

15Э343 4M automated command system for signal-M. Spares for 15Э343 were supplied to the 35th, 39th and 42nd divisions.

15Э601 Perimeter

15Э651 Component of 83Т120 (Airborne command system)

15Э780 Component of 15Э601 (perimeter) and 83Т120 (airborne command system)

15Э840 Component of 83Т120 (Airborne command system)

15Э850 Component of 83Т120 (Airborne command system)

15Э860 Component of 83Т120 (Airborne command system)

15Э910 Component of 83Т120 (Airborne command system)

15Э920 Component of 83Т120 (Airborne command system)

15Э961 Displays for 15Э1М, 15Э961 were provided to the three armies and Odintsovo-10.

15Э1273 Reference to a simulator for VHF radio 15Э1273 (not identifiably SRF)

15Э1305 (Рундук-С1) Satellite communications station; Supplied to 54 Division.

15Э1310-04 (Дублер-СО) is a system to transmit and receive alerts (probably part of a security system). It was supplied to the 54th division.

15Э1313 Coded message handling and information communications on terrestrial radio, including fixed and mobile (not clearly SRF)

15Э1314 Fibre-optic system linked to 15Э1313

15Э1315Д Fibre-optic system linked to 15Э1313

15Э1331 (Батискаф) Special monitoring instruments Батискаф. Supplied to 54th and 60th divisions. Automated confidential high-speed communications telecode for exchange between control stations and mobile facilities. Also a reference to software for a simulator for telecode equipment 15Э1331 and another to high speed telecode connection 15Э1331.

15Э1335 Reference to software for.

15Э1345 (Кефаль) is a hands-free loudspeaker communications system for fixed and mobile control centres. 18 sets were supplied to the 13th and 54th divisions.

15Э1347-П is an exchange system. 32 sets were supplied to all divisional headquarters and to training academies. In 2008, 4 were supplied to Odintsovo-10, and others to the 27th and 33rd armies and to the Znamensk missile test facility.

15Э1353 (Кривошип) Mobile facilities for monitoring of radio and cable systems. 15Э1353-01 is a vehicle-mounted system. 15Э1353-05 is for the automated support of C3 systems to keep them at constant readiness. 15Э1353-03 is a vehicle-mounted system which remotely monitors wire and cable systems. Contract in 2007/8 for software. Supplied in 2007/8 to 7 Divisions and the 27th Army. Updated by ОАО «ОКБ «Салют» in 2008.

15Э1354 Communications product; 1 ordered for 60th Division, without antenna

15Э1356 Vehicle-mobile cable repair system.

15Э1361 part of 15Э1310 and 15Ц1М-02 security alert systems → for Topd 17?

15Э1371-09 (Кефаль-Ц) is a radiation-hardened exchange system which handles encrypted messages and maintains connections through fibre-optic, VHF, HF, microwave and satellite communications channels. 3 sets were supplied to the 13th and 54th divisions. + 15B222

15Э1376 Antenna, supplied with 15Э1858

15Э1377 (ЛЕПЕСТОК-2) (Petal 2) New mobile antenna which can be quickly erected. Made by vicor. HF (1.5 – 30 MHz); range 500 – 5000 km. Works with РПДУ types: ПКМ-20, Р-161-15, Р-161-5, ПКМ-5, ШПМ-5, Р-161, «Артек 1КВ», ШПМ-1 and similar РПДУ. (no published orders from SRF)

15Э1383-ГМ-30 (Бета-1) is a system for switching between channels. It was supplied to the 60th division. (Tabishan)

15Э1386 Supplied to Mirny Archangel, SRF closed town and cosmodrome. Linked to 14П05 (Простор-Р)

15Э1389 (Бриолит) HF radio system. Бриолит is a short-wave radio system. For Odintsovo-10, 27 Army, 35 and 39 Division in 2008 and for 7th, 13th and 51st divisions, 27th and 33rd armies and Odintsovo-10 in 2009. A system for retaining radio communications when faced with active electronic countermeasures ??

15Э1391 (Байонет-Р) is a system for controlling and monitoring telegraphic communications centres. 43 sets were supplied to army and divisional headquarters and Odintsovo-10.

