

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 31 JAN

Periodic health checks today. We are starting to track the things that we think we have done for the last time and we put this near the top of the list.

[REDACTED MATERIAL - 5 lines]

Sergei and Yuri spend considerable time downloading the sound meter data to Russian laptop 3. The laptop has a modem for the Regul comm. link, and this is about twice as fast as the packet data transfer on the OEA radio. This will probably become the prime data channel up to the SSC network on the Russian side.

TEPC data recorded and listed in the data section below.

1042 FPP checked as requested and is receiving data normally.

TVIS checks are normal. Electric box temps 92.4, motor temp is 88.0. Thanks to the BME's for all the info on the TVIS issues. We are using the wrist bracelet rigged backwards as a means to provide grounding. The alligator clip is attached to clothing, and the wrist strap is on the bottom of the TVIS control panel. This prevents the grounding wire from interfering with running motion on the treadmill. As an interim solution for the static charge build up, this is working.

At 1350 we do a PAO downlink with 2 media contacts. Lots of questions about our long term habitability and general adaptation to lengthy space missions. As we were getting ready for the event, we did ask Capcom and PAO whether we should be ISS or "Alpha" on one of the presentations. We would like to suggest the following as a working solution:

Orbital station and crew on station = "Alpha"

International partnership to build the station = "International Space Station"

Shep and Sergei do the BP/ECG check—Sergei is the operator and Shep the subject. We hook up the ECG to the MEC computer and everything is run per the steps in OCA 1107. We have good traces on the ECG and the MEC seems to handshake OK on its RS 232 bus. The program runs as expected on the MEC. Just as a check, we look at the size of the data file written by the program and it appears to be Zero K. We don't think there is any data recorded—If ground could look at this and advise, please.

We took a look at the IWIS rigging again today, with an eye to a permanent location. Lead #4 from the port hatch area does not have enough length to reach the RSU 2 unit in its nominal position anyway, so we are going to have to do something. We talk with Houston and we are going to try the RSU shifted to the portside about 3 feet. We think all the lead wires will be OK and this is to be tested tomorrow.

Finished the day with some gym time, chow, and reel 1 of "Lion of the Desert".

DATA

TEPC data per Med Ops page 458—

10:01:52/0.018/20.29/2465/1/37/38/0.088/87.01/OE

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

0720 We are in contact with Moscow. Changes to the big plan today. Everyone agrees we don't need to unload PMA3 right now—just need the IWIS gear out. There are still questions about whether we can power the MACE experiment with the FPP data being taken simultaneously.

We are REALLY liking the 8 O'Clock report. This should help streamline some of the stuff in the Daily Summary also. We notice the proposal in the summary to do the 8 O'Clock and the Daily Summary together with Moscow. Can a joint Mars mission be far off?

We have the monthly body mass measurement this a.m. and the lower leg volume measurement. All the data looks very consistent. Sergei is doing a lot of photo documentation to provide for updates for some of the photos in the procedures.

Shep and Yuri update the file server with service pack 7. No problems. We reboot the server and it runs well all day.

We get the IWIS bag out of PMA 3. Of course, it is in the bottom of the PMA. Knowing the barcode is a very helpful addition to the info from the ground, except

that the IWIS bag is one of the few left that we have not marked so it can be read from a distance. But by process of elimination, we figure it is the bottom bag, and this proves to be true. Getting this out and restowing what was removed takes maybe 15 minutes.

Shep does the monthly treadmill test (PFE). Data is being sent to the CheCS folder. Sergei and Yuri are changing the AÑÓ hose and this normally would have been a schedule conflict (we are all in the same space), but we saw this coming and the job was done early.

We have a school contact by ham radio right before lunch. Very clear contact with George West School in Texas. We got to answer 20+ questions on the pass, and they all were excellent.

We get the word from Houston that MACE will have to standby until the FPP experiment data has been collected. No MACE for the day. This works out OK for us, as we now have a chance to get into Z1 and pull out gear we will need for 5A. We take the IRED down, and open the Z1 hatch. We locate the “portable fan” half-CTB and pull it out. Putting the IRED back, one of the short rod assemblies (turnbuckles) gets bound up. The “banjo” end fitting has about 5 threads to go but the turnbuckle sleeve is seized tight to the threads on the “short” end. Threads are shiny, and maybe it’s just that tolerances on the threads are too tight. We put 80+ foot lbs on the turnbuckle body with no load on the long end, and it won’t move in either direction. We are going to need a replacement piece at some point. Part number 46117199-302, S/N 1007.

Sergei and Yuri get to take more data with the “Shumomer” (sound level meter) which is fast becoming our most fun thing to do. Sergei and Yuri also get laptop 3 rigged in the large diameter of Service Module, and this involves an extensive redo of the ethernet cabling. This, however, is a good excuse to clean up the network layout a bit, and now the “Y” legs in the wiring are gone and we have one continuous backbone for the SM subnet. Almost all of the cabling is behind panels or in the 1” wire trays, and if anything, it looks too good. Crews will wonder for a long time what we were complaining about regarding the planning and integration of laptop locations.

[REDACTED MATERIAL – 7 lines]

We try to get ÖÖÏ to redesignate the new (combined) form 14-23 as “form 14-23K”. (Krikalev). They don’t bite.

Although the activities of the day were not exactly as planned, we got a lot done. Every night now we gather around the wardroom table and talk about all the things we would like to finish before Exp 2 shows up. Now if we could just clean up IMS. . .

We watch the end of “End of Days” and regret that we did not roll it on New Year’s Eve.

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP’S LOG 29 JAN

0700 Comm with Moscow. We discuss the day’s plans and talk about an OCA window to pass down some words on the “Challenger” anniversary.

We have been working with the Timex software. Many thanks to the folks who got this up to us. It seems we each have a different version of the datalink watch, and of course, the software is different with each. Yuri and Sergei are able to load up a day’s worth of alarms, but Shep has the Datalink 150, and this has a 5 alarm limit. So 2/3 of the crew are now happy. All this is a pretty good argument for training like you are going to fly—we should have caught this one ourselves in our training work on the ground.

Shep changes out the one harness cord on IRED. The cord which was used previously and repaired will be sent down on 5A for inspection and engineering entertainment.

We change out the TVI S series bungee system as part of the monthly inspection. We have all been using the same bungee set since Nov. With a new unused bungee, we should be fine through the remainder of the flight. We could use some words from the ground whether Exp-2 will bring their own bungee sets so we know what to leave behind. We still consider the bungee we removed to be serviceable, but we are packing it up and will have it ready to send to the ground so engineers may inspect—we thought this might be of interest too. It is more time efficient to use one set of bungees for all 3 crew than to swap these individually for each exercise session.

[REDACTED MATERIAL - 22 lines]

We discussed the IMAX scenes for 5A and subsequent filming. We are planning the shootings out the window and we would like to ask that a second exterior roll be left onboard, if possible. We think we will use it.

We are still having trouble with the state vector callouts on the earth obs files—sites today were as much as 10 minutes in error from our true position. We have verified that laptop times are accurate.

We were asked to provide more info on the "RPCM Jumper" cable that was used for the FPP activation last week. The nomenclature on the cable is :

"UOP POWER
RPCM PIGTAIL 120VDC"

PAO downlink today:

We would like to pass to the ground our thoughts on Challenger, and the 15 years which have passed--

We add a minute of salute onboard to the many which will be given today on Earth. That we are able to mark this in flight, in space—is a most fitting tribute to the memories of our fallen crewmates and friends.

It was said that this tragedy would bring a long period of renewed endeavor in space—that we would fly more safely and with greater success. This has been realized. Let us take pride in the many good missions which have flown since, and account this the continuing legacy of Challenger and her crew.

