CC-H   Apollo, Houston. I - looking at the flight plan
here, I know that Deke's busy there with the mapping pass from both sides
thing, but we need, if we can go ahead and get that battery Bravo on
CHARGE. If somebody has got time to go ahead and put it on CHARGE, we'd
appreciate it.

DMP   Crip, that just amplified more about my previous comments.
With drogues and probes in here and one person on the center couch, you
can't even move from one side to the other in here.

CC-H   Okay. We copy that. Fine.

MCC-M   (- - this is Moscow.)

MCC-M   (Soyuz, this is Moscow.)

MCC-M   (Soyuz. Soyuz. This is Moscow.)

MCC-M   (Soyuz. This is Moscow.)

END OF TAPE

USSR   (Moscow, Soyuz. I hear you well. How do you read me?)
MCC-M   (I hear you well.)
USSR   (We were just eating breakfast. That's why we do not
answer.)
MCC-M   (Sorry for the interruption.)
USSR   (That's okay. Now we're ready to work.)
MCC-M   (We will give you a radiogram. Pad 2. Write down
the times please of TV report. And then you can continue preprations
for this TV report.)
MCC-M   (Have a chance to eat yet?)
USSR   (No. But that's all right. Don't worry about it.)
USSR   (We've checked the systems. Everything is normal.)
MCC-M   (Everything ship shape.)
USSR   (We're acclimated to this as though we have been
living for quite a long time.)
MCC-M   (Okay. Roger.)
USSR   (Okay.)
MCC-M   (Pad 2, number 15, longitude 208.8889. Orbit 046.4.
Time of burn 11:51.39. How did you read me?)
USSR   (Longitude 208.88.89. 046.6, 11:51.39.)
MCC-M   (Correct. The time will be of the burn 9 - 92:11 to 32.
That means you have one more minute left. Next comm session is 12:51 to 13:14
Moscow. 13:30 to 13:35 through Vanguard. That's a reserve comm session.)
MCC-M   (Soyuz, this is Moscow. We can see you on the TV
screen. Are you about ready?)
USSR   (Yes. Good morning.)
MCC-M   (Good to hear yours.)
SFE   (We have been in space 3 days. Yesterday was a very
important day for us onboard ship. We were the hosts to the American
crew, the first international such reception. Tom Stafford and Deke
Slayton opened the hatch on time and we were (garble) to meet them, to be
first to greet them, shake their hands - -)
CC-H   Apollo, Houston we're going over the hill Hawaii - -
SFE   (- - but before we could do this, we had lengthy,
intensive prepration to accomplish this to shake these hands in space.
Everything went well, especially the minutes preceding the docking. We
had very smooth docking - self docking. We did everything, complete everything,
the initial part of the joint training - joint activities. We gave
you a short TV report regarding this first meeting. This was a very exciting
moment for cosmonauts and astronauts. These minutes flew by very rapidly. We
exchanged the experiments, various other hardware that are necessary to perform
joint experiments, joint activities. We had to spend a little
bit more time than we anticipated. We fell behind schedule a little bit.
Alexey did tell you that this was exciting mission - exciting greeting
for us. and I concur him. This was a meeting which emphasized the good
will of our people.)
PAO   Get that out. Tell them.

       USSR   (We exchanged flags. We signed a joint document.
Besides that, we exchanged a number of scientific experiments. The
Zone Forming Fungi. Everything went well. When the American astronauts
were departing we were delayed a little bit, there, and consequently,
our meeting lasted about an hour or so later. Longer than we anticipated.
It was very hard for us to part at this first international meeting
in space, but we had to in order to continue with our operations -
program operations. After they left, we depressurized tunnel 2, checked
the integrity of the seals of the tunnel. When we checked the integrity
of tunnel 2 we did find some additional leak either from tunnel 2 or
from the docking module. And therefore we had to spend more time to
check this integrity and be very careful in the depressurization of
tunnel 2. We had to contact mission control and inform them of this
slight leak. The mission control in Moscow took necessary - -)

end of tape

USSR   (The Mission Control Moscow took necessary measures,
and gave us advice how to deal with this leak. We again went through
this procedure of closing hatch. And check the integrity of the hatch
and monitored the pressure of our spacecraft Soyuz. After that -
after this check, we went to sleep. We - and we slept well. After
we got up the first thing we did we checked the pressure in our ship.
There was a slight increase in pressure between the two ships, but it was
in significant. It is not a big problem. And we feel confident that
we don't have to worry about this. Yesterday, we received a greeting from
Soviet people. Greetings to the American astronauts, - presents of
medals. Once again I want to repeat - this was an exciting meeting for
both crews. This gave us great impetus to work harder. Yesterday,
we had an opportunity to receive the greetings from President Ford.
Close your window please, there's too much sunlight. Okay, there's
great - great - a great deal of reflection. Likewise there's a lot
of humming, a lot of whistling on your microphone. Check on the panel.
What else do you have on there? - Maybe that's the - try turning
off the separation, maybe that would help. That's not the illuminator -
That's not the window, there's no sun reflecting, that's the working
light. The reflections is on your sleaves, and the right hand, the right
side of your face.)
      PAO   This is Apollo Control. At 68:23 ground elapsed
time, loss of signal from ATS 6 satellite, and Apollo, several minutes,
ago, however we had the communications from Soyuz who passed into the
U.S. air-to-ground channel downlink television. And commentary from
the Soyuz crew through their Siberian tracking stations. We're less than
four minutes, away now from reacquisition of Apollo, through the tracking
station Hawaii and we'll stay up for Hawaii. Apollo Control, standing
by at 68:23.

