

CAPCOM Kitty Hawk, Houston, over.

KITTY HAWK Go ahead, Houston.

CAPCOM Roger, Stu, we've got you on a different channel now than the LM. For some reason you're getting a little bit of noise off your down link. Did you relay everything that was going on? Hear everything that was going on?

KITTY HAWK Yea man, I sure did. They really put it in there.

CAPCOM Okay, mighty fine.

KITTY HAWK Hey Ron, let me know when I can talk without disrupting things. Has it quieted down, yet.

CAPCOM Yea, it's all quieted down and your down link is on a different channel so no problem, so you're clear to talk.

KITTY HAWK Okay, say again.

CAPCOM Roger, you're clear to talk.

KITTY HAWK Oh, okay. That LTC camera is still acting up the same way. I tried both nonessential buss positions and I cycled all the connectors. There has been no visible damage to the pins. I did look at that slit in the shutter, and the first 2 times I activated it it stayed pretty much over 1 inch from the edge. Then the next couple of times it stopped about 2 inches from the edge, once each time a different edge, but out about 2 inches, maybe just a little more. It still has the clacking sound. It still wants to intermittently fire off a frame or two stand by even with the frames per minute set on zero, and I did not take the LTC photo target 16, I figured that Gordon had implied that it might be a waste of film shooting it this way I thought maybe we could get it fixed and we'd save the film, and then shoot the landing because I figured even if it is working that one we wouldn't have another chance at, and I fired 39 frames off magazine B on the landing for the pad. I don't know whether it'll turn out or not because it clanked and sputtered the whole time.

CAPCOM Okay, we copy that, Stu.

KITTY HAWK Okay.

CAPCOM Hey one thing I might ask you there. Did you try turning the power switch on and off anytime when it was clicking away there?

KITTY HAWK Yea, I did. I cycled that. And cycled the nonessential buss switch while it was running, and saw no change at all from main A to main B and once you apply the power it goes into its mag and does it's thing there regardless of whether you have the mode switch in auto, standby or single, and whether or not you turn the power on and off again, generally, now when I came up to shoot the landing, when I turned the power switch on a minute before the T start, it clanked all the time but didn't fire off any frames, and during the minute plus a few seconds past there it just kicked one off, as it should one every 2 seconds

KITTY HAWK       so the thing's kind of random. I  
can't seem to get a pattern on it.

CAPCOM            Okay, we understand that, Stu. And it's  
still acts like it, we got the thing to foul up by a low  
DC voltage on the thing down there on the ground. And like  
you say, if it's got the voltage up on the thing, it seems  
to work.

KITTY HAWK        Along that line Gordon implied that low  
DC voltage I'd have a flickering power on light and that's  
not true. My appears to be steady.

CAPCOM            Okay, copy. And Stu, I've got a bunch  
of P24 pads here for you. Better start copying them I guess.

KITTY HAWK        Okay, let me fire off this 52 and  
then I'll be right with you.

CAPCOM            Okay.

END OF TAPE

CAPCOM Okay, copy. And Stu, I got a bunch of P24 pads for you here for you. You'd better start copying them I guess.

KITTY HAWK Let me fire off this 52 and then I'll be right with you.

CAPCOM Okay.

KITTY HAWK Okay, Ron, let's go to work on the pads.

CAPCOM How about trying for the high gain manual and medium. PITCH at minus 73, YAW of 11.

CAPCOM And Kitty Hawk, Houston. When you get it start out with RP3 on page 13.

KITTY HAWK Okay, I've got you now. Can you read me? The signal strength doesn't look too good.

CAPCOM Okay, try YAW 25 degrees. Okay, you still with me, Stu?

KITTY HAWK Yes, I've still got you here. YAW 25 is a little too much. Let me play with it just a second. Okay, Ron, that looks like the best I'm going to do. Is that good enough for you?

CAPCOM Okay, it looks pretty good down here now. And ready to start on RP3. We've got about 9 minutes yet. Okay, T1, 1095754, T2, 1100244, 1100424, 1100512. North 5 and -

KITTY HAWK Okay, RP3 1095754. Go ahead Ron, let's run them all through and then I'll read them back.

CAPCOM Okay, good. RP5 T1, 1100845, 1101335 1101515 1101603 it's on track. Okay, to Dagurre 66 T1, 1103011 110 -

KITTY HAWK Start the Dagurre over again, you broke up.  
CAPCOM Roger. Okay, to Dagurre 66, T1 is 1103011, 1103501 1103641 1103729, north 22. Okay, we're ready for P20 or line mark 14-1. T1 is 1104615, 1105105, 1105245 1105333. Its north 6 and of course it'll be 14-1 for the NOUN 89.

KITTY HAWK Okay, Ron, you broke up on TCA and T3.

CAPCOM Okay, TCA on 14-1 1105245, T3 1105333 North 6, NOUN 89 at 14-1.

KITTY HAWK Okay 14-1 1104615 1105105 1105245 1105333, North 6, 14-1

CAPCOM Roger. Readback correct.

CAPCOM Kitty Hawk, Houston. Request P00 and ACCEPT there and we'll give you a state vector.

KITTY HAWK Okay, you have it.

CAPCOM And Kitty Hawk, Houston. I got a map update Rev 15 on page 13.

KITTY HAWK Go ahead.

CAPCOM Roger. 180 degrees is 1094759.

KITTY HAWK 1094759.

CAPCOM Roger.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 0342 CST 109:20 GET CM-3/1

CAPCOM Kitty Hawk, Houston. The computers yours  
now.

KITTY HAWK Okay, thank you Ron.

CAPCOM Okay, Kitty Hawk, Houston. About 45  
seconds to LOS. We'll see you on the other side.

KITTY HAWK Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 cst0430 GET110:07 CM-4/1

CAPCOM Kitty Hawk, Houston. It's about time  
to start the camera on RP5.

END OF TAPE.

APOLLO 14 MISSION COMMENTARY 2/5/71, 0440 CST 110:17 GET CM-5/1

KITTY HAWK Houston, 14, how do you read?

CAPCOM I read you loud and clear, Stu.

KITTY HAWK Well, how's the trip of Antares making out.

Do you have an estimate on the landing spot yet, Ron?

CAPCOM Okay. They're pressing on with all their checks down there and everything is doing real good. Now they've got a stay.

KITTY HAWK Real good.

KITTY HAWK How far from the spot did they - They come right in on the first break?

CAPCOM Say again, Kitty Hawk.

KITTY HAWK Rog. Are they right on the point?

CAPCOM Yeah. I think so from what we can tell. They just passed over the north crater of Triplet and on down the street just a little bit but just a little bit short of the target I think initially.

CAPCOM They haven't started their description yet but we'll - I haven't got the word yet on exactly where they are.

KITTY HAWK Houston, 14. Kitty Hawk.

CAPCOM Roger, go ahead, Kitty Hawk.

