in the activity of technology of training based on application in educational process of communication networks and satellite TV. The training will be carried out with use a virtually training technology, which have multilevel structure and is in process of constant development. In a near future the KRIDE will use the equipment of bi-directional satellite connection.

The delivery in each branch of educational and manuals are carried out in a digital format through system of satellite connection transfer. Besides the lectures which have been written down in the analog form, are broadcast on system of satellite educational TV. Such way, allows to receive educational content, in the removed and mountain district having only TV set and usual

satellite plate. A part of manuals (working textbooks and the methodical materials on paper carriers) are sent in branch by mail on-line.

The intermediate certification of the trainees is carried out in a place of training of the student in branch in written form with the subsequent processing of results in the Attestation center of the CHA (Moscow). The Attestation center is created with the purpose of realization of independent objective certification of knowledge of the students and control of quality of educational process in branches CHA. The intermediate certification of the trainees is carried out by the commission. The examinations will be carried out under the examination tickets developed on-line in base high school.

Besides now passes approbation and pilot introduction of realization of examinations in the electronic form. Thus the input of results of examinations in the electronic file of the student is made in the automated mode, that provides complete objectivity and independence of an estimation of knowledge of the students.

For increase of efficiency of internal document circulation the corporate automated information system (IS "Beam"), ensuring more than 70 % of document circulation of high school in paperless variant is created. The given system carries out administration and control of educational process, covers all basic pedagogical processes and gives the information for acceptance of the administrative decisions.

The developed educational technology allows to create special educational environment in any geographical item and to enable to plunge into continuous educational process through constant use of various educational products – from the working textbook up to the computer training programs, slides – lectures and audio course, the work with which can be easily organized and in the removed areas of mountain district.

Feature of mountain district is not only remoteness and inaccessibility of places of residing of the people, but as problems with the electric power. During Bishkek global mountain summit the employees of the CHA and the Kyrgyz-Russian institute of remote education developed a technical-

technological complex for education in mountain regions. The minimal structure of a complex consisting of the petrol generator, usual satellite plate and household TV set, is easily transported and has cost no more than 1000 dollars. For increase of efficiency and downturn of the cost price of a complex instead of the petrol generator it is possible to use systems of solar batteries, which will allow to lower emissions in an atmosphere, and as to minimize the charges on maintenance of serviceability of a complex.

Now under the initiative of the International association «Knowledge» is developed the concept of global virtual university, which enables to develop the satellite educational centers in various mountain regions of the world.