END OF TAPE

CC-H   Apollo, Houston. Talking at you through Hawaii
for 5 minutes.
CC-H   Apollo, Houston. We see that you have got the
battery on charge. Help us out a little bit if you can give us
a rough time when you turned it on.
CC-H   Apollo, Houston. How do you read?
CC-H   Apollo, Houston. How do you read?
DMP   (Garble)
CC-H   Okay. We're with you now, and we see that battery
Bravo is on the line charging. It would help us out here in keeping
the status up if you could tell us about when you turned it on.
DMP   Well, I guess about 10 minutes ago I had to leave
that Earth ops to come over here and get with it.
CC-H   Copy that. I need to pass on to Tom here in his
upcoming transfer. We've got called in his procedures to do a HELIUM
INJECT at 10 minutes on his transfer time. And we want to delete that
because we got the furnace sample started a little bit late yesterday.
DMP   Delete the HELIUM INJECT.
ACDR   Okay. No HELIUM INJECT.
CC-H   Yeah. Tom, if you wanted to, I could make those
changes in your transfer procedures. We're going to pick it up - what
we're going to do is do it a little bit later.
CC-H   Apollo, Houston. Standby 1.
CC-H   Apollo, Houston. The BAT area charge current looks
a little bit low, and we haven't seen Bravo come up. Deke, we'd
appreciate it if you'd verify for us on panel 5 that you got the battery
relay BUS BAT Bravo circuit breaker OPEN.
DMP   Yeah, it's OPEN.
CC-H   Okay. Thank you.
DMP   I'll tell you, the reason you weren't seeing it,
though, because I'd switched it over to C instead of Bravo.
USSR   (Russian)
CC-H   We're going over the hill. We'll see you at 68:58
on the ATS.
PAO   This is Apollo Control. Loss of signal through the
Hawaii tracking station. Twenty-four minutes to reacquisition through
ATS-6 satellite. We're looking at a change-of-shift briefing at 4:30 AM
central daylight time in the JSC auditorium with Flight Director Don
Puddy. Any air/ground that is recorded during the change-of-shift
briefing will be played back on a delayed basis at the conclusion of
the change-of-shift briefing. Meanwhile aboard Apollo and Soyuz,
preparations are underway in which the Command Module Pilot Vance
Brand will transfer to the Soyuz. The Soyuz Commander Alexey Leonov
will come aboard Apollo for joint activities. Twenty-three minutes
to next acquisition and about a half hour to change-of-shift press
conference. This is Apollo Control at 68:35.

END OF TAPE

PAO   This is Apollo Control, 69:37 ground elapsed time.
We have about the first half of this ATS-6 satellite pass accumulated on
tape, which we'll play back at this time and go live as soon as the
tape is caught up. Roll tape.

USA   (Russian)

USSR   (Russian)

USA   (Russian)

CC-H   Apollo, Houston. Good morning.

ACDR   Morning Bo. You read us?

CC-H   Just fine. I have a couple of notes. Can you
listen for a second?

ACDR   Sure. Go ahead.

CC-H   Okay. We believe the speaker boxes are causing a
comm squeal, and we would ask that you keep the speaker boxes in the
command module and the DM turned full down when possible.

ACDR   Okay.

CC-H   And we're convinced the integrity check problem
last night with tunnel 2 was thermal, and the Soyuz will increase their
tolerance to 10 millimeters.

ACDR   Rog. That's what we said it was first onboard there.

CC-H   Roger.

CC-H   And I have two notes for the DP, if he's ready.

CMP   He'll be on the comm in just a second, Bo.

CC-H   Okay.

ACDR   And Bo, Vance and I are in the docking module right
now.

CC-H   Roger. Did the clock SYNC go on schedule?

ACDR   That's affirm. It's on schedule, and we're working
on systems step 7.

CC-H   Understand. Step 7.

CMP   And we're coming up to 17 minutes. Mark it.

CC-H   Roger.

ACDR   Hey, Bo. One thing for the thermal people. Last
night in our sleep condition, we only had one set of hoses coming up to
the DM, and we had two down in the CM and it seemed to work out lots
better.

CC-H   Understand.

DMP   Okay, Bo. This is the DP. I'm ready (garble)

CC-H   Roger. The first is: in the flight plan, delete
the waste water dump at 69:35.

DMP   Okay. Got that, Bo.

CC-H   Okay. And the other is, on rev 40, for orbital
science, the stop time is now 69:30:50.

DMP   69:30:50.

CC-H   Roger. That was the stop for M5 on rev 40.

USSR   This is Salyut station.

DMP   Okay.

CC-H   That's it. Thank you.

ACDR   Roger, Bo. Understand that. Also, Bo, you said to
omit the multipurpose furnace helium injection at - on the third step
there and we're not - we omitted the helium injection. We're just
standing by for your instructions.

CC-H   Roger. When you have a chance, I'll give you an
update to your docking module checklist and tell you where to put that
helium injection in.

ACDR   Okay. We're standing by.

CC-H   Okay. On step number 20 that occurred at approximately
1 hour and 12 minutes time -

ACDR   Okay. I'm there.