KITTY HAWK Hey Ron, got any word on how the low altitude track on 14 one in high altitude compare?

CAPCOM Let me see if I can get that Stu.

KITTY HAWK Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 0450 CST 110:27 GET CM-6/1

CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston.  
CAPCOM Roger. You're kind of down in the mud  
Stu. Your high altitude tracking was excellent and we  
changed the landing site from our previous estimate there,  
1400 feet in latitude, and 0 in longitude. We've only got  
3 real time marks on the low altitude, but it compares real  
favorably with the high altitude so far.  
KITTY HAWK Now, the other marks on the low altitude,  
Ron, on the tapes, is that right?  
CAPCOM Yes. That's affirm. They were on the  
tape. It took us a while to get that dump on the tape so  
we're just now getting the tape data.  
KITTY HAWK Okay.  
CAPCOM And Kitty Hawk, Houston. You've got about  
30 seconds to T1 time for Dagurre 66.  
KITTY HAWK Okay, thank you.  
CAPCOM Kitty Hawk, Houston. You can start your  
camera.  
KITTY HAWK Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 CST0500 GET110:37 MC-CM-7/1

CAPCOM            Okay, Stu, Houston here, and you're  
coming up on T1 time.

KITTY HAWK        Okay.

END OF TAPE.



APOLLO 14 MISSION COMMENTARY 2/5/71 0510 CST 110:47 GET CM-8/1

CAPCOM                   Okay, time to start your camera there, Stu.

KITTY HAWK               Ron, she's running, thank you.

CAPCOM                   And when you finish up there, as you're  
whipping on the AC cross - the landing site those guys are so  
close to it, you probably can't tell the difference from  
up there.

KITTY HAWK               Ron, I tried to change the camera and  
put the sextant on and take a look at the site- Cone Crater  
went back in just as I got the sextant on.

CAPCOM                   Okay. Couldn't understand what you  
said that time, Stu. Just for your information though  
the antennas are locked on to you with their radar.

KITTY HAWK               Okay. What I said was as soon as I  
finished up on 14 1 I tried to get the sextant in and tried  
to look at the LM but by the time I got it in Cone crater  
was just passing out of the field of view.

CAPCOM                   Roger. I understand. We'll catch them  
one of these revs.

KITTY HAWK               Okay.

END OF TAPE

CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston, Kitty Hawk.  
CAPCOM Roger, we'll stand by for the magazine  
percentage error on the land mark tracking magazine.  
KITTY HAWK Yes so it's 62 percent.  
CAPCOM Roger, 62 percent.  
KITTY HAWK Yea, that's what it looks like.  
CAPCOM Okay, and once you get in attitude  
there. We'll use the high gain procedure as manual and  
medium beam width.  
KITTY HAWK Alright.  
CAPCOM Kitty Hawk, Houston. Report from the  
Alpha until we get into the attitude.  
KITTY HAWK How do you read Houston. Kitty Hawk.  
CAPCOM Roger, Kitty Hawk, loud and clear.  
KITTY HAWK Okay.

END OF TAPE.

CAPCOM Kitty Hawk, Houston. I've got map updates and zero phase pad for you.

KITTY HAWK Okay, go ahead.

CAPCOM Okay, on page 16, Air map update, rev 16, 180 is 1114620.

KITTY HAWK Okay, 1114620.

CAPCOM Okay, your zero phase pad backwards.

KITTY HAWK Go ahead.

CAPCOM Roger. ROLL 197.4, PITCH 001.4, YAW all zips, T-start 1115943 and make a note there that your switch time will be 807. Over.

KITTY HAWK Okay. ROLL 197.4, 001.4, 000, T-start 1115943, switch time at 807.

CAPCOM Roger. And on page 18 now. Your zero phase pad forward.

KITTY HAWK Okay.

CAPCOM Okay. ROLL 344.7, PITCH 240.1, YAW, all zips. T-start 1123600 and make a note there that your new switch time is 958.

KITTY HAWK Okay. 344.7, 240.1, 000, 1123600 and switch time 958.

CAPCOM Roger. And just a reminder to be sure and get it on your tape up there the verbal marks at your first and last intervalometer actuation.

kitty hawk Okay, thank you.

END OF TAPE

CAPCOM Kitty Hawk, Houston.

KITTY HAWK Go ahead, Houston. Kitty Hawk.

CAPCOM Okay. We're about to LOS here, Stu.

Get some good Gegenschein photos when you go around the corner there. If you want to write these down and stick them on your site map there. It looks like they're located at Charlie, Quebec .5 and 65.4.

KITTY HAWK Okay. Got Charlie, Quebec .5 and 65.4 and we'll get the Gegenschein. This new window shade sure looks great, Ron. It fit on - back on the camera real good. But just to be doubly safe I just tapeing the flood light right up by the window.

CAPCOM Okay. Beautiful.

KITTY HAWK Houston, Kitty Hawk.

CAPCOM Roger, go.

KITTY HAWK Hey, Ron. Is somebody thinking up any words about our Descartes photography. Did it look like the Hycon is wiped out. Are we going to do the COAS or any decision on that?

CAPCOM We're working on it right now, Stu.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 06:30CST 112:06GET CM-12/1

CAPCOM Kitty Hawk, Houston, you ought to be switching to your second target.

CAPCOM Kitty Hawk, Houston, you ought to be switching to you second target.

KITTY HAWK (garble)

CAPCOM Kitty Hawk, Houston.

KITTY HAWK Yeah, can you read?

CAPCOM Okay, I got you now. How was good ole target 2 there?

KITTY HAWK Well, I'm afraid you were right, Ron. It was - it was pretty tough, I never saw B at all and A is pretty ... .

END OF TAPE

KITTY HAWK (static) (garbled)

CAPCOM Kitty Hawk, Houston. We're getting too much background noise here and really couldn't understand anything you said there.

KITTY HAWK (static) (garbled)

CAPCOM Kitty Hawk, Houston. Why don't you go ahead and leave the tapes running there, we sure can't make out what you're saying down here.

CAPCOM Okay, Kitty Hawk, Houston here. We took the (garble) out. Maybe that'll get rid of some of the banging. How do you hear me now?

KITTY HAWK Oh, you're loud and clear. What'd you take out?

CAPCOM Well, something that's supposed to cut out part of the static. It does cut down on the static but every time the signal strength gets a little bit low, it also bangs, so I couldn't hear you. I took those out, now I can hear you loud and clear.

KITTY HAWK Okay. You've always been loud and clear here, no problem at all.

CAPCOM Roger.

KITTY HAWK Okay, Ron, are you going to let the tape run for these - through these next sightings?

CAPCOM Okay, Kitty Hawk, Houston.

KITTY HAWK Go ahead, Ron.

CAPCOM Okay, Stu, the comm was a little bit marginal down here but what we'd like to do is leave the tape running until after this next zero phase but also talk to the ground, if you will and then maybe we'll have some comments back for you. And then we should get it in one place or the other for sure.