Today we are working and living in space--a new era, a new enterprise--the permanent presence of humans away from planet Earth. As a concept, it's not that exceptional. We have always been in the "frontier" business.

Infinite, boundless dimensions define "space". Our need to explore and to fulfill the human potential defines us. Space is austere, harsh, unforgiving--but as logical a place for us to be as any path that man ever walked. It is "high ground" for the human experience. Let the name "Challenger" give us pause to reflect on, and purpose to continue--our voyage of exploration and discovery.

"Now strike the ship's bell"

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 26 JAN

TGI F. Sergei's first job of the day is the TEPC download. This took more than 12 hours the last time we did it—Sergei copies the data readout and moves TEPC to its new location on SM panel 338. It is convenient to the MEC computer there. Sergei hooks up the RS 232 and starts the download the first time without any difficulty.

Yuri and Shep are working on some more data base items. We have incorporated all the uplinked delta files sent as of Thursday night.

It's food ops morning and we set up to sort the leftover food from the containers in the pantry. We pull out all the tomatoes and eggplant and vanilla breakfast drinks and make sure these go in the Progress. Containers are broken down and stowed for 5A return or stacked on the FGB deck. It is quite a pile of empty boxes now. New containers are pulled from storage in the FGB and we put these in the pantry.

We get the XL-1 camcorder going to start scenes for the educational video. We get the food transfer ops on tape. Lots of good movement of containers flying around station—should be interesting.

Sergei starts the software load for the Regul packet comm.. He is scheduled for an hour here, but it ends up taking most of the day to get done.

1230 We have an OCA link up with the 2nd. Expediton crew. Comm quality is good—better than any previous crew briefing we have had.

[REDACTED MATERIAL - 24 lines]

We get a good start on the taping for the educational "Meet Me at the Station" video. Lighting in the Node is just too dark and we will probably reshoot a few scenes with some more illumination. But we got about 8 useable scenes done today on the script. Thanks to the planners for timelining this.

Last job of the day is the CSA-CP download, and this goes per plan. In all, we had a full day, and we're definitely looking forward to a slow weekend.

We eat dinner and watch "GI Jane". Lots of SEAL questions, and Shep explains why this is not exactly like the real SEAL training.

-----END OF LOG ENTRY -----

FROM: ALPHA

TO: MCC—H
 MCC-M
 HSG-M

SHIP'S LOG 25 JAN

MACE and IMS day. Yuri has the first job of the day, checking CO2 levels with the Carbon Dioxide Monitoring Kit. We spent considerable time yesterday trying to find it. We had rearranged its loc er stowage last week. The CDMK was in the right location, but had a lot of bags on top of it and was difficult to locate. We have written large bar code numbering on each side of the bag, and this is a help particularly in the FGB. Yuri changes out batteries and starts the monitor. Percentages agree pretty well with the readings from the onboard gas analyzers.

Sergei is testing out the Blood pressure/ECG kit. Shep and Sergei are reading the instructions. It takes a while to figure out that you have to hold the electrodes or the BP cuff won't inflate. The procedure is kind of unclear on this, but at least everything works.

Shep starts the MACE troubleshooting in the Node. We step through the procedure and finally get the MACE to operate after a PC card is swapped out in the secondary drive. The protocol we tested with, 11001, looks OK. The first protocol on the priority list is run, but it does not look as though MACE is doing anything. We call this down to the ground and Houston says this is expected. We only had time to run one more protocol and temp stowed the experiment so Yuri could pump some iron with the IRED.

Yuri, Sergei and Shep are working with the IMS for several hours in the afternoon. The SSC's are running normally—no significant slowdowns like we saw two days ago. Shep is stepping through OCA 1136 for answers to all the ground's questions.

We have a tagup on OCA late in the afternoon with IMS folks. This is very helpful, and we are able to clear up how some unique problems were generated by the bar code reader. We still have an inordinate number of things onboard whose bar codes are not logged into the database. Now that we are trying to run the system with these codes as the primary identifier, it takes a lot of time when we run into items that have bar codes and the database can't find them. We discuss this with the ground and agree that a top ground priority is to input this data, starting with computer equipment, and things we will need to use when 5A is in town.

Sergei and Yuri are swapping out electrical connections on the ARCU boxes per radiogram. We are going to test out the other ARCU channels.

1855. We are talking to Moscow and a group of schoolkids in TsUP. They are the winners of a nationwide contest on the space program, and are visiting TsUP. We send TV down and answer questions about the flight.

We eat some dinner and watch the last of "Used Cars" (we are definitely down to the movies you can't even find at Blockbuster).

Many thanks today to the OSO's for the heads-up on the wrenches—we did not know we had metric crow's feet onboard. We will have to try them out soon.

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 24 JAN

0610 We are up early. OCA is hung up in the middle of a file transfer. Mail and the execute package didn't make it. We reboot the OCA machine and wait to talk to Moscow. Daily package gets uplinked, and we don't have any big questions. We ask to keep the scopemeters in their present configurations. We will use the Russian meter with the rechargeable batteries as prime so we can conserve the alkaline "C" cells for backup power.

The ops summary details the tentative schedule for 5A and beyond—we are concerned because we are running out of good movies.

Sergei and Yuri start the day with the audiogram test on the medical computer, and then take some more acoustic measurements with the Russian sound level meter. We are kind of wondering when the ground's going to say they have enough data.

Shep put the new cables on IRED. The old set has moderate wear on the outside sheath of one of the cables, but otherwise looks very serviceable. The forward canister has occasionally been making "scraping" sounds. On inspection, the bottom cover has a light groove where it has been making contact with some part of the cable's metal hardware. Put the new cables in both canisters and reassembled.

1305 We have a PAO session with 3 media contacts on OCA. The voice quality to us is acceptable, but occasionally hard to understand. AP interviewer has some voice clipping as well. Apparently our audio down is good.

After lunch, Yuri and Shep start the calibration procedure for the IRED. At about the "8" load level, the forward canister starts scraping again. Yuri and Shep take the canister apart twice trying to improve the position of the cable hardware for adequate mechanical clearance. The cover for the forward canister is reinstalled and we still get some rubbing—it's intermittent and the best we can do for now.

[REDACTED MATERIAL - 5 lines]

We all get workouts in on the TVI S and IRED. All the IRED hardware looks OK during visual inspection. The frayed harness cord serving is redone with the sail palm and needle. We realign the top plates on the canisters which were binding the squat bars. It was another strange tool day. We used the large pliers several times, and the impact driver was the only way we could have taken apart the IRED can 3 times in the day.

We have noted that the power tool battery charger will not charge the NiMH batteries when they are first inserted. They have to sit and then be re-inserted before the charger will work.

At the end of the day we checked the CMG status. Numbers in the data section below.

We are still having unusual email problems. After a late afternoon mail sync, we all had "outbox" mail which had not been taken, and nothing new put in the "inbox", so we think some part of the ground sync and upload to us was incomplete. Our mail problems have definitely been more frequent in the past 3 days, particularly for Sergei. He is pretty sure mail has been mislaid and he needs a way to account for what has been sent to him in the last 2 weeks

We eat dinner and watch the first part of "Used Cars".

