

ARISS-Russia Report

Sergey Samburov, RV3DR
AMSAT-R V.P. Manned Space

22nd AMSAT Space Symposium
9 October 2004

Russia Hardware Development Opportunity

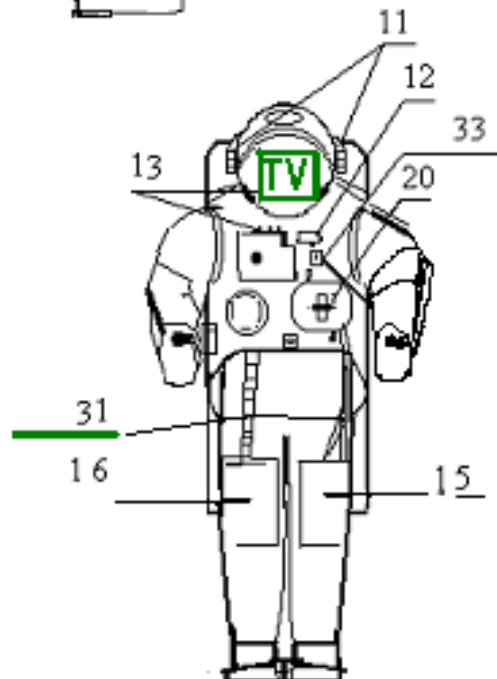
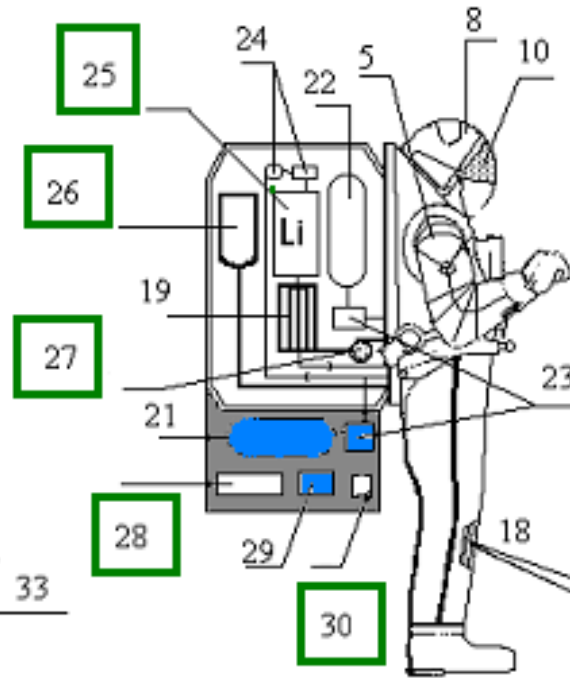
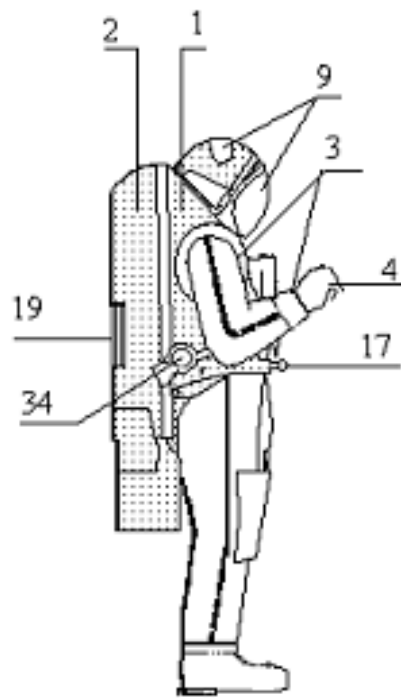
- To commemorate the 175th anniversary of the founding of the Bauman Moscow State Technical University, where a number of the Energia engineers went to school, the Russian team would like to launch a special satellite
- The intent is to deploy this satellite off the ISS in the November 2005 timeframe as part of this commemoration
- Microsat-class satellite was originally proposed
- Concept has evolved to positively support ISS program and to improve the team's ability to deploy this satellite

ISS Housekeeping & the Evolved Satellite Concept

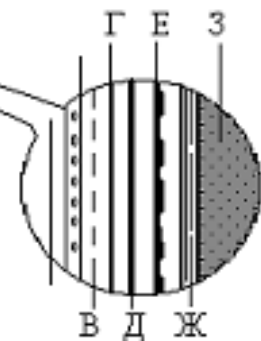
- Cargo space on ISS has reached a crucial stage
- Old, outdated items being scrutinized for potential removal from ISS
 - Progress trash
 - Thrown overboard during EVAs
- Several Russian Orlan EVA spacesuits being considered for disposal
- ARISS-Russia team sees this as an opportunity
 - Help the ISS cargo space
 - Commemorate the 175th anniversary of the University
 - Provide the ham radio community and school children a unique satellite opportunity
- Concept: Outfit an Orlan EVA spacesuit with amateur satellite equipment
 - Pressurized
 - Thermally protected
 - Cosmonauts deploy “Suit-sat” for months of satellite operation

Green -HAM Radio

схема размещения систем в ранце при открытой гермодвери.



оболочки скафандра



В - гигиеническая ткань
Г - резервный герметичный слой
Д - основной герметичный слой
Е - силовой слой
Ж - слой ЭВТИ
З - космическое пространство

Orlon Suit Photos





Orlon Suit Photos



Technical Ideas Requested

- Current ideas include:
 - University Congratulations by Voice Beacon
 - SSTV
 - Voice repeater (FM or analog)
 - Packet radio/APRS/Mailbox
 - Advanced digital techniques
 - Science telemetry & command capability
 - Other ideas???

Conclusions

- Unique, high visibility satellite opportunity exists for ham radio community
- Concepts need to be solidified quickly since this human spaceflight launch opportunity is one year away
- ARISS-Russia will continue to evolve this concept through the ARISS project selection and use committee
- Your ideas and support is encouraged