KITTY HAWK Okay, very good.

KITTY HAWK And, Houston, Kitty Hawk. Do you want me to terminate the charge on B and start one on ABLE?

CAPCOM That's affirmative, Kitty Hawk.

KITTY HAWK Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71, 6:50 CST, 112:27 GET, CM-14/1

KITTY HAWK        You want me to terminate the charge  
on B and start one on Alde.  
CAPCOM            That's affirmative, Kitty Hawk.  
KITTY HAWK        Okay.  
CAPCOM            Okay, Stu. You've got about 30 seconds  
to start time.  
KITTY HAWK        Okay. Thank you.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71 112:37 GET CM-15/1

CAPCOM            Okay. Stu, about 30 seconds to turn the camera on. Give me a hack when you turn it on.

KITTY HAWK        Okay. Understand.

KITTY HAWK        (garbled) stand by. Mark, the camera is running.

KITTY HAWK        Okay. Now, I can pick up (garbled) Going real well. (garbled) I guess I can't break the (garbled) I don't think this cameras working right, Ron. (voice to low) I had no trouble with wire D and no trouble with (garbled) bright rim. (garbled) much easier than the stuff on the back side, in fact I really (garbled). And, the hard part's over (garbled) that will be here just (garbled) target A. No problem with the (garbled) now. Okay. I'd like to try zero phase on A with no problem.

CAPCOM            Okay, Kitty Hawk, Houston. You can start on (garbled) and push the target area 4. We can't hear a thing you're saying down here. But, keep talking we'll get it on the tape.

KITTY HAWK        Houston. (Voice too low)

END OF TAPE



APOLLO 14 MISSION COMMENTARY, 2/5/71, 7:10 CST, 112:57 GET, CM-16/1

CAPCOM Kitty Hawk, Houston. We plotted  
the frame number off of the zero phase clock.  
KITTY HAWK Okay. Frame number is 58.  
CAPCOM Say it again.  
KITTY HAWK Frame number is 58.  
CAPCOM Roger. Understand 58.  
CAPCOM Kitty Hawk, Houston. We got your  
map updates for rev 17 and the (garbled) light photo pad.  
KITTY HAWK Okay. Stand by just one, Ron.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 112:57 G.E.T. CM17/1

KITTY HAWK Okay, Ron, go ahead.  
CAPCOM Okay, Stu. Again, I could just barely  
read you but your map update for REV 17, 180 113 44 40.  
KITTY HAWK Okay, 113 44 40.  
CAPCOM Roger, that's correct. Okay zodiacal light  
photo pad T start 113 18 03.  
KITTY HAWK Okay 113 18 03 zodiacal light start.  
CAPCOM Roger, that's correct.  
KITTY HAWK I guess our COM didn't hold out for that,  
did it Ron? Seemed like I heard you - heard it drop out.

END OF TAPE

CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston, Kitty Hawk.  
CAPCOM Okay, Stu, as you know when you come around the other side here, we're going to want to dump the DSE to get your 0 phase dump. So, if you'll come over the hill in these attitudes, you ready to copy?  
KITTY HAWK Okay, stand by. Hey, I noticed the tape was barber poled, I don't know if it went during the second or not 0 phase, did you stop the tape after the second 0 phase pass?  
CAPCOM That's affim, we stopped it and rewound it.  
KITTY HAWK Okay, that's what I was afraid of. Man, I was afraid if I'd run down - okay, thank you. Give me some attitudes.  
CAPCOM Okay, roll 060, pitch of 304, yaw of 0. Your high gain angle will be pitch plus 33, yaw of 279. And you can start the maneuver to that attitude after you complete your zodiacal light stuff.  
KITTY HAWK Okay, I'll start a maneuver after the zodiacal light of 060, 304, 000. Set up the high gain on a pitch of plus 33, yaw of 279.  
CAPCOM Roger, and as you can know that's just 60 degrees out and roll from the LM visual attitude.  
KITTY HAWK Okay.  
CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead.  
CAPCOM Okay, Stu, I gave you some bum dope there. We didn't stop the tape at the end of the 0 phase stuff, we did not rewind it, so you can go ahead and use it on the back side.  
KITTY HAWK Okay.  
CAPCOM The comm is good now, I don't know why it wasn't real good there during middle phase.  
KITTY HAWK Yeah, well, I got you on the high gain now.  
CAPCOM Okay, that's why  
KITTY HAWK You see it does help.  
CAPCOM Kitty Hawk, Houston. Just for your information EVA preparation seems to be progressing normally down there at the Fra Mauro area. And they'll probably be out on the surface when you come around on the other side.  
KITTY HAWK Ah, very good. Did they say anything about the terrain, Ron. It seems like I heard them say they were some like an 8 degree roll angle or something.  
CAPCOM Yeah, that's right. And it's a little rougher than what they thought it was going to be down there. That's just a general comment on the terrain.  
KITTY HAWK Did they comment on how steep it looked

APOLLO 14 MISSION COMMENTARY 2/5/71 07:30CST 113:07GET CM-18/2

KITTY HAWK when they get up in the cone?  
CAPCOM Hey, Stu, cone's about 5 o'clock and  
they really weren't looking at the slope as they came down  
across there.

KITTY HAWK Oh, that's right, yeah, sorry about  
that.

CAPCOM No sweat.

KITTY HAWK I already had them outside

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 113:17 G.E.T. CM19/1

CAPCOM Okay, Stu, you got about 30 seconds to  
T start time.  
KITTY HAWK Okay, thank you.  
CAPCOM Okay, Stu, we'll see you on the other  
side.  
KITTY HAWK Okay, Ron.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 113:27 G.E.T. CM20/1

Dead air.