DATA

CMG checks. Read data words 1/5/6/8/9/11 for each CMG:

CMG 1 incrementing/2404/0510/2669/2623/0A85

CMG2 incrementing/2404/0510/2264/234F/0A5D

CMG 3 incrementing/2404/0510/26C5/260D/0A67

CMG4 incrementing/0404/0510/1F24/1F12/023E

TVI S temps (from yesterday):

Electric box	95
Motor	96

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
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SHIP'S LOG 23 JAN

We are going to have a full day of IMS ops. We have been waiting for this for the 2 weeks since the last "international IMS day". Shep starts out in the Node and Sergei and Yuri are working in the SM. The file server is acting up. Transactions between the client laptops and the server have much more delay than we have seen previously. Yuri had similar delays last weekend, but we have not worked intensively with the IMS since then. Today we are all inputting transactions and the system seems like it just can't keep up. Calls for data on individual objects has been taking 3-5 seconds. Today it seems like even the routine data from the server has significant delay—sometimes taking up to 4 minutes to complete. "History" pages are particularly slow in downloading. After a while, Sergei reboots the file server, but this does not improve the situation.

[REDACTED MATERIAL - 36 lines]

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
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 HSG-M

SHIP'S LOG 22 JAN

The morning starts with the comm. pass with Moscow. We have about 3 hours set aside to review the emergency evacuation procedures, with more time in the afternoon. After the comm., a bag of coffee, and some chow, we look at the "red" book.

[REDACTED MATERIAL - 20 lines]

We manage to get some more inventory work done during the breaks in the emergency drill. We are still setting up bar codes and checking locations in the Node against the database. We are definitely making progress although every bag is a small adventure. We still want to go around and identify all the deployed equipment onboard and

make sure the IMS has it logged in the correct location, but we have only scratched the surface on that job.

Sergei is still having difficulties with his email. After the mail sync, he still has "outgoing" mail left instead of everything in the "sent" folder. We talk to Houston about this, as this has occurred a few times now with Sergei's files.

Many thanks to the OSO's and the others who made the "scopometer" manual available. This will be very useful to us. We are already thinking that the diode test capability might be of interest if we are going to do something similar to the recent troubleshooting on Russian power equipment.

We have dinner and watch the first part of "The Big Lebowski".

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 19 JAN

0828 First comm. with Moscow today. Might be a record for a workday. First job this a.m. is some more troubleshooting with the MACE experiment. The equipment is set up as before—MACE has been stowed at the ready, so it is just a matter of rigging the tethers in the Node and powering things up. Stepping through the diagnostic procedure does not go as planned. On the first step, loading protocol 11001, we get the exact same indications as before—"download complete" followed shortly by "error—missing axis". Ground notes to "bypass" this do not work. We can not get the control software to do anything else. "Enter" key just puts us back into the top of a loop with MACE asking for a new protocol. We relay this word to Houston and standby.

Sergei and Yuri are opening panels on the veloergometer so they can troubleshoot. We are having trouble getting all the fasteners off. This turns into an all hands evolution. Sergei remarks that several of them are really "anti-theft" devices—little cups over the screw heads filled with some type of goo. Two screws won't come off. We get the impact tool out and it takes one off. We have to cut the other one off. Circuit "tray" inside looks more complex than you would expect—about 10 chips and 2-3 boards. Sergei pulls off a cable lead on the forward part of the tray and a clump of fine wires

[REDACTED MATERIAL - 1 line]

—maybe 10 wires affected, plus some ribbon connector. This looks beyond the I FM capability of even this team and the velo is probably down hard until the box can be replaced.

Shep in the Node finishing up the last part of the JASON experiment. Documentation says to shoot 14 days of photos, so we do so and the last set are in the OCA-down folder tonight. JASON experiment and gear all stowed in the Node.

We tried to conduct one of the weekly PMC's on the OCA today. OCA quality has been very good in the last part of the week, and was OK this a.m. during a call with CAPCOM. At 1525, we were unable to get a two-way voice link with the Flight Doc. We think this has to be some type of configuration issue on the ground—we are not changing anything onboard that we know of.

1650 Yuri gets good coverage of the Parana River basin, so we can scratch that one off the Earth Obs list. Our site times are still 5 minutes behind our actual ground track—and we're hoping the ground team can take this lag out of future lists sent up.

Shep and Sergei works on resetting the gains on the audio dosimeters. We are using the wardroom table for "I FM central". Having a flat place where you can spread everything out and get right on top of it is most useful—much better than trying to do this on a panel somewhere. One unit took the new settings and appears functional. The second unit displayed the "UFL" indication (bad) when switched into "sim" mode. We talk to Houston on this and we change batteries and try it again. The second unit has the same result.

We are continuing to see some strange things on our email—particularly the sizes of files. We are trying to keep minimum messages in our inbox and outboxes, and we still see large ".ost" files moving to the ground—2.5 Mb each. We don't understand why these are so large.

We all got some gym time, ate dinner and watched "Carlito's Way" with Russian subtitles. You have to watch some cops and robbers to see how much Russian there is that they never taught you in class.

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 18 JAN

Working on IMS today. It is amazingly slow going trying to fix the database. And it is very hard just to work on one thing at a time. It's a network of incorrect things that are all intersecting.

During the OCA fix yesterday, the "Russian" scopemeter was hooked up to the US power supply, but the batteries did not take a charge after several hours. We're not sure the charger circuit is working properly, but we plan on looking in to this soon. We have a limited supply of "C" batteries as backups, but it would be better not to have to rely on these.

Yuri is going through all the gear deployed now in the Service Module and checking whether it is correctly reflected in the database. Almost everything is stuff that we moved very early on in the mission and we did not generally have time to work the inventory. We have to stop now and recount what we did, when, and where to figure it all out.

1420 Ham radio contact with Sherman Elementary in upstate NY. The comm. pass goes very well. Had the questions in advance and this helps the pass proceed very rapidly. We are continually surprised by the quality of the questions coming from young audiences. We field approx 20 questions in an 8 minute period.

We had a good planning conference with Houston and Moscow. We talked about scheduling for next week, and general issues for the rest of the mission. We are very interested to see any of the present options being discussed with the 5A delay, and also whatever "strawman" plan is in work for the remainder of the flight. OCA comm. quality is the best we have had. If it holds, we are ready to try the mid term debrief when there is time next week.

We tag up with the SSC team on OCA, and discuss the 5A network transition. One of the key items will be adequate hardware for network wiring. We do a quick inventory after the videocon and we have (roughly):

- 2 X 25 feet coax
- 4 X 3 feet coax
- a few "T" connectors

We would like to ask that 5A show up with enough gear so that we end up with at least the following spares, which will be above the 5A outfitting requirements:

- 3 spare hard drives—3 GB or bigger
- 3 spare network dongles and cards—we have no working spares left
- 3 spare PC card extenders—we are finding that every laptop needs these
- more spare coax—at least--
- 2 X 25 feet
- 4 X 10 feet or 4X 6 feet
- 6 X 3 feet
- 10 each of the T, Coupler, and Terminator connectors

Missed a whole comm. pass over White Sands . We need to get the timex watches working so we don't overlook these calls.

We took the 13th day of JASON photos and put them in the usual OCA-down folder. We think we are supposed to have one more day of photography on this—so we are leaving everything set up.

Sergei was on the TVI S, and this seemed like a good time to shoot photos of the SLD cable that we thought had some wear to it. 3 photos taken and sent down in the Checs folder tonight. Photos 240 and 250 are left cable, 260 is right. We thought there was a small flaw in the sheath on the left cable but it turns out that it is some kind of paint or marking. There is nothing wrong with the cable. We looked at the right cable and it has a smaller but similar mark, and is otherwise normal.

We watched the last ½ of "As Good As I t Gets" and called it a day.

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 17 JAN

Hematocrit day. We get to draw a small amount of blood and fill up the little tubes. The small centrifuge rig is kind of neat.

"World Map" is back on the equator again. We talk to Houston about it. We are somewhat baffled, as the tabular data for the state vector says we should be in a 51 degree orbit.