CC-H   Okay. On the bottom of the page, at about 1 hour
and 14 minutes, perform multipurpose furnace helium injection procedures
for MA-150 AS3, page docking module 7-5.

ACDR   What was the experiment number?

CC-H   MA-150.

ACDR   Okay. Perform helium injection MA-150 on page 7-5.

CC-H   Roger. And we still have been having some problem
with our helium and we ask that when you do those injections, you make
sure that all of the valves are tight and you make sure that those
two valves down in 880 are closed tightly up as well.

ACDR   Roger. Understand.

CC-H   And if we still have some problem, we'll probably
have you do an air injection, but that will be later.

DMP   Understand, Bo.

ACDR   Okay Bo. And I guess I'll be doing the helium injection.
Looking at the - I guess I'll be the one in here at that time. I'll
take care of that.

CC-H   Roger, sir. That is for you.

ACDR   All righty. It looks like we're clicking away on
schedule.

CC-H   Okay. And if you still have a second. On D4-2 - -

CC-H   Apollo, Houston. Do you read?

USSR   (Russian)

ACDR   (Russian)

SCDR   5 by 5, Tom.

ACDR   (Russian).

ACDR   Hello, Houston, Apollo. How do you read.

CC-H   We read you now very well.

ACDR   Okay, Bo. You just dropped out completely there.
We are on page 4-2 waiting for your instructions.

CC-H   Okay. On 4-2, we were going to have you eliminate
the step that starts, "AC perform furnace shutdown," and those other
items which refer to the MA-150 cartridge -- cartridges being put in the
bag, so where it says, obtain MA-150 cartridge bag, delete it, and - put
in the bag, delete it - and the access portion, those things, delete it.
We may add an air injection there and we will have the MA-150 samples
removed a little later.

ACDR   Okay. So in other words we'll just phase(?) it. I
understand when I inject the helium through the 150 but then the time
(garble) we just won't take it out then and deactivate it.

CC-H   Roger. I'll let you know about that later.

ACDR	Okay. Real fine. Thank you.
CC-H	Command module, Houston.
ACDR	Go ahead, Bo.
CC-H	Sir, on 181, we would like you to check that the

TV power switches are on. The three switches.

ACDR	You'll just have to stand by there a minute, Bo,

This is (garble)

CC-H	Okay.
CMP	I think it's that or surely (garble).
SCDR	Apollo, Soyuz. What step are you doing now?
ACDR	(Russian)
CC-H	Vance, Deke, do you read me?
CMP	Yeah. I read you guys.
CC-H	Command module, Houston.
CC-H	Sir. Can you give us a call when you have those

switches on 181, and we'd like to check that the CM camera is in
MASTER.