END OF TAPE

CAPCOM Yes, have you got them.  
COMTEC This is Houston COMTEC on the air-to-ground 2 circuit. Testing 1 2 3 4 5, stand by.  
COMTEC This is Houston COMTEC on the air-to-ground 2 circuit. Testing 1 2 3 4 5 4 3 2 1 12345 54321, test out. Madrid COMTEC, Houston COMTEC air-to-ground 2.  
MADRID A good contact on air-to-ground 2.  
SPEAKER Roger. I have 100 percent keying and modulation is go.  
SPEAKER Roger. Carnarvon COMTEC, Houston COMTEC air-to-ground 2.  
CARNARVON Houston COMTEC, this is Carnarvon COMTEC. I have 100 percent keying and modulation is go.  
HOUSTON Roger. Guam COMTEC, Houston COMTEC net 2 air-to-ground 2, rather.  
GUAM COMTEC Guam copies 100 percent keying modulation go.  
HOUSTON Roger. At this time we'd like to confirm that Madrid you will be set up, and Carnarvon set up for special juliet modified air-to-ground configuration. Carnarvon you will be active uplink CSM, inhibit your downlink to net 1. Madrid enable your CSM downlink to the air-to-ground 2 circuit, and Guam you'll be back up.  
GUAM Guam copy.  
MADRID Madrid verifies.  
CARNARVON Carnarvon copies and verifies.  
HOUSTON Roger. Houston, out.  
CARNARVON Carnarvon, out.  
KITTY HAWK Houston, how do you read Kitty Hawk.  
CAPCOM Okay, Kitty Hawk, Houston. We got you loud and clear.  
KITTY HAWK Okay.  
CAPCOM And, Stu, I guess we may as well start off with the P24 fine mark tracking pad there on page 21. And, let me ask you a question here. If the hours are the same in all these T1, T2, TCA, and T3, how about just reading the hour on the T1 and read minutes and seconds on the rest of them. Okay.  
KITTY HAWK That sounds like a great idea.  
CAPCOM Okay. Good.  
CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Houston, how do you read. Kitty Hawk.  
CAPCOM Okay. Loud and clear now, Stu, how about that P00 and ACCEPT here, and we'll ship you a state vector.  
CAPCOM And, whenever you're ready to copy on the LM visual pad.  
KITTY HAWK Okay. You have P00 and ACCEPT and I'm ready to copy.  
CAPCOM Okay. T1 114 43 27, 48 27, 49 57, 50 11, north 12 miles. Okay for your latitude be a minus 03.651

APOLLO 14 MISSION COMMENTARY, 2/5/71 114:03 GET CM-21/2

CAPCOM longitude over 22 minus 08.734, and you can make a little note down there for the site map. The coordinates latests ones are CQ.1 and 65.4, that's Charlie Quebec point 1.

KITTY HAWK Okay. Copy 114 43 27, 48 27, 49 57, 50 11, north 12, latitude minus 03.651, longitude over 2 minus 08.734 and I guess we'll call the altitude 000 76.

CAPCOM That's affirm. Kitty Hawk, Houston. That computer is yours.

CAPCOM And, Stu I want -

KITTY HAWK Okay. The computers fine and - go ahead Ron.

CAPCOM Okay. If you want to take these down here, I'm going to give you some magazine ... the numbers here that I want to make sure we save - since we're having a couple of problems here with our high con, we would like to save magazine tango. That's the MBW film as a backup to magazine papa. And, the magazine papa is the prime 500 millimeter magazine. And, now if you've already used something out of magazine tango, we'd just like to know what percentages are still on the magazine, or what the frame numbers are.

KITTY HAWK That doesn't sound familiar. I'll have to go back through here and check it. The only ones I've used are those that we've listed here. So far I've been following them right down the line.

CAPCOM Okay. Fine.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 8:36CST 114:13GET CM-22/1

KITTY HAWK           So far I have been (garbled)  
CAPCOM                Okay, sounds like we're in pretty good  
shape. I think magazine TANGLE is one that, you know,  
opportunity type photoes.  
KITTY HAWK            Yeah, I haven't taken any of those.  
CAPCOM                Okay, real good and just as a note  
we're not for sure yet, but it looks like we'll probably  
do a CO-AP pass on Descartes on rev 25. And then when we  
get on around to the high contact we'll probably try to get  
that thing to work on REV 27 and (garble) the other are if  
(garble)  
CAPCOM                And Stu, to keep you up to date on  
what's happening down there on the surface, they had a little  
bit of a calm problem with the PLSS and relays and all of  
those good little things like that. And they're running a  
little bit behind, but it looks like they'll make it up in  
probably about 20 or 30 minutes.  
KITTY HAWK            Okay, thank you.  
CAPCOM                Kitty Hawk, Houston, do you remember  
what the percentage of magazine left for the zodaical light?  
KITTY HAWK            Rog, Houston, I called in 72 percent.  
CAPCOM                Mighty fine, Stu, 72 percent.  
CAPCOM                Kitty Hawk, Houston.  
KITTY HAWK            Hello, Houston.  
CAPCOM                Okay we've got a good tape  
dump and you can proceed to the LM visual attitude at your  
convenience.  
KITTY HAWK            Okay, thank you.

END OF TAPE



APOLLO 14 MISSION COMMENTARY 2/5/71 114:23 G.E.T. CM23/1

CAPCOM  
surface.

Kitty Hawk, Houston. Big Al's on the

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71 114:33 GET CM-24/1

CAPCOM Kitty Hawk, Houston.

CAPCOM And, Kitty Hawk, Houston. (garbled)  
Ed's out on the surface now with Al. And, I think  
we got a good uplink but the downlink is pretty weak so  
(garbled)

KITTY HAWK Houston, Kitty Hawk.

CAPCOM Kitty Hawk, Houston. You're very weak.  
Say again.

CAPCOM Kitty Hawk, Houston. In the blind about  
30 seconds from T1 time.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 9:06CST 114:43GET CM-25/1

CAPCOM P 1 time.  
KITTY HAWK Houston, keep calling Kitty Hawk  
CAPCOM Hey, by golly, read you, Stu. Yeah,  
you're coming up on P 1 time.  
KITTY HAWK Ron, you were unreadable (garble)

END OF TAPE

CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston, Kitty Hawk.  
CAPCOM Okay, Stu, I've got a bunch of P24 PADS  
there if you're ready to start copying. Starting on page 22  
with RPS -  
KITTY HAWK Okay, just a word about the - okay before you  
start those, I got a track on the LM. I noticed as I came  
back up that the tape motion had gone barber pole while -  
I hope it was running. I checked it just before I started  
marking. Or maybe you stopped it, I don't know. But I  
would put the LM on those coordinates at Charlie Quebec  
point zero and 65.1.  
CAPCOM And you saw the LM at Charlie Quebec  
point zero and 65.1, is that correct?  
KITTY HAWK Yeh, that's where I would put it on the  
map. Well, it looked like that before I was tracking it.  
Looked like it was just a - you know you'd plotted it down  
just on the edge of that old crater in Triplet, and I've  
got it over on the other side of it.  
CAPCOM Okay.  
CAPCOM I guess you got the word, they're out on  
the surface now, don't you?  
KITTY HAWK I heard Bruce telling something about a  
contingency sample, so I figured they'd made it.  
CAPCOM Okay, and if you're ready to copy here  
we'll press on with some of these P24 PADS.  
KITTY HAWK Okay, I'm ready to go.  
CAPCOM Okay, in RP2, T 1 115 49 34 54 24 56 04  
56 52 north 08.  
KITTY HAWK Okay, I got that.  
CAPCOM Okay, and the 12-1 T1 115 59 16 T2 is 116  
04 06 05 46 06 34 north 32. And let's go on over to the  
map update next.  
KITTY HAWK Okay.  
CAPCOM Okay. LOS and AOS are changes. I'll  
read them off -