Took the CMG data with SSC 3 in the Node. The DAT/PASS software worked fine. Data below.

We are talking over breakfast about the work that we will have in front of us between lab arrival and before we depart on 5A.1. This period will include moving the Soyuz and docking, unloading, and undocking the next Progress. It looks like we will be very busy. Sergei says the last part of the flight is always busy.

[REDACTED MATERIAL - 16 lines]

Checked the TVI S box temps during exercise today—Electric box temp 95.6
Motor temp—96.0.

Yuri changes out the conservant container for ANO. We have questions for OOI about hooking up the hoses, and Yuri talks to the ground for 2 passes on this.

First thing after lunch, we have a press conference on OCA. The audio for the onboard system is back in business. Houston says the voice quality is good, and we do three interviews with reporters .

We have asked OOI earlier about taking off connectors and cables from the KURS radar installation in Progress. These might come in handy for troubleshooting other equipment later. We get the go to take a few of these out. Sergei and Yuri are working in the Progress to identify the right cables and take them off. We had asked for the RT-50 breakout box to be included in our IFM gear before flight, but this was not made available. We just don't like throwing things away that we might need later.

Shep in the Node doing the JASON photography. The photos are coming out better with the lighting scheme we are using—also manual focus is much more consistent on the plastic pouches. Photo shooting and downloading is still taking 50-60 minutes depending on how things go.

Everyone used the IRED today. We did the weekly inspection. Cords and fittings look OK on the canisters. We have some minor fraying on one of the cords on the shoulder harness, but the fraying is just on the white serving thread which is on one of the thimbles—its not in the load path. We will grey tape this if necessary.

We have some scraping noise on the forward canister at loads above "8" and near maximum cord extension. We plan on taking this canister off and inspecting the cord and thimble—maybe tomorrow. We have had this noise once before when the internal thimble was out of position.

As 5A is now delayed, we would like to request the "timex" watch software if it is available on the ground—a file that can be uplinked to us. This will help us manage our day as we can load comm. passes into the watches.

We have the new form 24 onboard and are glad to see all the time tomorrow for IMS. We will use it.

DATA

CMG Data. Read data words 1/5/6/8/9/11 for each CMG:

CMG 1 incrementing/0404/0510/25F3/2657/0252
CMG2 incrementing/0404/0510/33DB/3427/023E
CMG3 incrementing/0204/0510/24CF/2421/OA67
CMG4 incrementing/0404/0510/21A6/2194/023E

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 16 JAN

Got the word that Atlantis is delayed several weeks. Lab delay is critical as we are running out of movies that we have not watched. We will have to start the shipboard routine where we turn the sound down and everyone mouths the words, cause we know them so well. We will, however, have more time to get ready for all the lab activation and installation jobs, and we might even have the IMS sorted out by the time Atlantis docks.

We crank up the body mass measuring rig to get the numbers for each crew. Getting this set up is sort of an art—Yuri has got it down, however, and once it is running right, this takes about 2 minutes to do.

First systems thing today is to put ÁÌ Ì in regeneration mode.

Shep and Yuri were scheduled to unload PMA 3, but this has been cancelled as a result of the 5A changes. Shep and Yuri given the a.m. to work inventory. Yuri starts in on the database with a large pile of notes.

We decide today would be a good time to fix the OCA headset cable, as the appearance of a replacement unit has just moved right a few weeks. Shep and Sergei pull out the scopemeter and start checking the continuity on the connector pins. The diagram in the OCA message is a big help.

We find fairly quickly that the "sleeve" wire does not connect between both ends of the cable on the leg to the microphone jack. We cut the wiring and do a check again, and isolate the problem to the end with the 1/8" plug, which fortunately, is right where we made the cut. Tried to take the plug apart, but this was all glued together. We pulled the wiring off a set of Sony CD speakers to get another jack that would fit the back of the laptop. We stripped and spliced the wire, which was very fine—24, maybe 26 gauge. We don't want to use our few butt splices for this, and the wires are too fine anyway, so we pull out the soldering iron to see how that works.

First problem is that we can't plug the iron in. Plugs are Mir-style, and apparently the sockets in the SM are different (more leads). So we do another IFM to hook the iron up. Then the little soldering tube on the end won't fit the iron—it's the wrong size. So out comes the Contingency Clamp Kit and we safety wire the tube to the end of the iron. It works. We tin the leads, put some tubing on them and insulate with electric tape. (The Russian side did provide this, and it does work.) We get the cable hooked up, and do a mike check. We have an OCA hookup with the Chief Astronaut and the system is working. That's

the good news. Bad news is that we now have another failure—looks like the earphone cable is bad—maybe the same type of wire-connector failure. Today's IFM took us maybe 3 ½ hours. But the external laptop speakers are working and we have the OCA comm. link back.

In all, we have recently experienced—a scopemeter we can't recharge because we can't plug it in, a soldering iron which has the wrong size tips, which we can't plug in either, a vise we can't use because it's still on the ground, and "rivnuts" we can't use because we don't have the right drill bits. Not to mention a workbench that's still on the ground somewhere too. We are enjoying finding all these "surprises" particularly before we would need these tools to do something critical. It would be nice, however, just to be able to pull these things out and start using them. We would like to encourage a better process to integrate and check this gear before we see it.

We also need to expand the "pin kit" to include Russian-size pins and sockets, and more wire splicing gear. The kit is very useful as is, but it is stocked for a short Shuttle flight, and we need higher quantities of consumables like butt splice connectors. (We only have 4 each of 2 sizes--one IFM could use them all and then some). We also need wire and connectors to make up our own cables as required—we can not rely on Shuttle or Progress to bring us cables from the ground on short notice.

[REDACTED MATERIAL - 4 lines]

Checked the TEPC and call down data is listed in the section below.

We all get some exercise in—TVIS weekly maintenance check is normal.

Houston calls early p.m. with a request for the current plug-in-plan for Node 1. Plan as follows—UOP 2 users are alternately connected and disconnected as required:

SSC 3	RFPDB
FPP	UOP 2
CBCS	UOP2
MACE	UOP2
IMAX	UOP2 (photoflood used for JASON photos)
BCR	28v. cable from FGB. Used for BCR batch files and recharge.

Strange tools used on ALPHA today: Russian scopemeter, soldering iron, clamp and bracket kit, pin kit, black vinyl electric tape (good stuff). Plus the usual leathermans, large vise grips, impact tool, SEAL knives, etc.

DATA

TEPC call down data—read columns per Med Ops book pg 458:

16JAN/18:01:17/0.010/26.25/1908/1/98/99/0.176/91.74/OE

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 15 JAN

0648 First comm. with Moscow, and Houston wants to pass us some word. Something is always up when Houston needs to talk this early. We get some words on the PMA 2 ingress and a change to the mid-term debrief plan for OCA today.

First work of the day has Shep and Sergei scheduled to start putting I MAX gear together, but we decide to put this off until later. We work on pulling the I RED platform loose from the Node overhead and getting access to the Z-1 standoff so that we can extract the SAFER rigs. We move the I RED baseplate out and pull the SAFER CTB down. We open the PMA 3 hatch and swap the SAFERS for a 3.0 CTB of Orlan spares. We are trying to avoid having to pull the I RED again this expedition, unless of course, we need the Orlan spares. Job takes just over 2 hours.

We also open up panel S3 in the Node, and take out the HEPA filter bag. We undo 5 straps that could pull large pickups, and a bag which could hold about 2 real unhappy bobcats. All for 4 filters. We see what look to be spare IMV valves also tucked away in this location, and we are wondering if these will be needed any time soon as part of the upcoming reconfigurations.