ACDR	Okay. The three power switches on 181 were - -

END OF TAPE

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CC-H             - - the CM camera is in master.
CMP              Okay, the three power switches on 181 were just
turned on, Bo.
CC-H             Thank you.
DMP              Stand by for MASTER 9garble).
CC-H             And we're going to TV now.
CC-H             Command module, Houston, can you verify that the
Command module camera is in MASTER?
USA              (Garble)
ACDR             Soyuz, Apollo (Russian)
USSR             (Garble)
DMP              Okay, it's in MASTER, Bo.
CC-H             Thank you.
DMP              Okay.
ACDR             Okay, Deke, we're pressurized.
ACDR             Okay, Bo, we're pressurized in the docking module.
CC-H             Roger, understand, and we still have a squeal, and
we think that it may be the Soyuz spueaker box.  Will you ask them to
turn off their speaker box?
USA              (garble)
CMP              Soyuz, Apollo.
SFE              Go ahead.
CMP              (Russian)
ACDR             Soyuz, Apollo, (Russian)
CMP              Okay, attitude (garble)
CC-H             And, docking module, Houston, just for your infor-
mation, we have a good picture of you in the DM.
ACDR             Roger.  We're doing a pressure integrity check here, Bo.
CC-H             Roger.
ACDR             (Russian)
USSR             (Garble)
USA              (Russian)
CMP              We don't see you on the screen now.
USSR             What about now?
CMP              (Russian)
CMP              Are you still getting that squeal Houston?
CC-H             Apollo, we're still getting the squeal.
CMP              Okay, we asked them to turn off the box, and I think - -
ACDR             Want us to turn this one off here?
CMP              - - and I think Valeriy indicated that they've done
that.
CC-H             Seems better, now.
CMP              Bo, do you want us to turn off - Let me to turn
off the speaker box, here in the docking module.
USA              (Garble)
CC-H             Apollo, Houston, it sounds better now.
CMP              Okay, how do you read now?  Is that better?
CC-H             Roger.  That's better now.
CMP              Say again, Bo.
CC-H             It is better.
CMP              Okay, we just turned off the speaker box in the
docking module.
CC-H             Roger.
```

CMP   Just for your information the volume was all the way down on the speaker box, but it takes turning the switch off to really kill that noice.

CMP   The fish look healthy this morning, Bo.

CC-H   The fish do?

CMP   Yea, we have them over here on the wall They're swimming around - happily.

CMP   (Russian), Bo?

CC-H   (Russian)

CMP   (Laughter.)

CC-H   Was the fish experiment done on day 2? Could you tell us that?

CMP   It sure was. I shot all kinds of pictures of those little rascals but that was done down in the command module.

CC-H   I understand. And we'd like you to try that speaker box ON in the docking module but leave the volume all the way down and lets see how that works for just a few minutes.

CMP   That's just the way it was but we can do that again.

CMP   Okay. You're in that configuration now with the speaker box.

CC-H   That still sounds good.

USA   (russian)

CMP   Soyuz, (Russian)

ACDR   (Russian)

SFE   Roger. Step number 8 is completed.

CMP   (Russian)

SFE   Turn on the pressure equalize

CMP   (Russian)

CMP   (Russian)

CC-H   Docking module, Houston.

CMP   Go ahead.

CC-H   The camera on 873 is picking up some of the lights. We ask that you tilt it down and that - Roger. That looks better.

CMP   Roger.

USSR   (Garble) opening hatch number 4.

CMP   (Russian) Okay, 42.

CC-H   Docking Module, Houston. Have you verify that Soyuz turned their speaker box off?

CMP   Valeriy, (Russian)

SFE   (Garble)

CMP   Bo, he answered that he did.

CC-H   Roger.

SFE   Number 4 is open.

CMP   (Russian)

USA   (Garble) 42 (garble) equalize.

ACDR   (Russian)

USA   (Russian)

USA   (Russian)

USA   (Garble)

USA   (Garble)

USSR   Apollo, TV CAMERA, ON.

END OF TAPE

USA   (GARBLE)
USSR   (GARBLE)
USA   Lost volume.
CC-H   Command Module, Houston.
USSR   Garble.
CC-H   We've been having trouble with our TV. Could you
confirm that you selected SLAVE on the CM TV camera.
ACDR   That's affirm. We just did that for (garble).
CC-H   Thank you.
ACDR   (Russian) loop 3. Is the TV okay now, Bo?
CC-H   Roger. We hear you
USA   Roger. Is your TV okay then?
CC-H   The TV is okay now.
USA   Good.
CC-H   If you gentlemen can move aside a bit we'll be able to
see better.
ACDR   Okay, Bo. I'm transferring the TSB in the Soyuz.
We're working on step 16.
CC-H   Roger, Tom. We see you.
CMP-OM   Okay, Tom. Do you read?
ACDR   We read you loud and clear, Vance.
CMP-OM   Okay, we're in the orbital module up on comm here.
CMP-OM   Okay, (Russian)
ACDR   Looks like a bunch of snakes in there, Valeriy.
DMP-OM   Okay. I'm starting fuel cell purge (garble) lights.
USA   (Russian)
USSR   (laughter.)
SCDR   Hey Valeriy, but I am going to go to (garble).
SFE   (Garble)
ACDR   Valeriy, (garble).
USA   Okay.
USSR   (GARBLE)
USSR   (GARBLE)
USSR   (Garble) Everything is okay.
DMP-OM   Okay, Bo. We're working on 56 and Valeriy's
determining if he neesa (garble) down there.
USSR   (Garble)
CC-H   Roger.
USSR   I can make (garble)
CMP   Houston, CM. Would you say we're about over (garble)?
CC-M   Soyuz, Soyuz. (Russian)
USSR   Moscow (Russian)
CC-M   (Russian)
USSR   (Russian)
CC-H   Command module, Houston. You look like you're
probably a little north of there by now.
CC-M   (Russian)
CC-M   (Russian)
USSR   (Russian) Vance Brand (garble).

ACDR	(Russian)
USSR	(Garble) in the Soyuz spacecraft.
USA	(Russian)
USA	(Russian)
SPKR	Good morning.
ACDR	(Russian)
ACDR	(Russian)
USSR	(Garble) Moscow, 1 hour (garble).
USSR	Soyuz. (Russian)
ACDR	(Russian)
USSR	(Russian)
ACDR	Houston, CM.
USR	(Russian)
CC-H	Go ahead.
ACDR	Yeah. I think our (garble).
CC-H	Say again, please. We didn't understand you.
SPKR	(Garble)
USSR	(GARBLE)
USSR	(Russian)
SPKR	(Garble.)
CC-R	Moscow (Russian Soyuz, (garble)
USSR	(Garble.)
SPKR	(Garble.)
USSR	(Russian) (Soyuz, (Russian)
USSR	(Russian.)
USSR	(Russian) Soyuz.
USSR	(Russian)
ACDR	How did it go, Deke?
DMP	(Garble.)
SPKR	(Garble.)
USA	Let's take a look at our (Russian)
USSR	(Russian) Soyuz (Russian)
USSR	(Russian) Soyuz (Russian)
USSR	(Russian) Soyuz (Russian)

END OF TAPE