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71 115:03 GET CM-27/1

KITTY HAWK Okay.  
CAPCOM Okay. LOS and AOS are changes. I'll  
read them off. LOS 115 18 05 115 43 01 116 04 23. Okay  
let's switch to page 23 -  
KITTY HAWK 115 - Okay. I'm ready for Dolanel.  
CAPCOM Okay. T1 116 30 45 35 35 37 15 38 03  
north 15. And, of course to the next page for SML.  
KITTY HAWK Go ahead.  
CAPCOM T1 116 41 46 46 36 48 16 49 04 north 23  
Over.  
KITTY HAWK Okay. I'll go back to RP2.  
CAPCOM Okay. Go.  
KITTY HAWK Okay. 115 49 34 54 24 56 04 56 52 north  
08 12-1 115 59 16 116 04 06 05 46 06 34 north 32. Map update  
update rev 18. 115 18 05 115 43 01 116 04 23 Dolanel E 116  
30 45 35 35 37 15 38 03 north 15. Are you still with me?  
CAPCOM Okay. You read back correct so far.  
KITTY HAWK Okay. Are you with me, Ron?  
CAPCOM I missed your readback on SML, Stu.  
KITTY HAWK Okay. SML 116 41 46 46 36 48 16 49 04  
north 23.  
CAPCOM Okay. Your readback is correct. And,  
I've got a preliminary TEI 34 pad for your update book.  
KITTY HAWK Okay. I'm ready to copy.  
CAPCOM Okay. This is preliminary. TEI 34 FPF  
G&N 34930 minus 071 minus 002 149 15 3458 plus 30 182 plus  
16491 minus 02834 181 108 029 NA plus 00 190. Okay. Your  
Delta-V total 34 510 225 34 269 check the star 11 125 3 227  
NA on the boresite skip down to Noun 61 minus 27 03 minus  
171 50 11 608 36 251 216 23 32. Okay. Your GDT align  
Sirius and Rigel 130 129 018 ullage 4 jets 12 seconds  
Okay. Your notes, number 1, the longitude at TIG equal plus  
178.69, note 2 assumed plane change and lift off REFSMAT,  
note 3 with TEI REFSMAT roll 180 pitch 0 yaw 0. And, ready  
for readback.  
KITTY HAWK Okay. Before I start giving Delta-V  
(garbled)  
CAPCOM Kitty Hawk, Houston. I can't read you  
now. Maybe it'll get better here in the next 7 minutes  
before all of that, but too much background noise.  
KITTY HAWK Okay. Could you read me Delta-V total.  
CAPCOM Okay. To your Delta-V total was 34510.  
KITTY HAWK Okay. (garbled)  
CAPCOM Kitty Hawk, Houston. Skip the read back  
now. I can't reach it.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71, 09:36 CST, 115:13 GET, CM-28/1

CAPCOM Kitty Hawk, Houston. In the blinder.  
You want to try OMNI Charlie? We've got about a minute and  
a half to LOS now.

CAPCOM Stu, Houston. In a blind. About  
30 seconds to LOS here. We'll pick you up on the other side.

KITTY HAWK Okay.

CAPCOM Beautiful answer that time anyhow.  
I heard that.

KITTY HAWK I guess when I don't have much to say.  
I'm coming in loud and clear, huh?

CAPCOM Yes. That's right.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 10:30CST 116:07GET CM-29/1

CAPCOM Kitty Hawk, Houston.

CAPCOM Kitty Hawk, Houston.

CAPCOM Kitty Hawk, Houston. Got a report,  
your down link is very weak, but it's not important now.  
I'll catch you once you get into high gain for your P52  
attitude.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71, 10:40 CST, 116:17 GET, CM30/1

Dead air.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71, 10:50 CST, 116:27 GET, CM31/1

CAPCOM Kitty Hawk, Houston. In a blind  
here. We clocked about - coming upon T1 time for (garbled).

CAPCOM Kitty Hawk, Houston. In a blind  
again. Time to start the camera.

KITTY HAWK Okay. Can you read, Ron.

CAPCOM We just barely got you that time, Stu.

END OF TAPE



APOLLO 14 MISSION COMMENTARY 2/5/71 11:00CST 116:37GET CM-32/1

CAPCOM Kitty Hawk, Houston. I guess remote back says that you are asking for picking you up and that was negative we're not picking you up here.

CAPCOM Kitty Hawk, Houston, there's a blind coming up on T 1 time.

CAPCOM Kitty Hawk, Houston, in the blind, you can start the camera.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 11:10CST 116:47GET CM-33/1

CAPCOM            Okay, Kitty Hawk, Houston, in a  
blind there, Stu. Looks like you're on your way to the  
attitude. We might figure out your - switch over to page  
26 for P 30 maneuver there in the point changes.

CAPCOM            Kitty Hawk, Houston, you're in the  
blind, again. You might try Omni Charlie.

CAPCOM            Kitty Hawk, Houston, how you read?

KITTY HAWK        Well, great. Looks like we made it.

CAPCOM            Hey, mighty fine. How about whooping  
into POO and ACCEPT there, and we'll ship you up state  
vectors and target load. And if you're ready to copy, there  
on - we got plane plain change maneuver from page 26.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 116:57 G.E.T. CM34/1

KITTY HAWK ... all right, I'll be right with you.  
CAPCOM Okay.  
KITTY HAWK Okay, Ron, I'm ready to copy.  
CAPCOM Okay, mighty fine. Your weight 35752  
minus 095 plus 017 118 09 3517. NOUN 81 minus 00129  
plus 03707 minus 00055 180 354 002. NOUN 44 00 621 plus  
00572 03710 018 03566. Sextant Star 27 0305 076. Fore-  
sight star 043 UP 132 LEFT 27. GDC align Sirius and Rigel  
049 287 331. Your ullage 4 jet 11 seconds. Read back.  
KITTY HAWK Okay, Ron. Plane change 35752 minus 095  
plus 017 118 09 3517. Minus 00129 plus 03707 minus 00 055  
180 354 002. 00 621 plus 00572 03710 018 03566 27 0305  
076 043 UP 132 LEFT 27 Sirius and Rigel 049 287 331 4 JET  
11 seconds.  
CAPCOM Okay, read back your DELTA V Y again.  
KITTY HAWK DELTA V Y plus 03707.  
CAPCOM Okay, that was correct. Okay, look back  
to page 25, on your north ecliptic pole attitudes.  
KITTY HAWK Okay, I got it.  
CAPCOM Okay, it'll be at ROLL 270 009 and 355.  
And your 180 position for your map update 117 41 22.  
KITTY HAWK Okay, that's the North Ecliptic pole  
attitudes at 1711 270 009 355 180 117 41 22.  
CAPCOM Roger. Okay, Stu, it's your computer and  
now you can whip in to P52.  
KITTY HAWK Okay.  
CAPCOM We saw that.  
KITTY HAWK Sorry 'bout that.  
CAPCOM Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71 117:07 GET CM-35/1

