# MULTICOMPONENT TERMS IN THE FIELD OF RADIO COMMUNICATION OF THE UZBEK LANGUAGE

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### **Abstract**

The article discusses the compound terms used in the field of Uzbek radio communication. Analysis, synthesis, component analysis methods were used during the analysis. The components of field terms are divided into types according to their quantity and studied, and each type is explained by the example of field terms.

## **Annotatsiva**

Maqolada oʻzbek tili radioaloqa sohasida qoʻllaniladigan birikma terminlar haqida fikr yuritiladi. Tahlil davomida analiz, sintez, komponent tahlil usullaridan foydalanilgan. Sohaga oid terminlarning komponentlari miqdori boʻyicha turlarga ajratilib oʻrganilgan va har bir tur soha terminlari misolida yoritib berilgan.

# Аннотация

В статье рассматриваются составные термины, используемые в сфере узбекской радиосвязи. При анализе использовались методы анализа, синтеза, компонентного анализа. Компоненты полевых терминов разделены на типы в зависимости от их количества и изучены, и каждый тип проиллюстрирован на примере полевых терминов.

**Keywords.** Compound terms, component, structure, quality, adjective, verb, number and noun phrases, concept.

**Kalit soʻzlar:** Birikma terminlar, komponent, struktura, sifat, sifatdosh, harakat nomi, son, ot soʻz turkumlari, tushuncha.

**Ключевые слова:** Сложные термины, компонент, структура, качество, прилагательное, глагол, числовые и именные словосочетания, понятие.

Any change happening in our country is directly reflected in our vocabulary. The process of globalization has not failed to affect every industry in our country. Today, telecommunication tools are one of the tools that have an important place in the life of society. Every person definitely uses one of these tools every day: telephone communication, radio communication, television, etc.

In the construction of the current Uzbek literary language, terminology is distinguished by its special place and position. In the system of terms of the Uzbek language, syntactical term formation is widely popular. Compound terms are widely used compared to single terms. The components of compound terms form a different quantity in the terminological system of each field.

N. Mahmudova, in the process of researching the terms related to the field of telephony, researches the compound terms related to the field mainly by using three methods and dividing them into eight

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groups based on the amount of components. They emphasize that as the number of components of the term increases, the concept of the term becomes far from abstract.[1]

Z. Urunova, while structurally dividing the terms related to the field of defectology into types, focuses on compound terms separately and studies the methods of formation of compound terms related to the field of defectology of the Uzbek language, and divides them into six groups in terms of the quantity of their components. [2]

Uzbek language has many compound terms in the field of radio communication. These terms have a strong place in all terminological systems. Compound terms are formed syntactically by connecting two or more word forms. For example:

- 1) The term is formed by the method of connecting the units of the language: non-ready time, input amplifier, main leaf, group delay, vibration damping, ground wave, carrier power, involuntary radiation, death average power, double queue, sentinel wave transmission capacity, spatial dispersion, wave propagation, scattered reception and similar terms;
- 2) A term is formed by the method of connecting units of one's own language and units of another language: bandwidth, intermediate line, last station, signal attenuation, baseband, increased refraction, polarization selector, simple modulation, radio frequency noise, terrain, adjacent channel, reduced refraction, parabolic reflector, antenna reflector, dialectic conductivity, no reception zone, etc.
- 3) Field terms are created by connecting different language units: topographic map, radio relay line, standard refraction, regenerative repeater, periscopic antennas, reserve barrel, route profile, trunk radio relay line, critical refraction, zone radio relay line, analog signal, adaptive terms such as modulation, active filter, amplitude detector, antenna array.

Compound terms related to the field of radio communication are also formed with the participation of double, repeated, abbreviation words. The model of such terms is as follows:

- 1. Terms in the [pair word+lexema] model: point-zone connection, antenna feeder device, avalanche intermediate diode, antenna-feeder tract, azimuthal-rangefinder radiobeacon, equivalent isotropic-radiated power, an input-output system, such as the input-output of transmitted information.
- 2. Terms in the [repeated word+lexeme] model: successive accumulation of disturbance, line-of-sight distance, layer-by-layer in the troposphere, homogeneous layer- such as spreading within the right view, alternating connection.
- 3. Terms in the [acronym+lexema] model: RRL communication, VQT range, RPA transmitter band, AIM spectrum, RGI resonant frequency meter, GPS/LONACC receiver, JPCh range and similar terms.

We found it appropriate to study the terms related to the field by dividing them into the following types in terms of components:

**One-component terms.** One-component terms directly name concepts such as objects and events used in the field of radio communication without any descriptions. In the field of radio communication, the amount of one-component terms is less productive than the terms formed from the combination of two or more components. For example: polarization, radiation, shielding, sensing, branching, shading, bander, conductor, meter, transmitter, beamer, marking, transducer, conductivity, susceptibility, flexibility, view, radio radiation, space converter, radio range finder, transmitter, beamer, stationary, pause, vibration, view, connection and similar terms.

Most of the one-component terms are terms borrowed from other languages, for example, we have given the following: subscriber, adaptation, frequency, antenna, channel, diode, dipole, probe, line, link, frequency, mast, repeater, modulation, band, station, project, filter and similar terms.