Shep read the WMK water samples, all looked ok. Data partially entered into the MEC, but the data page went into a loop 2 or 3 times when the "date" field was entered incorrectly. If the format was not what the application wanted, it put you into a loop where the only apparent way out was to close the program. Gave up on this after a while and decided to send the data down on mail. See data field below.

Server was backed up per schedule. No problems, although we are receiving messages when we log into the server that the "register" is full. Occasionally, the clients on the net are running slowly, especially with IMS pages. Responses for IMS inquiries today on Yuri's SSC1 were slow enough to be unusable.

Yuri got some good cargo loading done in the Progress, with Shep and Sergei passing things to be stuffed in there. All of the heavy items are stowed. We still have a lot of light trash—paper, clothes, foam, etc. to put in.

Kurs radar set is packed and bagged (one 3.0 CTB and one 1.0 CTB) and in the Node looking for a ride home. We understand that 5A.1 will probably take this.

[REDACTED MATERIAL - 9 lines]

1430 We get the "go" to do PMA 2 ingress. We open the depress display so we can watch for any anomaly. (We also want to see the graphing capability work). Opening the MPEV starts a substantial flow. Station drops to 750 and then 745 mm, about what was predicted. We open the hatch and PMA 2 is very warm inside. CPA's are warm as well. Everything inside is significantly warmer than the rest of station, and the Node is rather hot right now. We go right at the duct clamps and pull the duct out so the latch test can begin. The whole interference with the latch arm looks to be a design problem. There really isn't any good way to rig the duct without having it very close to the latch arc. The rubber duct section is stowed in the Node. Houston cycles the latch, and it looks normal. We close the PMA 2 hatch. (Had 4 hatches open in the Node today—we think that will be a record for a while.)

Yuri and Sergei are setting up to change a thermal system pump package on FGB as the PMA ingress is starting. "Ó" wants the old pump package put in Progress. Yuri's "leatherman" gets a workout on the pump fittings.

After the PMA ingress, we put things back together in the Node and started to rig the CBCS camera system for a check. We could not find one of the video cables for about a half hour until Sergei remembered that we had used it for the OCA hookup for TV from Progress. CBCS powered up and looks sOK on the laptop display.

In between the action in the Node today, we got the JASON experiment photos shot and sent down. Now that we know better how to do this, it is going more quickly—50 minutes or so.

We each got a run in and some time in the "weight room". Ate dinner and watched the first disk of "Dr. Strangelove."

[REDACTED MATERIAL -- 9 lines]

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 12 JAN

0650 Got the news in the Ops summary and during the comm. pass that we are going to delay the PMA 2 entry. Ground to send some commanding starting about 0830 and we are to observe latch action through the hatch window. We are 100% sure the duct is going to be in the way—and it looks well strapped down. We have breakfast and try some more OCA troubleshooting.

We rig the XL-1 video camera for audio feed to the OCA laptop per the ops note. First OCA pass with Houston we give it a try, and it is working. Apparently the audio quality is good—maybe better than the VLHS headset mike we were using. Did not get a chance today to electrically check the suspect cable. We will look at this over the weekend.

0830 Sergei at the Node forward hatch, observing and trying to get some video of the latch. Shep on comm. with Houston. We see latch arm #2 retract out of sight (aft) and then extend, touch the duct, and stop—exactly the same position as before, with contact right on the duct. The other latches are cycled later and all look normal. We could not get a good view with the video camera—and we are standing by for more ingress words.

Yuri and Sergei start installing IÖÄÄ 3, which is down in the “bilge” alongside the velo ergometer. Impact driver is in action. (We use this thing every day).

Missed another Earth Obs site this a.m. at 10:13. Our ground track was at least 10 minutes ahead of this callout on our form 24.

Shep in the Node reading the microbial water samples. ÑDÄÊ hot and cold samples look normal.

[REDACTED MATERIAL - 4 lines]

Had a partially successful PAO event at 15:10. Uplink audio from one of the 3 participants was unreadable, and we kept asking for repeats of the questions voiced up. The second and third contacts were good, and we are glad to see that OCA is hanging in there on the station end.

Had a good discussion also on OCA with Marsha Ivins about the 5A gear transfer, and what order the shuttle crew needs things from us. We are feeling like we are in good hands here.

The crew got a run in and a session in the “sport hall”. TVI S and IRED both working normally.

We watched the last half of “In-Laws” with Peter Falk and got on the email.

-----END OF LOG ENTRY-----

Dumai, proporshik, dumai! (Sergei's joke). Latch retracted and then extended to the duct, made contact and stopped. Position identical as before. 3 latches in same position. Latch #2 is as before with contact directly on the rubber duct.

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 11 JAN

0615 Vampire day. The "reflotron" is out on the Service Module deck. We each take turns with the little finger jabber and squeeze out blood samples for the analyzer. Sergei gets to run all of the chem. strips through the machine, which is going to take all morning. We hit the coffee locker after the blood work, although the locker is getting somewhat bare. Eagerly anticipating an "UNREP" from the 5A crew.

Today is also CKB-2 thermal insulation day. Apparently ÖÖÍ is planning on running the thermal loop somewhat colder in the future, so although the airconditioning unit is not condensing on its exterior now, it may start doing so soon when it gets better heat exchange. Yuri's working making a thermal blanket for the compressor. Shep helps with the design and layout work. We have a little marlinspike seamanship session with the sail palms and needles. We start stitching up a blanket from cargo bag material. CTB serial 2992-1J won't be making the trip home, having given 100% for the program today. Sergei and Yuri do the final fitting, and cover the blanket with metal foil tape. We take a few pictures for the OCA-down\Dcs\Skv2 folder tonight. Yuri says he's ready for a day job as sailmaker.

This was a very good project for us, as it was one of those unstructured things that we could all contribute to. We learned a lot.

Shep does the CMG data take in the Node with the laptop. All interactions looked normal. Data recorded below.

Shep worked the OCA comm. problem for the bulk of the morning and into the afternoon. Tried all the steps that were on the troubleshooting message and a few that weren't. Software was reloaded, expansion chassis swapped, spare headset tested, etc. Audio was still bad. We were trying to find a spare microphone which could be hooked up to the OCA

which would localize the comm. problem. We don't have any other microphone onboard which has a compatible jack or connector, so we try hooking up a set of earphones to the mic jack. Talking into the speakers seems to drive the test lights on the audio input display. We try a test a bit later with Houston, and though we are broadcasting somewhat "backwards" through the gear, it works. We think it's "causality"-- we also think the VLHS/Video Teleconf. cable is bad. (SED 16102919-301)

We got on the TVI S today and tried 2 sets of bungees (4 total) on the SLD's. This worked well, TVI S was fine, and we were able to load the treadmill above 70kgs. Although Sergei does not need to do this because of his height, the elongation of the single bungees on his settings is substantial. Running with more bungees looks a lot more serviceable.

This evening, Sergei and Shep rig some alternative lighting and change the compensation on the DCS 460 camera. We have had lots of reflection problems in photographing the seed growth experiment through clear plastic wrappers. We finally have some JASON photos that we're happy with, and these are in tonight's OCA-down folder

Strange tools used on ALPHA today—

sail palm and needle (for the airconditioner blanket)
diamond hone (smoothed up galling on the heel block pins for I RED.)

All in all, we had a busy day, trying to anticipate the ground's next call on troubleshooting. We are thoroughly enjoying the "Mr. Wizard" lessons.