KITTY HAWK Well, there's just no justice tonight.  
CAPCOM Okay.  
CAPCOM Okay. We got you down 93 here, Stu.  
KITTY HAWK Okay.  
CAPCOM Kitty Hawk, Houston.  
CAPCOM Kitty Hawk, Houston.  
CAPCOM Kitty Hawk, Houston. Kind of in the  
blind here. Just a reminder to terminate your battery charge  
prior to the plank change burn.  
CAPCOM Kitty Hawk, Houston. About 1 minute till  
LOS, we'll see you coming around the other side and Al and  
Ed are about 3 hours into their EVA, whipping away on their  
ALSEP deployment.  
KITTY HAWK I didn't get all of that, Ron. Put I did  
get they're in the ALSEP deployment. Is that affirm?  
CAPCOM That's affirm. About 30 seconds, and  
did you get to terminate your battery charge prior to burn.  
KITTY HAWK No, I didn't get that yet. Do  
you want me to run on through until I come out AOS or do  
you want that terminated.  
CAPCOM No, do it sometime prior to the burn.  
KITTY HAWK Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 12:23CST 118:00GET CM-36/1

KITTY HAWK Houston, you read (garble) no, Kitty Hawk.  
CAPCOM Okay, Kitty Hawk, Houston, we're  
reading you loud and clear.  
KITTY HAWK Okay, I'm coming up on this 4 minute  
mark. Everything's completed on the check list up to that.  
CAPCOM Okay, mighty fine, Stu, as soon as we  
get a little high bit right here, we'll take a good look  
at your data.  
KITTY HAWK And Ron, do you want me to do anything  
with the tape recorder, you going to handle that?  
CAPCOM Kitty Hawk, Houston, we'll handle the  
tape recorder.  
KITTY HAWK Okay.  
CAPCOM Okay, Kitty Hawk, Houston, you're  
looking mighty fine down here, you have a go for plane change.  
CAPCOM Kitty Hawk, Houston, you have a go  
for the burn.  
KITTY HAWK Okay, (garble) everything looks good now,  
Ron.  
CAPCOM Okay, looking good down here.  
KITTY HAWK Okay, L engine's on. And we've got  
ignition. And she's steady as a rock.  
CAPCOM Beautiful.  
KITTY HAWK And shutdown.  
SPEAKER Looks like he's trimming, probably  
that's why we're moving attitude a bit.

END OF TAPE

CAPCOM Okay, Kitty Hawk, Houston. No trim on this burn and whip into P00 and we'll start sending some uplink to you.

KITTY HAWK Okay. (garbled) Do you need anything else the delta VP is minus 12.3. I guess the monitors are wrong. I hate to break up the discussion, but I'll be right with you.

CAPCOM Roger. Delta-VP with minus 12.3.

KITTY HAWK Okay. You wanted P00 and ACCEPT. Is that right, Ron?

CAPCOM Okay. Kitty Hawk, Houston. Do you have P00 and ACCEPT?

KITTY HAWK You've got P00 and ACCEPT, now.

CAPCOM Roger.

CAPCOM And, when you get things pretty well squared away there, I've got some zero zero time in the photo pad and a map update for you.

KITTY HAWK Okay. I'm ready to copy

CAPCOM Okay. REFSMMAT zero zero time 142 25 30 00. Okay, you're earthshine photo pad is on page 28, T start is 118 45 37.

KITTY HAWK Okay, Ron. I copy REFSMMAT zero zero time 142 25 30 00, Earth shine photo pad T start 118 45 37.

CAPCOM Okay. And, then the next page, page 29 your map up date, for 180, for 180 it's 119 39 59, and while we've got a little time here do you happen to have the percent magazine for the P24 pad and also for the Galactic survey.

KITTY HAWK Okay. (garbled)

CAPCOM Stu, wait a minute I can't read you there. You might just try tweaking on the high gain.

KITTY HAWK Can you read now.

CAPCOM Still got a lot of - there it quite down. It should be good now.

KITTY HAWK Okay. Let's start with map update.

CAPCOM Okay, go ahead.

KITTY HAWK I didn't get it.

CAPCOM Okay. Map update - is 1 ... for the 180 119 39 59.

KITTY HAWK Okay. 119 39 59.

CAPCOM And, the computer is yours.

SPEAKER You are 3 hours and -

CAPCOM And, Stu if you got it there, we need the percent of the magazine remaining from your P24 passes and also from the Galactic survey.

KITTY HAWK Okay, Ron, I think I've got you again.

CAPCOM Okay, good. Go.

CAPCOM Okay. Do you have a request for the -

KITTY HAWK I got the map update.

CAPCOM Okay, and we need the percent remaining on

APOLLO 14 MISSION COMMENTARY, 2/5/71 118:10 GET CM-37/2

CAPCOM                    your magazines from P24 and your Galactic  
survey. Over.

KITTY HAWK                Okay.

KITTY HAWK                Okay. On the Galactic survey is 73 per-  
cent.

CAPCOM                    Copy. 73 percent.

KITTY HAWK                And, on the landmark tracking that's mag-  
azine B it's 50 percent.

CAPCOM                    Mag Bravo 50 percent.

CAPCOM                    Okay. Stu, you can go ahead and press on  
and whip into your P52 attitude there.

KITTY HAWK                Okay.

CAPCOM                    And, whenever you get some time there may-  
be when your torqueing P52 something you can read back your  
TEI 34 preliminary passes.

KITTY HAWK                Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 12:43CST 118:20GET CM-38/1

DEAD AIR

END OF TAPE



APOLLO 14 MISSION COMMENTARY 2/5/71 118:30 G.E.T. CM 39/1

Dead air.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71, 13:03 CST, 118:40 GET, CM40/1

CAPCOM                   Okay. Kitty Hawk, Houston. We're  
back with you again.

KITTY HAWK               Roger.

CAPCOM                   Okay. Kitty Hawk, Houston. You  
got about 30 seconds here before T start time on the earthshine.

KITTY HAWK               Okay.

CAPCOM                   Okay. Stu, Houston. It looks like  
this might be a good time to read back your TEI 34 pad to  
us.

KITTY HAWK               Just a minute, Ron. I got to configure  
one more camera here.

CAPCOM                   Okay.

CAPCOM                   Stu, just as a matter of interest,  
Ed and Al have been out 4 hours and 28 minutes. They're  
back at the LM now cleaning up the stuff and about ready  
to crawl back in.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 118:50 G.E.T. CM41/1

CAPCOM                   And, Kitty Hawk, Houston. Com down here  
is getting lousy again.

CAPCOM                   Kitty Hawk, Houston. In the blind time  
(garble) The data camera to 150, the bats 1/50th.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71 119:00 GET CM-42/1

CAPCOM                    Kitty Hawk, Houston. In the blind, we don't have any comm or data from you. Check the antenna there or try the high gain.