```
        USSR            (Russian)
        USSR            (Russian)
        CMP             (Russian)  Okay, Bo.  I need 30 milimeters of
nitrogen, and I'll be at this shortly.
        SCDR            (Russian)
        CC-H            Roger.  We understand.  You need 30 millimeters.
        SCDR            (Russian)
        ACDR            Okay.  (Russian)
        SCDR            (Russian)
        SCDR            (Russian)
        DMP             Step 20.
        SCDR            (Russian)
        DMP             (Russian)
        ACDR            Okay.  (Russian)
        DMP             (Russian)
        SCDR            (Russian)
        ACDR            Hey, Bo.  How do you read?
        CC-H            Go ahead.  We read you loud and clear.
        ACDR            Okay.  I see you on this - here.  Alexey just gave
me a present.  Do you know who it is?
        CC-H            It looks like you.
        ACDR            (Russian)
        SCDR            (Russian)
        ACDR            I'll have to add a little more hair to it, though,
Bo.
        CC-H            Roger.  We have about a minute and a half until
ATS LOS.  And we'll see you at Hawaii at (garble)
        SCDR            (Russian)
        ACDR            Roger.  And I would like you to relay the transfer
into the command - in the docking module - step 19?
        CC-H            Roger.  I understand.
        USSR            (Russian)
        CC-H            Apollo, Houston through Hawaii, for less than a
minute.  Standing by.
        ACDR            Okay, Bo.  Look, I'm in here in the docking module
with Alexey.  He's got his headset on - on the Soyuz - you know,
J-box.  And he doesn't have any intercom.  I don't hesitate, though,
as far as taking him on over into the docking module.  But he can't
read me.
        CC-H            Understand.  He can't read you on intercom.
        ACDR            That's affirmative.
        CC-H            Apollo, Houston.  I take it you're - you're just
planning to press on.
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ACDR   That's right. No use just staying here. We could
talk - understand each other real well. There's no problem. He just
doesn't have any intercom. But we can talk real well together. I've
got his volume full increased. I've got his microphone power on. And
I don't know of anything else to do. I've checked all the connections.
The connections are tight.

CC-H   Roger. I understand.

ACDR   And - I've got the volumes full up. The microphone
is on. He's also - we got his TV camera hooked up. The TV power is
on. But - no dice as far as intercom. So we're going to press right
on. We'll work it out some - once we get down in the command module.

CC-H   Understand. And we're about a minute - or less than
a minute - from LOS. And we'll see you at Vanguard at 70:10, which
is about 7 minutes from now.

ACDR   Okay. I'm going ahead - and go through that helium
inject that you told me to.

CC-H   Roger.

ACDR   Okay. (Russian)

SCDR   (Russian)

ACDR   Okay. Our hatch is closed here.

CC-H   Apollo, Houston through Vanguard for 5 minutes.

ACDR   Okay, Vance. Let me tell you - Bo, pardon me.
Let me tell you where we're at. We're on step 23. I've just closed
hatch 3 and closed the equalization valve. Alexey does not have any
intercom - so we're going to press right on. I can talk to him in here
real well. No problem.

CC-H   Roger. Does he have any communications with the
Soyuz?

ACDR   Yeah, he can read Soyuz okay. But he can't talk to
them.

SCDR   (Russian)

CC-H   Understand. He can read, but he cannot talk.

MCC-H   Okay. Can he -

ACDR   He's trying to call you now.

CC-H   And Apollo Commander, Houston. Can the Soyuz
commander read you?

SCDR   Yes - (Russian)

ACDR   Oh yeah, yeah, yeah. He can - he can read us real
good.

ACDR   Vance - Vance, transmit to Alexey, will you?

CMP   (Russian)

ACDR   Can you read him?

SCDR   (Russian)

ACDR   Okay. He read Vance. He can read - he can read
us okay. He just can't transmit.

CC-H   Understand. It sounds like a mike problem then,
huh?

SCDR   (Russian)
ACDR   Yeah. And I've checked - his mikes are close to his mouth. And I've checked thees switch and all that. We're going to press right on this transfer. We may give him a different headset over in the command module.
CC-H   I understand.
SCDR   (Russian)
ACDR   Okay. (Russian) Vance. And okay, and (Russian)
SCDR   (Russian)
ACDR   (Russian)
SCDR   (Russian)
ACDR   (Russian)
SCDR   One minute.
ACDR   Okay, Bo. I'm ready to depressurize tunnel 2. And I'm waiting on him when I get to go.
CC-H   I understand.
ACDR   (I'm beginning to do depressurization - tunnel 2.)
ACDR   Starting tunnel 2 depressurization.
CC-H   We copy.
CC-M   (We can follow the pressurization of - on the gage.)
CC-H   Apollo, Houston. There is 1 minute until LOS. We'll see you at ATS, at 70:30. That's about 15 minutes from now.
ACDR   Roger. 70:30.
CMP   See you there.
ACDR   Okay, Vance. I've netted 200 millimeters.
CMP   Roger.
DMP   (Garble.)
ACDR   Ro-

END OF TAPE

ACDR   (Garble)

USSR   250

ACDR   Okay, coming up on 270. Close (Garble).

PAO   This is Apollo Control at 70:16 ground elapsed time. That completes a combination of playback of the last ATS-6 pass; a minute and 1/2 across Hawaii and we went - finally caught up and went live over Vanguard. The delayed tape was caused by the change of shift Flight Director press conference that coincided with AOS on this last revolution. 13 minutes away from acquisition at ATS-6 satellite, southern tip of South America; as the second transfer continues, well underway at this time with command module pilot Vance Brand going into Soyuz and Soyuz commander Alexey Leonov coming aboard Apollo. We're an hour and 35 minutes into this transfer from the time the transfer timer starts. We'll return in 12 minutes for ATS-6 satellite coverage; at 70:18, Apollo Control.

PAO   This is Apollo Control at 70:29 ground elapsed time. About 50 seconds now until reacquisition of Apollo and Soyuz across ATS-6 satellite coverage. Both spacecraft now in an orbit with a perigee of 122.6 nautical miles and apogee of 123.7; about 1 mile and 1/10th from being absolute circular. Orbital velocity 25,486.7 feet per second. Soyuz and Apollo crew well underway on the second transfer and we're expecting considerable amount of television during this ATS pass; symbolic activities such as the joining of the two halves of plaques, and signing of the joint flight certificates that will be submitted to Federation Aeronautique Internationale in Paris, (FAI). AOS for the next 50 minutes.