Data

CMG status—read data words 1/5/6/8/9/11 for each CMG

CMG 1: incrementing/2404/0510/26FB/2673/0A7B

CMG2: incrementing/0404/0510/3300/332A/0248

CMG3: incrementing/0404/0510/2347/22AC/023E

CMG4: incrementing/2404/0510/27F0/27A4/0A67

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-M

MCC-H
HSG-M

SHIP'S LOG 10 JAN

600 Up early this a.m.

[REDACTED MATERIAL - 6 lines]

Started the water sampling. 2 procedures, 16 pages, changes via OCA (2 sets) and a CAPCOM call with more info. Basically take the 3 water outlets onboard, clean them, run some flush water, and put water in 5 sample bags. Just understanding all the instructions requires 40 minutes. We wish there was a way to make this simpler— recommend going to a more graphic presentation of how to set up the equipment. Water samples were transferred to the microbial devices and are now incubating in the Node.

Sergei and Yuri are checking a cable run for a satellite comm. system to be installed in the SM sometime TBD.

We finish putting insulation on the suction line for the air conditioner, CKB-2. This line was making about 50cc's of condensate water every day, and we were tiring of having to mop it up. We used foam insulation cut out of a CTB divider (about 3/8"), wrapped on the piping. Although a bit thick for the task, the foam does a good job of keeping the line cold and we now have only a few small drops on a control valve which is bare metal.

Shep working some IMS issues with the WMK and WSA water kits. The WSA lives inside a single CTB, and is itself a full bag of subpacks. The CTB and the WSA kit each have barcodes that are different, but the database only reflects the WSA's barcode, and does not "show" that it is really a kit inside a 1.0 CTB. Spent about 20 minutes cleaning that data up, emptied the CTB for return, and put the WSA kit back in its stowage location.

[REDACTED MATERIAL - 12 lines]

After lunch, Shep was getting a late start on the CSA-CP gas analyzer, when CAPCOM calls. Houston has a priority request to take down the berthing camera and look through the Node forward hatch at one of the latches for the forward CBM. Apparently the latch did not travel its full run when tested. We move a bunch of bags off of the Node D1 area and remove the camera. We can see latches 1 and 2 in different positions, and the #2 latch is right up against some red rubber ductwork. We tell ground what we are looking at and have some brief discussion about going in PMA 2 to fix. Looking at this some more in the early evening, we think the best short term solution will be to unfasten and remove the section of duct that is in the way.

CSA-CP prime and backup units recalibrated, but did not have time to do the MEC data downloads.

Everyone gets a turn in on the TVI S. We are learning more and more. Sergei notes that the eyes for the cables on the Subject Load Devices are pulled right down to the pulley wheels when Shep is on the treadmill. It turns out that if you set the load at anything above about 65-70 kg, the cables get pulled all the way to mechanical contact with the pulley, and load to the user will not increase. We thought we had been using the TVI S at considerably higher forces, but apparently this is not the case. We all have our harnesses "two-blocked" (pulled all the way up) and the adjustment still is not right. We think the best short term solution is to marry 2 sets of bungees on each side to increase the stiffness of the restraints.

Did the temperature checks on TVI S—Electrical box 93 deg, motor temp 88.6.

We hear late in the day that Moscow plans on bringing the Kurs radar set home on Shuttle flight 5A.1. More gear in the attic.

[REDACTED MATERIAL - 5 lines]

Ate dinner and we finished watching "Catch 22".

-----END OF LOG ENTRY-----

FROM : ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 09 JAN

Yuri and Sergei start the morning with the Soyuz data file and a bunch of self-study on deorbit procedures. We have 2 comm passes to discuss with our Soyuz instructor.

Shep starts the day with Audio Dosimeter troubleshooting to prepare for spot checks and hearing assessments later in the day. Got a bit tripped up at the outset, as it was not clear that the OCA message was a new procedure. Hunted around the Med Ops Book for the "old" procedure, but couldn't find one. There is definitely more of a tendency on a computer to read things one screen at a time, Details which would have explained this were on the following page. This is just something we will have to be conscious of as we are using procedures (and writing them). Additionally, a way to highlight that this is a new procedure would be most helpful.

Both audio dosimeters' batteries checked out "OK" but both read "UFL" in the SLM mode, which we interpreted as no-go. Talked to Houston and relayed that we think the dosimeters are failed.

Shep wrote down the TEPC numbers and moved the TEPC to SM panel 110, where it was initially located in Nov. TEPC running normally. Data is recorded in the section below.

Shep and Sergei spend about 1 ½ hours in the Node doing the MACE troubleshooting. The entire MACE connector configuration is photographed and files sent to the ground. We take the MACE unit apart piece by piece and check connectors, and reassemble. Several times we did the MACE activation procedure thinking we might have changed something, and we still have the “missing gimbal” signals problem. We are stuck in step 1 of the recovery plan and we wait to talk to Houston.

Sergei and Shep get on the TVIS in sequence. Did the weekly maintenance cable check during the workouts, but missed the temperature data. We will get that tomorrow. TVIS is functioning normally.

Shep took the hearing assessment with the MEC and the EarQ software, even though the acoustic dosimeter was not working. Initially the test was not working, but found that the trouble was isolated to a “prophonics” set of searpieces. Swapped to the backup set and did the test, which should be logged in the MEC.

Houston comes back in the afternoon and recommends redoing the acoustic dosimeter troubleshooting with OCA message 922. We do this, and get the same results. We also check the Lav/Lequ mode. The readings on both dosimeters is 00.0 dB after several minutes. We discuss again with Houston and receive the recommendation to defer the acoustic survey and the rest of the assessment tests.

Late afternoon, we took another set of “Jason” photos on the plant growth experiment. We really appreciate the added time in the plan to do this. Even today, with lots of hands-on here, the photography and downloading took longer than scheduled, as we had to reshoot a few frames which looked good on camera but were not OK when we viewed the files.

We were unable to get any more troubleshooting in on the MACE. Standing by for a new schedule.

We have been using OSTPV onboard and it is definitely useful, but we are experiencing occasional slow to very slow performance. We are wondering if the server is at capacity handling all the client services now, particularly with world map, IMS, and OSTPV sometimes all running simultaneously.

Early evening--we are discussing the Russian gear that will be downloaded to 5A with Moscow. The large Kurs docking radar set which was removed from Progress does not seem to be on any of the planning “radar screens” to return on Shuttle. We need words on this ASAP if it is not going to be sent down.

We call it a day, get some chow, and watch the first part of “Catch 22”.

Data from today—

TEPC calldown—read categories per page 458 of Med Ops:

09JAN/09:47:40/0.002/27.98/3038/1/40/41/.009/114.63/0E

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 08 JAN 01

Up at the usual zero-6-something. IMS-Day. Talking to Moscow and looking at the overnight mail and execute package. The browser is working well, and this is a much more convenient system for finding things than doing it on paper. Searches on the messages onboard folder could be better, but it is workable. A keyword search feature here would be most useful.

Trying to print out the OCA messages about the IMS details. Printer is still acting up and printing half pages. We have been feeding it strange paper, (green) and wonder if that has offended it. We try the reboot technique sent up from the ground, and that seems to help for a while. Then the printer goes back to its old ways. We would still like to know how to change permissions so that the client SSC's can cancel print jobs in the print queue—we are still blocked from doing this.

[REDACTED MATERIAL - 13 lines]

Yuri and Sergei spend the entire day plowing through just some of the consumables onboard—towels, ÅÄÅ's ÊÏ's and all the salftkies. We got through less than ½ of what we expected to accomplish today. We discuss this with specialists in Houston at the end of the workday, and we agree that we could use another IMS day soon, preferably before 5A. We briefly discuss how we are going to make sure that procedures incorporate the most recent gear moves, name changes, etc.