CAPCOM                    Kitty Hawk, Houston. In a blind - for you're Verb 79 attitude there about 119 28, make it a 5 degree deadband instead of 10 degrees.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71, 13:33 CST, 119:10 GET, CM43/1

CAPCOM            Kitty Hawk, Houston. Transmitting  
in the blind. At 119:28 with the VERB 79 whenever your there  
change your deadband from 10 degrees to 5 degrees.

CAPCOM            Kitty Hawk, Houston. We'll start  
picking up the data now. Got about 2 minutes 30 seconds  
to LOS.

CAPCOM            Kitty Hawk, Houston. Transmitting  
in the blind. For the VERB 79 deadband there at 119:28,  
change the deadband to 5 degrees.

CAPCOM            Kitty Hawk, Houston. 30 seconds  
to LOS here. Change your deadband for the REF attitude  
to 5 degrees rather than 10 degrees.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/5/71 14:20CST 119:56GET CM-44/1

CAPCOM Kitty Hawk, Houston, over.  
KITTY HAWK Oh, howdy Houston, Kitty Hawk.  
CAPCOM Alright, Stu, you're loud and clear.  
Sounds better than it has in a while. My own team is now  
on duty and I got a number of words for you when you get a  
chance to listen to me.  
KITTY HAWK How do you read, Gordon?  
CAPCOM Stu, I'm reading you about 3 by 3, now.  
How do you read me?  
KITTY HAWK Okay, you're 5 square, looks like the  
comm keeps coming and going.  
CAPCOM Rog, you're loud and clear, now.  
And starting through my list of things to tell you here, we  
first of all, the LM guys are back in the LM. They got  
about a 4 hour 48 minute EVA and completed all the ALSEP  
deploy in pretty good shape and got quite a bit ... .

END OF TAPE

CAPCOM - in pretty good shape. They got quite a batch of rocks back in with them.

SC Hey, that's sounds great. How was the TV from the surface?

CAPCOM It was beautiful. We had live TV through just about everything they did, including all the ALSEP deploy and couldn't have been much better.

SC Hey, that's sounds real good.

CAPCOM Okay. Stuff for you. We're going to ask you to use 5 degree deadband during the sleep period to help us stay on the high gain better. And, hope we can get it a little higher percentage of high bit rate while you're sleeping. If this results, in too much RCS activity and keeps you awake then we'll consider ... well, we'll most likely go back to the 10 degree if that's considerably quieter. Over.

SC Okay.

CAPCOM Okay. Still hanging are you're readback of the TEI 34 preliminary pad. Also would like the magazine percentage and frame numbers at the end of Earth shine. That should be listed in silver book at 119 09. And, the P52 data, and I'll take any of that in any order as you come to it. Over.

SC Okay. Let's start with the TEI 34 -

CAPCOM Okay.

SC 334930 minus 071 minus 002 149 15 34 58 plus 30 182 plus 16491 minus 02834 181 108 029 and N/A Delta-V total 34 510 225 34 269 11 1253 227 4 side star in A Noun 61 minus 2703 minus 171 50 11608 36251 216 23 32 Sirius and Rigel 130 129 018 4 jet 12 second, longitude at TIG plus 178 69 assumes plane change burn, liftoff REFSMMAT with PDI REFSMMAT attitude 180 00.

CAPCOM Okay. Stu, readback is good, except for one omission on Noun 44. You're height perigee is a plus 00190. Over.

SC Oh, very good. (garbled) plus 00190.

CAPCOM Okay. Readback's good.

SC And, on the magazine - okay magazine F ended up with frame number 57 magazine K 55 percent for P52 Noun 93 00 027 00 065 that's a minus and a minus plus 00 018 Have a torque at 119 27 15.

CAPCOM Okay, Stu. Copy 55 percent on Q0 and frame 57 on photostate, and a minus 00027 a minus 00065 a plus 00018 at 119 27 15.

SC Okay. That hasselblad magazine is siera S frame number 57.

CAPCOM Okay, siera.

SC Okay.

SC Okay, Gordon. I just set you up 5 degrees deadband and this attitude looks like it's a pretty good one

APOLLO 14 MISSION COMMENTARY, 2/5/71 120:06 GET CM-45/2

SC for the high gain.  
CAPCOM Roger, Stu.

END OF TAPE



APOLLO 14 MISSION COMMENTARY, 2/5/71, 14:40 CST, 120:16 GET, CM46/1

KITTY HAWK And Houston, Kitty Hawk.  
CAPCOM Go ahead, Kitty Hawk.  
KITTY HAWK Okay. Have you got good enough  
lockup for an E memory dump?  
CAPCOM Stand by. Check.  
KITTY HAWK Say again, Gordon.  
CAPCOM Stu, you are GO for the E mod dump,  
let us have it.  
KITTY HAWK Okay. Coming at you.  
KITTY HAWK And Gordon as far as crew status  
I'm in good health. No medication and I have some onboard  
readouts.  
CAPCOM Roger, Stu. Stand by on the readouts.  
I'm working with the line here on the other channel.  
KITTY HAWK Okay.  
CAPCOM Okay, Stu. Ready to copy the onboard  
readouts. I was tied up with Ed there.  
KITTY HAWK Okay. Battery C is 37.0, battery A  
37.2, battery B 37.2, RCS A 80, B 71, C 74, D 73.  
CAPCOM Okay, Stu. Copied all that.  
CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston.  
CAPCOM Okay, Kitty Hawk. Got some S-band  
things for you. Got a - like to have you put the S-band  
normal voice switch to off, set the high gain antenna to  
wide and manual and use your present angle.  
CAPCOM And Kitty Hawk, (garbled).  
KITTY HAWK Okay. You want wide - -  
Go ahead.  
CAPCOM Okay. On the S-band normal voice  
to off, that's when you're getting ready to go to sleep.  
But they do want the high gain to wide and manual and you  
already have the good angle.  
KITTY HAWK Okay. Going wide.

END OF TAPE

CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston.  
CAPCOM Okay, got a couple short messages for you before we close up shop. You in a position to stop and talk a minute?  
KITTY HAWK Rog.  
CAPCOM Okay, first of all let's say that the REVS 25 and 26 are going to be nominal no matter, as far as you're concerned, no matter what other activities people decide to juggle around. And in case you didn't get the word, the President called the Control Center here a while back and offered his congratulations to all of you and the team down here for doing a good job and as soon as we get a transcript of that, why we'll read it up to you. The third thing is good hycon camera. We've been talking to the hycon people, and they are of the opinion that many of the things we've been changing some of the shutter oscillations and so forth, would not occur if the - or could not occur if the counter is in fact counting off with each film advance and it's our impression that normally you've been seeing the film counter advance. So we've got a couple of steps we'd like to have you try in order to verify camera operation; the setting is, and we have a good chance that the camera is functioning normally as far as taking pictures and the noise may or may not be extraneous. First question is status of mag W and if it still has some film on it, we'd like you to use it as the one to perform the check I'm going to describe to you.  
KITTY HAWK Yeh, it's still got film. I don't know how much but we haven't hit the end of it yet.  
CAPCOM Okay. It won't take much. Briefly what we're going to do is to check visually and have you look to see if the shutter's operating. And we'll do this by looking down the lens barrel, looking from the operating end back toward the shutter. And what you're going to be seeing is, you won't see the shutter slit go across but you will see the motion and you should be able to detect the direction of motion and the time of it and you may want to use your flashlight to look down into the lens cell and see what you're doing. I'll read you some details - a detailed procedure. I just wanted to give you an outline first of what we're doing.  
KITTY HAWK Okay, what'd they have to say about that check that we made where you look inside to make sure the slit is an inch from the side?  
CAPCOM Okay, I'll check on that one, I'm not sure.  
CAPCOM Okay, Stu. Understand that they're satisfied with what you saw and they think that looks normal