- **2. Two-component terms.** Two-component terms are abundant in the field of radio communication. These terms are formed based on the following patterns in terms of vocabulary:
- a) Terms in adjective+noun form. Compound terms created on the basis of this pattern occupy an important place in the Uzbek terminological system. The determining component of such a combination of terms serves to express the meaning of the sign, feature, property of the definition. For example: satellite system, quadrature detector, quadrature modulation, kilometer waves, communication channel, conductive channel, contact channel, space station, space system, space channel, mirror antenna, mirror channel, portable radio probe, lens antenna, linear frequency, logarithmic antenna, logoperiodic antenna, remote response, meter waves, navigation radar, orthodromic beacon, open channel white noise, parabolic antenna, purametric amplifier, passive dipole, low frequency, rejector filter, centimeter wave, surface wave;
- **b)** Terms in adjective+noun form: tuned antenna, tuned antenna, transmitted signals, phased antenna, occupied band, shielded camera, dedicated channel, spread radio reception, mastered frequency, directional antenna, non-radiating node, rejected noise, synchronized signals, scanned interference;
- **d) Terms in noun + noun form:** electrical noise, power amplifier, power density collective antenna, Earth wave, antenna effect, antenna element, antenna grid, ship station, radio frequency oscillator, radio relay line, signal shaper, radio frequency spectrum, sound card, sound system user equipment, wave spreader and similar terms;
- e) Terms in the form of number + noun: primary radar, secondary radio service, secondary radar;
- **f) Terms in the action name+noun form:** delay line, input amplifier, coordination zone, coordination distance, radiation level, radiation group, radioplanning errors, radio broadcasting station, attenuation meter, oscillation period, radiation array, radio broadcasting station, attenuation meter, oscillation period, transmission line, transmission line and similar terms.
- **3. Three-component terms.** The number of three-component terms in the field is limited. They are formed from the combination of different word groups. For example: jamming equipment, frequency tuning, frequency modulation telegraphy, anti-noise antenna, occupied bandwidth, electric field strength, electromagnetic compatibility level, electromagnetic radiation signature, electromagnetic wave return, electric signal amplifier, RF transmission, over-the-air radio transmission, traveling wave antenna, high frequency devices, half-duplex communication, half-wave vibrator, crosstalk interference, master frequency band, medium altitude orbit, receiver leveling, receiving station, coast earth station, short-term destruction, active antenna array, active household antenna, antenna exchange meter, antenna utilization factor, direct line of sight radio communication, hyperbolic radionavigation system and similar terms.

- **4. Four-component terms.** Four-component terms are widely used in the field of radio communication, and at the same time serve to describe the concept in a broader scope. For example: antenna directional coefficient, main receiving channel, direct amplification reception, single-wave symmetric vibrator, non-continuous non-continuous industrial radio system, Earth moving station, relative satellite radiation level, precipitation scattering, very small aperture terminal, unpaired frequency band, two-frequency simplex radio communication, enhanced digital radio services, maritime navigation satellite service, and similar terms.
- **5. Five-component terms.** Terms with five or more components express the description of the concept in a broader way compared to the previous terms. After all, the longer the term, the more it is aimed at widening the essence of the concept in this way".[1] An increase in the number of components of terms can also cause speech difficulties. For example: the equivalent noise temperature of the satellite line, the control width of the radiation frequency band, the field of view of the radio transmitter in the vertical plane, the ready time of the radio engineering device, the permissible deviation of the frequency of the radio transmitter, the multi-frequency operation mode of the radio transmitter, remote recording of radio-electronic means, mutual functional effect of radio-electronic means, distribution of radio-electronic means over the territory, average effective radiated power of the radio transmitter, broadband coefficient of optical fiber, and similar terms.
- **6. Six-component terms.** The six component terms also express the description of the concept in a more complicated way. It should be taken into account that as a result of such processes, there is a high probability of damage to the abstraction of the concept. For example: reliable reception area of a radio transmitter, standard frequency and time signal station, standard frequency and time signal service, radio beacon to monitor propagation conditions, counter-clockwise polarized wave, the difference of the required minimum frequencies of radio electronic means, the station intended for communication through the Moon, the propagation of radio waves in the same anisotropic medium, the numerical aperture of the optical fiber, the spectral curve of the optical fiber fading, the length of establishing the balance of the optical fiber modes, and so on.
- **7. Seven-component terms.** These component terms, like terms found in the field, also serve to express the description of the concept in an expanded manner. For example: satellite service of standard frequencies and time signals, transmission by suppressing the sideband part of frequencies, the transmission capacity of the radio beacon of the near-field navigation radio engineering system, antenna directivity diagram, zero formation on the head leaf, remote control of household radio electronic equipment, multi-input antenna grid adjustable between inputs, permissible high-frequency power of the electrical connector, and so on.
- **8. Terms with eight or more components.** Terms with eight or more components represent complex concepts. Describes concepts in detail. Examples of these are: instrument landing system vertical attitude instrument, instrument landing system horizontal attitude instrument, antenna array input directivity diagram, antenna array input directivity diagram roughness coefficient. The existence of **nine-component terms** in the field system was revealed in the process of our research:

tools for calculating the interference resistance of the power supply network, and an example of **ten-component terms is:** the amplifier coefficient in a given direction at the input of the multi-port antenna grid, and **eleven-component terms** are such as the intermediate angle of the main leaf of the antenna directional diagram in the horizontal and vertical planes.

In the course of our analysis, it became clear that the most common types of Uzbek language terms in the field of radio communication are two-, three-, and four-component terms. In our opinion, the terms created by the combination of five or more components deviate from their terminological function and represent its explanation and description. It seriously undermines the abstractness of the term and creates speech difficulties for industry owners and consumers as well as expands the cases of speech inefficiency. In the process of term analysis, we witnessed the existence of nine and ten component terms in the field. In addition, it became clear from the above examples that most of the multi-component terms have expanded due to hybrid words. Even the pronunciation of these terms is foreign to those who are not familiar with the field. Not only the pronunciation, but also the process of memorizing multi-component terms formed from hybrid terms requires some effort. We are far from giving a positive assessment to this process, we are in favor of shortening them and using them in consumption in cases where it does not damage the understanding of the term. Because both industry owners and consumers, who take into account the economy of speech, will be interested in the shortening of the terms.

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