

ISS-Ham Packet Operations Status Report

For ARISS Goddard 2002

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Current Packet station Status

- Supports an entry level Packet Mail System
- Uses PacCom TNC
- Ericsson Radio, 5 watt RF output
- 1200 Baud Email and Digi-Repeater
- Located in the Zarya module
- Sirius co-phased antenna system

Project Milestones

- April 8, 2001 Packet Digi-repeater active
- Feb 21, 2002 Mailbox activated
- Oct 1, 2002 Mail messages counter 2400
- April 2002, WB4APR calculated 1500 Digi Repeater users

ISS Users

- ISS crew #5, Valery Korzun,
- Very active user
- Sends monthly public status reports
- Started Pen-Pal friendships with many stations
- Connected to A22 computer

Last Message from Valery

Stat : BR
Posted : 02/12/02 07:03
To : ALL
From : RS0ISS
Subject: GOOD BY!

DEAR FRIENDS!WE WERE SO HAPPY TO LIVE AND WORK SIX MONTHS ON BOARD OF ISS.WE WERE GLAD TO USE HAM RADIO TO HAVE PMS AND VOICE CONTACTS WITH YOU LIVING ON THE PLANET EARTH. IT WAS VERY NICE TO MEET IN AI OUR OLD FRIENDSWITH WHOM WE HAVE HAD COMMUNICATION WITH STATION MIR.APPRECIATED! IT WAS ALSO GREAT TO MEET NEW OPERATORS FROM BIG COUNTRIES AND SMALL AND UNUSUAL CORNES OF OUR PLANET. ISS FUN CLUB HAS A LOT OF INFORMATION ABOUT ISS AND ARISS.GREETINGS FOR MEMBERS OF THE CLUB! WE WISH EVERYONE ALL THE BEST! WE WILL MISS YOU!

73!

CREW OF EXPEDITION 5 ISS VALERY KORZUN,PEGGY WHITSON,SERGEY TRESHEV.

CMD(B/H/J/K/KM/L/M/R/S/SB/SP/ST/SR/V/?)>

Performance Summary

- The ISS ham Packet/Digi Repeater project is a success
- The ISS crew enjoys the packet system
- The mail box has plenty of activity
- The Digi Repeater modes are also very popular

TNC Problems

- Problems are expected
- ISS crew intervention was required to resolve some problems

TNC Problem List

- PacCom Lockup's (monthly)
- Message 33 list bug (weekly)
- Out of Memory message (weekly)
- Race Condition (low priority)
- Login Busy

PacCom lockup's

- PacCom Lockup's
 - frequency = monthly
 - Impact = off line for days
 - Manual reset

PacCom Lockup

Stat : PR

Posted : 02/10/22 19:22

To : WF1F

>From : RS0ISS

@ BBS :

Subject: TXNKS

MILES,

I DIDN'T KNOW THAT PMS FAILED.

CLAUDIO ASKED ME ABOUT WHAT HAPPENED WITH IT.

I JUST RECYCLE POWER OF PMS.

I LOST ABOUT WEEK TO COm VIA PACKET AND YOU TOO.

73. VALERY

PacCom Lockup suggestions

- Inform crew of the Lockup problem
- Suggest crew check weekly
- Time-Line a TNC Power cycle at least once a month

Message 33 Bug

- Message 33 list bug
 - frequency = weekly
 - impact = off line for a day at a time
 - Clears by its self
 - Prevents saving e-mail messages

Login Busy

- Login Busy
 - Mailbox busy for several hours at a time
 - Need more data to understand problem
 - Frequency = TBD
 - Impact = No access to Mailbox

Message 33 Bug

WF1F>RS0ISS-1 [11/11/02 09:27:29]: <<C>>:

*** CONNECTED to RS0ISS-1

Logged on to RS0ISS's Personal Message System on board the International Space Station

CMD(B/H/J/K/KM/L/M/R/S/SB/SP/ST/SR/V/?)> LIST

Msg #	Stat	Date	Time	To	From	@ BBS	Subject
33	P	30/20/79	61:4D	7,200	1m99i>	□m99MR	í9?>@í9>>

15368 Bytes free

Next message Number 466

Mailbox selected: 0

Message Bug 33 Suggestions

- Inform crew of the Message Bug problem
- ARISS Sysops should test Dave Larsen's Control Z theory
- Test for memory leak, if true then Time-line a monthly hard rest of the PacCom
- Update Users Manual, Teach public not to send mail when problem exists

Out of Memory

- Out of Memory
 - frequency = weekly
 - impact = Annoying to crew
 - manual reset

Out of Memory

- The Out of Memory message is only seen by the ISS crew while they are using the PMS.
- According to Valery Korzun he would see the message a few times a week.
- More information is needed from Valery about this problem
- Message is not related to actual free memory

Race Condition

- Race Condition
 - frequency = daily
 - impact = minimal

Race Condition

- The ISS TNC responds too quickly to a packet acknowledgement. This causes lost data.
- Current TXdelay is 350 milliseconds
- $(\text{Slot} + \text{TXD} + \text{AXDELAY} = \text{ReciverTurnAroundTime})$
- Suggest settings of 400 - 500 ms