CC-H   Apollo, Houston through ATS. How do you read?

CC-H   Command module pilot, Houston. How do you read?

ACDR   Hello Houston, this is Apollo.

CC-H   Roger. Go ahead.

ACDR   Okay. We're now on step 27, Bo. We're depressurizing the docking module.

CC-H   Understand. And command module pilot, Houston. How do you read?

ACDR   Bo, I read you 5 by 5.

CC-H   Command module pilot in Soyuz, do you read?

ACDR   Right, Bo. Read you 5 by.

CC-H   Roger. We would like you to have Valeriy check the switches in the Soyuz called out on page 6.3-72 in book number 3 - I'm sorry, that's book number 2 which are the DM press to talk ON, the microphone power ON, and the comm cable ON, on the orbital module panel.

ACDR   Vance, do you read?

CMP   Yeah. Stand by 1, Bo, and we'll get Valeriy up here.

ACDR   Vance is reading you. So, he can't take care of it in there, Bo.

CC-H   And Apollo commander, Houston.

ACDR   Go ahead, Bo.

CC-H   If the switch is in the orbital module don't fix Alexey's communications, we would like to have Deke get out the spare Snoopy from U2 and pass it into the DM before Alexey transfers into the

command module and let him change out his headset before he transfers into
the command module.

ACDR   All right.

CMP   And, Bo. Please give us this information again about
which switches to check in here in Soyuz.

CC-H   Roger. It's in book 2, 6.3-72, and those are the
switches that are called out in the checklist for establishing communica-
tions in the DM.

CMP   Thank you.

CC-H   Docking module pilot, Houston.

DMP   Go ahead, Bo.

CC-H   Deke, we've been having quite a bit of trouble with
the speaker boxes, so we request that you don't use the speaker boxes, but
rather the Snoopy hat as much as possible.

DMP   Yeah, that's what we're doing. You want us to turn
them off completely?

CC-H   Understand.

ACDR   Okay, Deke. I've finished all of step 28, the CMD and
pressure equalization; you ready?

SFE   (Alexey, how do you read me? Over.)

ACDR   (Russian) We've got exactly the same problems here we
had in simulations, namely, the flood flight hose floating.

END OF TAPE

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        USA              - - all this floating?
        USA              Deke, I'm equalizing pressure.
        USA              Okay, Alexey, (garble).
        SFE              Alexey, how do you read?
        ACDR             Okay, Deke.  If we need to, that spare Snoopy back in
U2, below that earth ops - earth observation stuff.
        DMP              Okay, tell me if you want it.
        USSR             (I do not hear.)
        USSR             (How can't you hear?  We hear you.)
        USSR             (Do you hear us?)
        USSR             Yes.  Just now we hear you.)
        USSR             Right.
        DMP              That fixed the problem.  (Everything is normal now.)
        SPKR             (Garble)
        USSR             (We hear you.  We hear you.)
        DMP              (Excellent, Alexey.)
        SCDR             (Garble) read me?
        DMP              (Excellent, Alexey.)
        SCDR             Hey Deke, how do you read me?
        DMP              (Excellent, Alexey.)
        SCDR             Okay.
        USA              (Valeriy, we are opening hatch number 2.)
        ACDR             Okay I'm going to half open hatch 2.
        ACDR             Okay, are you ready for Alexey to come in, Deke, for
the photographs?
        DMP              Okay.  Stand by a sec here.  Let's see. Got good ATS.
Monitor looks okay.
        ACDR             Okay.
        DMP              Get the movie camera set up.
        DMP              Just one sec here.  Let me check (garble)
        DMP              Okay.  I got all the cameras ready to turn on (garble).
        ACDR             Okay.  (Garble)
        SCDR             Yes.
        ACDR             Okay.  Opening hatch 2 and Alexey will be coming in.
        DMP              Okay.
        DMP              I just turned speaker box off.
        ACDR             Okay.
        DMP              Okay. (Garble)
        DMP              (Garble) and I turned them off (garble).
        USA              Yes.
        USSR             Yes.
        ACDR             (Garble)
        USA              Okay, Alexey. (Garble)
        SCDR             Hello.  Oh - howdy partner.  My old friend.
        USA              (Garble)
        DMP              (Garble)
        DMP              Here we go.
        SCDR             Where is my place?
        DMP              Well, for now come right into here.
        SCDR             Okay.  Back.
        SCDR             Okay.
        ACDR             Yeah.  There we go.  Good show.
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USA	(Garble)
SCDR	Back.
USA	(Garble)
SCDR	Okay.
ACDR	(How do you feel.)
SCDR	Very well.
ACDR	(All right.)
ACDR	Okay. Now (garble)
SCDR	Back.
ACDR	I think (garble) flight plan?
SCDR	Yes. Just a moment
SPKR	(Garble)
SCDR	Oh. This one?
SPKR	(Garble)
SCDR	Okay.
SCDR	(Garble)
ACDR	(Garble) photo cards.
CMP	Houston, Apollo.
CC-H	Go ahead, Vance.

CMP   Or rather Soyuz. How is your view in here in the orbital module?

CC-H   Right now - Vance, right now we have the picture on the command module. We have a good view.