[REDACTED MATERIAL - 4 lines]

We also talked about the bar code reader, and we now have figured out how to toggle the one stuck in RF mode. The BCR's however, have very limited battery life. Just sitting on the wall charged but unused, they can go dead in less than 1 day. We discuss whether this might be a battery conditioning problem.

End the day with some JASON photos of the plant growth experiment. Getting the shots to look right with the plastic foil pouches and their reflections has turned out to be harder than it might seem. We promise we will get better at this.

Our quote for the day (inspired by our IMS adventures):

"Thank you, sir, may I please have another!"

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 06 JAN 01

Got up late (for us). First comm. pass 0830. Houston wants the server rebooted so we go do that. Pretty light schedule for the day. We all get caught up on email and the many questions sent our way we have not had time to answer. We are all probably at the keyboard 3-4 hours each today.

Looking out the window, our new YVV attitude is a change of pace. Our world map state vector seems to be lagging about 5 minutes behind our position, but the track looks about right.

We all get in a run on the TVIS—ops normal. We know we still owe some TVIS questionnaire info—we'll try to get to this.

After lunch—the "full" light comes on in the head. We pull out the full container and make ready a new one. We also notice on the cycle counter that we have just crossed the 1,000 "traps" mark with the "Y". Yuri says this always the halfway point on a mission. We decide this should be a new Astronaut Office patch.

We do the photo documentation for the JASON seed growth experiment. JPEG images are located in the Oca-down\DCS\Jason folder. Had a lot of reflection off the plastic wrappers and the autofocus kept jumping around. We will try and improve this for subsequent shots. Shooting and downloading files is taking about 70 minutes total. Form 24 has 20 minutes scheduled on the plan. Just moving files off the PC card probably takes 30-40 minutes. We are happy to do this—just would like to see the plan give us more time here.

We asked about a battery tester on our last logistic request. We would like to know more about whether we can reliably use the scopemeter for checking batteries. We're not sure how to do this, as we think the battery has to be measured under load to indicate its

charge. Plan B is to just stick the battery in the nearest flashlight and see how bright it is. Any more scopemeter words on this would be useful.

Finished the day with more email and watched "The Rock".

Quote of the day (from us)---

"Put some more engine on this thing and send up that Mars vector"

-----END OF LOG ENTRY -----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 05 JAN

More Orlan work today. Yuri and Sergei are getting ready to finish the last parts of the suit checkouts. Bio instrumentation needs to be checked, as well as the "Corona" antenna units which are to be placed in the "OT". Two suits moving around in the transfer "otsek" are pretty bulky, but not as tight as the pool simulations seemed in the hydro lab.

Shep gets started to take data from the CMG's using the DAT hard drive and SSC 3. The form 24 pointed us at the full and rather lengthy CMG activation and checkout. Ground quickly got on top of that one and made sure we were on the correct OCA message. Procedure to check data is much shorter and we are now very familiar with it. Data take was quick and the results listed below in data entry. FPP experiment restarted at the conclusion of the CMG work.

Yuri, Sergei finish up with Orlan checkouts. Orlans and spares, kits, and checkout gear restowed in PMA 3. No moisture inside, air temperature seemed 2-3 deg C warmer than Node.

The crew would like to thank the entire Thermal Control Group/Thor for bringing down the temperature in the Node—it is much more livable in there now.

Sergei shoots video of the insulation on the cover of illuminator 9. The outer layer of MLI-like insulation has some tears on it. Ground wants to see what this looks like.

[REDACTED MATERIAL - 18 lines]

The crew did a 25 minute PAO event with Fox network and a Los Angeles radio station. The OCA comm. went well. We were asked to give a traffic report on the San Diego freeway, but

this was kind of hard as we were over the Indian Ocean at the time. We could use a little more heads up on whether video down will be part of the event. We were not sure about this today for the first news contact.

Shep and Sergei set up the JASON plant growth experiment in the Node. The plant samples which are to be light-exposed are now decorating the quarterdeck. We were checking the seed types in the hope one might be "palm tree". Digital photos were JPEG'd and will be sent down in new folder OCA down\DCS\Jason. We could use a few more PAO words on what is planned regarding interaction during the JASON expedition—we are ready to talk to some Argonauts.

Missed the 1630 GMT Earth Obs site. Ground was in darkness and we are still wondering if we are in sync with the Earth Obs group on state vectors. Sergei points out this may affect the analysis of archived shots if we are not logging the same vector information.

2034 We do a second ham radio school pass with Armstrong School in Hampton Va. It took us about ½ the pass to get hooked up, but we did get about 8 good questions from students. One question was about whether you can ingest food the same way in orbit, or whether it moves differently in your stomach. We said that it does feel different, but that you get used to it. (Over to the docs on the real answer, and send that student to med school).

Finished the 2nd disk of "2010". Something strange about watching a movie about a space expedition when you're actually on a space expedition.

DATA:

Words from the CMG Data take—read status words 1/5/6/8/9/11 for each CMG—

1. CMG 1---incrementing/0404/0510/22C7/2335/0252
2. CMG 2—incrementing/2404/0510/2485/2545/0A5D
3. CMG 3—incrementing/0404/0510/2018/1F9A/023E
4. CMG 4---incrementing/0404/0510/2419/2407/023E

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 04 JAN

0600 Right after getting up, noticed that the MEC finished its TEPC download at 0500 (this download was started 1600 the day before-and estimated at 4 hours.) Confirmed MEC had the data in the correct downlink file. Forgot that the network card was disconnected so that the TEPC could talk through the MEC 232 port without interruption. Ground passed word to us after lunch that MEC was not on the net and we reset the card. Hopefully TEPC data got to the ground. TEPC powered and back online in its previous location.

We did the time update on the SSC file server. When the server time was reset using the clock icon from the system tray, the "apply" button was used. (procedure did say use the "OK" button) This put the update program in some type of loop which we could not get out of. Had to shut down the server and restart. When the server came back up, correct time was resident. We don't know if this is a one-time anomaly or there is some problem here. Went ahead and broadcast the new time to the network.

Yuri and Sergei unload the Orlan suits and spare parts from PMA 3. We all spend about 2 hours in the Node between arranging suits and equipment and setting up the MACE gear. Orlans were moved to the " " which freed up enough space in the Node for MACE to run. But the suit work in " " also blocks access to the Service Module for much of the day. It would have also been an excellent training opportunity for Shep to review the suit maintenance steps, and electrical, cooling, and pressure checks that Yuri and Sergei were doing. We make a mental note that when we work on the suits, we should just not have a lot of other things on the schedule.

Yuri and Sergei do their periodic fitness assessment on TVIS. We think this would be much simpler to execute if we were given integer values for the treadmill speeds. We have to change these speeds by keyboard input, and doing this on the fly is awkward as it is. We don't know the Russian acronym for "KISS".

[REDACTED MATERIAL - 10 lines]

. We discuss logistics—apparently 50Kg. of office supplies for Exp-2 are coming up on the next Progress. We have a lot of office-type material onboard which should be available for subsequent expeditions. Apparently the big-picture plan is a bag-for bag swap. We have consolidated some items in one central location—printer paper, batteries, Ziploc bags as examples. We think some type of inventory is the way we should manage this long term vice doing bag swaps.

[REDACTED MATERIAL - 16 lines]

Got the MPV files unzipped and updated on the server using the 4AODF CD-ROM. No problems with the procedure.

1900 Sergei and Yuri still working on the suits. One Orlan pressure checked, but the second suit still to go. A lot of the planning for the day's work has just been unrealistic. Plan had 10 minutes to pressure check the suits. Sergei and Yuri need about 30 minutes on each suit doing this, and this does not count a lot of setup time to get ready for this step. Quick break for chow, and we talk to ÖÖÏ about the schedule. We should have set aside 2 days to do this.