15Э1392 (Барораф) Radio range prediction for command posts. Supplied to 27 Army. Produced by Vicor.

15Э1394 Networking exchange of documentary information between fixed, mobile and hardened command posts (стационарных, подвижных и высокозащищенных пунктов управления). Reference to hardware / software for 15Э1394. Component of 15B221 (Command system) supplied to Odintsovo-10.

15Э1396 Reference to software for 15Э1396.

15Э1467 Component of 83Т120 (Airborne command system)

15Э1474 Component of 83Т120 (Airborne command system)

15Э1478 Component of 83Т120 (Airborne command system)

15Э1484 Component of 83Т120 (Airborne command system)

15Э1569 Component of 83Т120 (Airborne command system)

15Э1574 and 15Э1574-4М Components of 83Т120 (Airborne command system)

15Э1576 Component of 83Т120 (Airborne command system)

15Э1746 and 15Э1747 Components of 83Т120 (Airborne command system)

15Э1834 External disk drive (on airborne command system)

15Э1835 (Буссоль) Anti-jamming system. Supplied to 13, 14, 39, 54, 60 and 62 Divisions.

15Э1836 (Бекас) Means of transmitting video and thermal imaging information (security)

15Э1837 (Брус-1) travelling wave radio antenna. Supplied to Odintsovo-10 and Klyuchi, Kamchatchka (produced by Vicor)

15Э1838 (Брус-2) phased-array radio antenna. Supplied to Odintsovo-10.

15Э1839 is a system for selection communication channels, including satellite communications. 10 sets were ordered in 2009. The locations to which this was deployed include the 54th division and the facility at the missile test impact area, Klyuchi in Kamchatka region. (Сеть-КК) - Network КК КК possibly space command ?? (15Э1347 exchange includes connection with Сеть-КК)

15Э1841 (Баллиста) is a system for monitoring and testing Rocket Forces fibre-optic and wire communications channels and reconfiguring the network as required.¹ It supports the 15Э1391 system. Sets were supplied to all army and divisional headquarters and Odintsovo-10. The contract included installing 15Э1841 at the Grotto underground control centre near Kitlim.²

15Э1846 New products 15Э1846-01 and 15Э1846-02 have been developed by ОАО «ОКБ «Салют». Production to start in 2011.

15Э1847 is a new system for monitoring and selecting communications channels. Its function is to detect faults and damage and to identify detours in order to maintain communications. It works in conjunction with 15Э1383 and 15Э1839.³

15Э1858-2, described as a protected ground antenna complex for HF reception. This has been designed to minimise the effects of jamming.⁴

15Э1859 (Стеллит-06) Miniature antenna for mobile command posts. Supplied to 14, 35, 39 51 and 54 Divisions.

15Э1862 (Критик) Automated satellite control system, supplied to Gagarin, Smolensk.

¹ <http://doc.gostorgi.ru/7/2009-01-15/248948/3.doc>; <http://doc.gostorgi.ru/7/2009-01-15/248948/18.doc>

² <http://www.mpi.ru/tender690688.html>

³ <http://www.army.informost.ru/2010/sbornik/4-1.pdf>

⁴ <http://vicor.org.ru/doc/booklet.pdf>

15B142 Communications system, exchange with automated morse. ~~Mobile capability~~. Spares for 27 Army.

15B155Y Spares ordered in 2007/8 and 2010.

15B210 Communications system, exchange with automated morse. ~~Mobile capability~~. Spares for 27 Army

15B220 Telegraph and morse components similar to 15B142 and 15B210.

15B221 Command component. This includes 15B1389 (radio system), 15B1391 (controlling/monitoring communications) and 15B1394 (exchange of documentary information). A contract was issued to maintain 15B221 at Odintsovo-10.

15B222 HF, FM and LF transmitter, phased-shift receiver with power supplies, clutter analysis and information exchange for coded message, encrypting system and automated organisation of communications channels. Spares ordered in 2007/8; Spares for 27 Army 2008/9; Online source on Topol indicates this is the Command Post for Topol-M, and controls 10 missiles.

~~HF~~ VHF

30-80 MHz

HT666 - 11.8-13.2 MHz