CMP   Okay. Shortly we'll be coming on and give you a little explanation of what's in here.

CC-H   Roger. We're looking forward to it.

ACDR   (Garble)

CMP   Hey, by the way, if you're looking, Bo. There's Valeriy's family. His wife Lyudmila and two children, daughter, son. Let's see it's Kat - -

CC-H   Roger. We can see Lyudmila and Katya.

CMP   Lyudmila and Katya - Dimitri. Yeah that's it the boy, youngest, is Dimitri. Good looking family, huh?

CC-H   Roger. We can see them here on the TV.

CMP   Katya is down on the shore of the Black Sea right now in a dacha having a - or in a camp - summer camp, he says.

CC-H   Roger. That's a fine looking family there.

CMP   Okay. And whenever you're ready, I think we're ready to go ahead and show you around the Soyuz a little bit.

CC-H   Roger. We're ready and a lot of people are anxious to see that craft.

USSR   (Garble)

CMP   Okay. My friend, Valeriy, here is ready to show you and - please start, Valeriy.

SFE   Hello, American people. This is the Soviet/American TV center in space. That's (garble) on board the docked Apollo/Soyuz spacecraft. I am going to tell you about Soyuz spacecraft. The Soyuz spacecraft consists of some compartments: the orbital module (garble), the instrument assembly unit, and propulsion system. The propulsion system has

one main cham - chamber engine and two chamber backup engine. These engines are used for maneuvering in orbit and deorbiting in the - at the end of the mission. The instrument assembly unit is pressure tight and contains all spacecraft main systems which are used during orbital flight only and are not recovered. We are in orbital module. The orbital module is used - -

END OF TAPE

SFE   We are in orbital module. The orbital module is used for conducting scientific experiments and for crew - and for crew rest. There are every feeling of rest for - real warmth and rest for - cosmonauts and for astronauts.

SCDR   Astronauts.

SFE   Astronauts

SCDR   Astronauts.

ACDR   (Russian)

SFE   There is the food. We keep in this order.

SFE   Vance, out there is (garble) kitchen.

CMP   Yeah. That's lunch, huh?

SFE   There is orbital - orbital module panel. You can see on your TV screens now.

SFE   The purpose of the panel is to control and monitor the orbital module systems. These are the following: environmental control system, the TV, and the elimination system, the radio system (garble) and the orbital (garble) systems. Next to this panel, there is the other one. We can use this panel for monitoring pressure integrity check or for Soyuz spacecraft - in tunnel 2 and for air pressurizing and pressurizing of Soyuz in tunnel 2.

SFE   There are water systems - with the water supply and (garble). These were - there were (garble) for the water supply - the water supply gun in your mount - -

CMP   Yeah. If you put it in the mouth, that's the way to take a drink, huh?

SFE   You can drink.

END OF TAPE

SCDR   There are two windows in the orbital module, the
right one and the left one. One (garble) observes the ground (garble)
through this windows. We use this window for (garble) experiment.
There are three hatches in the orbital module. At this hatch, number
4, this hatch is used for (garble) from one spacecraft into the other
spacecraft. This hatch was opened after docking and pressure integrity
check yesterday. There is the other hatch (garble). We use this hatch
for extra vehicular activities. Welcome to Soyuz. The fuel pressure
is used for (garble) fuel from the descent vehicle. There are small
folding desk in the orbital mod - this desk, we used yesterday to sign
the - sign the document to start our joint activities into space.
Tom Stafford, Deke Slayton, Alexey Leonov, and me sit at this desk
and (garble) - and (garble) our phase talks. We - we are using this
desk for our space lunch too. Our space - spacecraft, Soyuz, has two
live-in compartments. The second live-in compartment is the descent
vehicle. During -

CC-H   Vance, Houston. We seemed to have lost Valeriy's
voice.

SCDR   (Garble)

CMP   Okay. We'll talk with voice check here.

CMP   Do you hear him now?

CC-H   Negative.

SCDR   (Garble)

CMP   Do you hear now?

CC-H   Negative. We do now. It looked like you were about
finished there with the tour. Perhaps you can get it squared away and
we'll see you again in the descent vehicle.

CMP   Okay. Yeah. That was a real good look anyway and
we'll see you down in the descent vehicle soon.

CC-H   Roger. And I know Valeriy can't hear us. Would
you please thank him for a most interesting tour.

CMP   Will do.

CC-H   Command module pilot, Houston. It looked to us as
if Valeriy may have knocked something with his elbow there over on the
orbital module panel.

CMP   Okay. We'll check.

CC-H   Apollo, Houston. How do you read?

CMP   Bo, how do you read me?

CC-H   Roger. We read you. We see you're getting ready
for the tour of the command module.

CMP   Okay.

CC-H   Apollo, Houston. We lost communications with
Valeriy. Did you do anything in the command module that may have
caused that?

ACDR   Could be. What do you want me to check on panel 10?
I tried to hook into the center headset but I couldn't get the thing.
So I moved over - I'm on the right-hand seat headset now.

CC-H   Understand.