We joke with Glavni about the "super new" revision we have for tomorrow's form 24, but it has been a very full day for Yuri and Sergei (about 13 hours of work)—plus the second day in a row they do not get IRED time in their schedule.

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
 MCC-M
 HSG-M

SHIP'S LOG 03 JAN

Up at the usual "crack of dawn". We are orbiting where we get continuous light now, so "dawn" doesn't really apply to us. Kind of like being above the Arctic Circle with the Sun right on the horizon. Sergei and Yuri have ÑÏÐÓ set ups this a.m. with lots of medical equipment out on the SM bulkhead. No coffee until the blood draws are done. Shep thought at first ÑÏÐÓ meant "squid" in English, but was relieved to learn it's "octopus". We warm up and test the coffee pot.

[REDACTED MATERIAL - 7 lines]

Shep checked the CO2 levels in Node, FGB, and SM. Data below in lines 1,2,3. All values consistent and look acceptable.

Did the TEPC data take and logging—this listed below as data line 4.

In between other jobs, Shep worked the Node and finished organizing the hardware for the MACE work on Thursday. MACE is going to be located in the P2 area inboard of the port hatch. Subsequent setup and stowage time between runs should be minimal.

Got word from the IRED engineers regarding the loose handle on the IRED canister. Popped the handle off and got some pliers on the right nut, and the handle is now back in its original position. IRED checks were normal. One small problem—the pin holding the collar and shackle together on the canister line can't be adequately checked, as this is covered with a serial number label. We figure the pin isn't going anywhere with the label on.

Did the TVIS monthly and the weekly maintenance checks. Did a time reset, was about 4 minutes off. Temps for electricians were 95.6 degrees, and for the motor 89.1 degrees. We

will have to get to the answers for the TVIS questions tomorrow. The explanations are a bit lengthy, and just did not get them done today.

Sergei and Yuri finish the battery checks. We could probably have done this better using the scopemeter special function to check diodes, as that's what we think we were doing, but again, we need a little more info on the scopemeter's capabilities to be fully ready. ÖÖİ decides we have a bad İÖÄÄ.

Backed up the file server after lunch. Learned that when we pull the PC card now being used with the server for more memory, it loses the "sharing" property when it leaves and this has to be redone when it is reinserted. Backup was normal, and is going much faster now that we leave the server configured with the card extender. We just wish they were not so flimsy.

Next job for the scopemeter today is a check of a circuit for the fuel system compressor. Sergei and Yuri are reaching way back behind SM 338 to get to the connectors, and it's pretty much mission impossible. Out comes the impact driver, and we take off a bunch of ductwork above SM 245. This would have been a 1 hour job by hand and with power tools, its maybe 15 minutes. We are right on top of the required box. Scopemeter says the connectors are OK and ground thinks that we have a blown fuse in the line.

Shep has to wait a bit to get at the medical computer (MEC) as we are all trying to work in the same area. Ran through the setup procedure per OCA 573B and MEC comm. port is in the correct config. We think we did this port config about 4 weeks ago after some troubleshooting for the polar watch. Anyway, no changes were required, and hooked up the TEPC for a comm. check. At first, the TEPC and MEC did a handshake, and TEPC kept dropping off after 35 seconds. Finally got the download program to run, and TEPC has been downloading for 6+ hours and is still going. More words tomorrow.

Finished the day discussing IMS with specialists in Houston. We think we can help the process by quickly reviewing the intended changes for the data base that are generated on the ground. This will help to preclude some of the previous disconnects we have seen. We don't intend that this become SOP, only that we need to do this in the short term to get the data somewhat stable and reliable. We talk some other issues regarding inputs and bar coding. We are definitely making progress, and we still feel that the IMS is the way to go- we just have to stay on it.

Finished the day with the first disk of "2010". We note that the movie opens with a recounting of "Ship's Log" from the previous mission (2001).

DATA:

1. CO2 readings—Node fwd, mid, aft all .37
2. FGB fwd .37 mid .38 aft .37
3. SM fwd .37 mid .38 aft .38

4. TEPC call down (data as per pg 458 Med Ops)

03 Jan/13:51:05/0.003/0.78/136/1/414/415/0.005/4.56/0E

-----END OF LOG ENTRY-----

FROM: ALPHA

TO: MCC-H
MCC-M
HSG-M

SHIP'S LOG 02 JAN

We're up at the usual 0630 for first comm. with Moscow at 0640. We do the lower leg measurements and the body mass calculations right after comm. We have been chowing down pretty well, and the mass numbers reflect that. Everybody is very close to what was recorded preflight.

Yuri and Sergei are unloading food containers from the stowage pantry in the SM. We are eating virtually all the Russian chow, and somewhat less US stuff—maybe 75%. We spend about 30 minutes pulling out the uneaten tomatoes and eggplant, vanilla breakfast drinks, crackers, condiment packages, and dozens of drinking water containers, and bagging them. The food boxes get stacked in the passageway of the FGB and new containers are stowed in the pantry. The empty boxes will be filled with small wet trash bags and put in Progress soon.

[REDACTED MATERIAL - 62 lines]

By 1800, the Node is organized, database is correct for things we worked with today in the Node, and we have lots of room to do MACE experiments. MACE is now located on NOD1 D1. Unpacked some of the hardware and started assembly but decided the logistics work had to get done first. Knocked off at 1820 for some PT.

For the interest of the engineers, we took out the scopemeter and made some temperature readings. Bulk air temp in the Node today (1600) was 88 deg F. It feels just like Houston.

Temp directly on the skin of the PMA, at the cargo net, approx 16" up from APAS was 95.2 deg F.

Yuri and Sergei, between several filter change outs in SM, worked the database all day as well. Sergei and Shep consulted several times during the day reviewing gear that had been transferred from 4A. We are definitely struggling with IMS, logistics and the database, but all very determined to rope this thing to the ground and make it work. Late in the day we ask Houston for a time out tomorrow so we can discuss on OCA how we are going to better control the data in and out of the database—this is key.

Watched the last ½ of "2001" and called it a day.

FOR MEDIA RELEASE—ASAP

In longstanding naval tradition, the first entry in a ship's log for the New Year is always recorded in prose. We would like to share with all the entry being made in the log tonight as "Alpha" salutes the New Year—

SHIP'S LOG 001 01-JAN-2001

We sail onboard space station "Alpha"
Orbiting high above Earth, still in night
Traveling our destined journey
beyond realm of sea voyage or flight

A first New Year is upon us

Eight strikes on the bell now as one
The globe spins below on its motion
Counting the last thousand years done.

15 midnights to this night in orbit
A clockwork not of earthly pace
Our day with different meaning now
In this, a new age and place

We move with a speed and time
Past that which human hands can tell
Computers programmed—like boxes
Where only thoughts' shadows dwell

"Central post" our ship's bridge aboard
Screens dancing shapes in pale glow
We guide her course by electronic pulse
In figures no compass could show

Our panels set as sails to the Sun
With wake not ever seen but there
Only gyros feel the silent tugs
Wisps, swirls of such ocean rare

On this ship's deck sits no helm now
Rudder, sheet, and rig long since gone
But here still-- a pull to go places
Beyond lines where sky meets the dawn

Though star trackers mark Altair and Vega
Same as mariners eyed long ago
We are still as wayfinders of knowledge
Seeking new things that mankind shall know.

We commend to crews that will follow
Merit of the good ship we sail
Let Sun shine strong on Alpha's wings
A symbol, and bright star we long hail