       ACDR   Hey, Vance?
       CC-H   Yeah. Hey, we checked our switches here and everything
is in order so why don't you check over there.
       ACDR   Okay. What particular one on 10? You want VOX on
that?
       CMP   That's affirm.
       CC-H   Tom, we got a loud squeal now.
       USSR   (Garble) Hello, American people. (Garble)
       ACDR   There, we got rid of it now.
       USSR   How do you read me?
       CC-H   Apollo, Houston. We can't read you. We suggest you
might use the checklist (garble) on page 1-40.
       ACDR   (Garble), Bo. Okay, panel 10's up towards the (garble).
       CC-H   Apollo, Houston. We hear you trying to call but
you are un-understandable. There is a very loud squeal coming over
the comm system.
       ACDR   (Garble) audio. (garble) audio. (Garble)
       SCDR   (Moscow, this is Soyuz. How do you read me?)
       USA   How do you read now, Bo. Okay ?
       CC-H   Thank you. We read much better now but you still
have quite a bit of static.
       ACDR   Okay. Yeah. We had a super loud squealer. You
read us okay now?
       CC-H   We got rid of our squeal.
       ACDR   So have we.
       CMP   This (garble) suppose to be (garble)?
       ACDR   No. That's suppose to be (garble).
       CC-H   Apollo, Houston. There is so much -

END OF TAPE

USA   (Garble)

CC-H   Apollo, Houston. There's so much background noise
that we can barely read you.

ACDR   Understand. You can barely read.

CC-H   Roger. When you are close to the microphone and
speak loudly we can read, but it's difficult.

SCDR   Houston, this is Soyuz commander. How do you read?

ACDR   (Alexey. I will now show you our spacecraft, the
Apollo. We are very happy to meet with you here in the Apollo. This
spacecraft - -)

CC-H   Apollo, Houston. Deke, if you could get to it we would
like the box thumbwheel down on panel 10 (garble).

DMP   Stand by until I can get to it.

ACDR   How's that? How's that, Bo?

CC-H   Down one more step.

ACDR   Okay. How's that now?

CC-H   That's much better.

ACDR   Okay.

CC-H   And if somebody has a chance, if they can put a
shade or something over the hatch window, it would help the TV picture.

ACDR   Okay.

ACDR   (Valeriy, how do you read me?)

SCDR   (Very well. Do you have COMM with Moscow?)

ACDR   How's that, Bo?

CMP   What speed were you on, Tom?

CC-H   That's an improvement.

SCDR   (Garble)

ACDR   Say again.

SCDR   (Garble)

ACDR   Okay. You want to continue on Bo?

CC-H   Roger. Continue.

ACDR   (The Apollo is the spacecraft aboard which the
astronauts have flown to the moon and also to our space station Skylab.
This is the orientation indicator. This is the main indicator for our
operations, and this is the back-up indicator.)

CC-H   Just from the side, we can't really get a good view
of the indicator.

ACDR   Roger. (Here is the computer. The role of the com-
puter aboard the Apollo is a very important one. The computer makes
it possible for us to tell the distance between the Soyuz or other
vehicles - spacecraft in space. If I want to know our exact orbit, I
can interrogate the computer. For an example: if I want to know the
height of our orbit, I can ask the computer.)

SCDR   (Garble)

ACDR   (Now the - a computer is thinking after i ask it - it's
thinking what to - how to responde. And now you can see our apogee of
124 miles by 121 miles. Then here you can see our perigee and apogee.
It's a very smart computer.)

SCDR	(Garble)
SFE	(Moscow, this is Soyuz. How do you read?)
CC-M	(I read you well. When are we having a TV session - from the Apollo?)
CMP	(Garble) Houston here, Tom.
ACDR	Okay.
ACDR	Okay. You seeing this down there Bo?
USSR	(Russian)
CC-H	Tom, Houston. We'd like you to try to move down to the LEB as quickly as possible so we can get it on - USSR TV too.
ACDR	Okay. That's good.
SCDR	That's all. Okay. (Russian) - electric.
ACDR	(This is another important place for work of the Apollo crew. Here's where we have the sextant and telescope.)
SCDR	Okay.
SCDR	(Now we have the second day of our flight. We finished the second transfer. Vance Brand is with Kubasov onboard the spacecraft and I am in the Apollo with Tom Stafford and with Deke Slayton. Tom, come here. Tom Stafford. You know the American astronaut who's made three spaceflights. You know him. And now his fourth flight. Deke Slayton is sitting to the right. He is an old space veteran but this is his first flight into Now I left Tom Stafford.)
ACDR	(Soviet TV viewers. I am very happy to be here.)
SPKR	(Garble)
ACDR	(Here we have our onboard computer and if I ask the computer what our apogee and perigee are, the computer will think about how to respond. Now you can see 122 miles by 121 miles. A very smart computer. And this is the second important work place for the crew.)
SCDR	Tom, which Apollo system is the heart of the spacecraft? (I asked which - which system is the heart of the spacecraft.)
ACDR	(The heart of the spacecraft is the computer and the inertial gyro platform and also the fuel cells. Fuel cell is the power - electrical power source. And here we have number of switches.)
SCDR	Tom, please come here for a second. Look at here. Okay.
ACDR	(Here - this is the second important place for the Apollo crew. Here we have the telescope and the sextant. We observe - we look at the stars through the telescope and determine our orientation. Also, during the approach to the Soyuz, we looked at the Soyuz through the telescope.)
SCDR	Does all Apollo spacecraft systems have primary and back-up modes? (I asked are all these systems of the Apollo spacecraft have the primary and back-up modes.)
ACDR	(Yes. All its systems have the primary and back-up modes (garble). For example, this is the main indicator and here's the back up indicator. We - -

END OF TAPE