CAPCOM                    which is one of the things that makes us think that the camera's probably operating normally. And if it turns out that the shutter is oscillating, what you're going to see is just a blur, but again you'll see the blur will appear to oscillate. I think you'll be able to detect that the shutter is going from side to side it just looks like a big flash. And if you'll put the - put a flashlight in the lens with you as you look in there, I think you'll be able to see it. You may even see one of the seams on the mylar when it comes to a stop. So with that description of what it is you're going to be looking at I'll read you up the detailed procedures, if you're ready.

KITTY HAWK                Okay, go ahead.

CAPCOM                    Okay. We use the magazine W because we're not going to use much film. We'd like to finish that one off. Go ahead and put the camera on the couch or wherever it's convenient for you with the lens opening visible to you and you might want to tie the camera down because we're going to operate it. Go ahead and hook the camera according to the instructions decal. Do everything in normal orders. Like to have you make the following settings; for the mode, we'd like to use AUTO, the shutter should be on 1/50th of a second, the range 99.9 and the frame rate is 60. Once you have the control box set up, I'll turn the power to on and would like to have you observe the shutter operation by looking through the lens, use a pen light. And go ahead and run this thing, say 10 cycles. Like to have you also verify that the magazine spools are rotating and if the counter is counting for each actuation that you observe.

KITTY HAWK                Yeh, I can already verify that. The counter counts in a smooth rotate.

CAPCOM                    Okay. Has there been any instant when the counter didn't count, when it was making it's funny noises and so forth.

KITTY HAWK                No. Not - I don't believe so at all.

CAPCOM                    Okay, that's encouraging. I think the voting down here is that you probably have a functioning camera. What we'd like for you to do is - do this little test at your convenience and let us know what you see. If it works out that this is one of these times where the test is performed and the camera sounds like it's operating okay, go ahead and run the test but don't sit there and run the camera trying to make it duplicate the sounds you heard before.

END OF TAPE

CAPCOM duplicate the sounds you've heard before. And what we're going to do is assume that if you see a shutter move and it sounds right we're going to assume that it's okay. Then later in the flight, if this thing starts to act up again, we'd like to have you go ahead and finish that pass using the film assuming again that it is working properly, but at the first convenient time afterwards, perform this test again. And the time, of course, that we're most interested in is performing this test when the noises and so forth are coming out.

KITTY HAWK Okay, I don't think we'll have to sweat finding that. Seems like it's all the time. Now, I still don't see what I'm looking for when I look down the lens. I know the shutter moves because I can actuate it and go in look at the slit and it's moved.

CAPCOM Okay, what we're trying to see, Stu, is that the slit is not oscillating. We've been able to duplicate your noises down here, by setting up an oscillation in the slit where the shutter just sits there and rocks back and forth and it's cycling just completely out of control. So, we want to verify that that's not our problem. In that case, if you looked at the slit before and after an actuation, you would find that the slit had moved, but it would tell you that it was moving properly. And I think that's the big thing you're looking for.

KITTY HAWK Okay, I'll do that sometime first chance I get tomorrow. And, Ken, another question.

CAPCOM Yeah, sure.

KITTY HAWK Okay, what do they say about the shutter moving FMC operating and all that good deal stuff with the switch in stand by?

CAPCOM Okay, we've run several tests for you. Been able to duplicate that, but it's not easy to correlate the way we've duplicated that with what you've been saying. We've been able to lower the power into the camera and make it do that. And they'll sit there and when the timing logic gets out of sequence, then they - all the timing internal to the camera is run from a commutator and this little commutator can get hung up on one sequence like the shutter operation and it will sit there and do that. The reason the FMC seems to operate normally is that's all an AC operation. And the problems that we've been able to duplicate have all been associated with DC.

KITTY HAWK Okay, I tried that - you know, I had it in stand by and I put the frame rate on 0. Now, I don't know whether there's a minimum - whether 0 really means 0 or not, but that didn't seem to phase it. It went ahead and did it's thing anyway.

CAPCOM That's been our experience, Stu, is to - whenever we set this condition up through the low power input,

CAPCOM on the DC, why once it gets into this uncontrolled shutter oscilation, why all the other controls are - seem to be ineffective.

KITTY HAWK Okay, and the noise is not synonymous with sporatic firing of the camera. You know, you can set sometimes in stand by power on and all you have is the noise and no operation of the camera. And other times, you have operation of the camera along with the noise.

CAPCOM Okay, I'm afraid we don't have a real good handle on that. And we've been able to duplicat many of your symptoms, but we haven't been able to duplicate them all simultaneously. So, we're going to hang our hats on this check that you're making just to verify that our assumption that the camera is probably taking photographs and operated normally. So, it turns out that the shutter speeds have been off or something of that nature, once we know that and we can determine that on the ground, we can process the film accordingly and recover all of the data. And just as a backup procedure we've had a lot of people working around the theory here to see what we can do, how we use our film if we find we have a limited amount or we want to aportion our other film resources to take the place in case this camera check doesn't pass.

KITTY HAWK Okay, so, if the shutter's not osculating we can press ahead. That's the plan, huh?

CAPCOM Yes Sir, and just in case it doesn't act up the one time you look at it, which seems to be one of natures rules, why go ahead and assume it's working fine and next time it does act up why we'll run the test whenever's convenient.

KITTY HAWK Alright.

CAPCOM Having a good time up there?

KITTY HAWK Yeah, man.

CAPCOM Sure sounds like it. You've really ...

KITTY HAWK Okay, well I think ... Yeah, I think I'm going to see if I can have a little chow and sack out, here. It's been a long day. Hey, would it help anybody if I'd run that check now, or should I - is it alright if I wait until in the morning?

CAPCOM Well, I think just run it the next time it's convenient for you.

KITTY HAWK Okay, unless you think it would be a break through somebody could work on tonight, I'd just as soon wait til tomorrow.

CAPCOM That sounds good. Just give us a call whenever you get it done.

KITTY HAWK Okay, and I think as I told Gordon there, you know I did take the pictures of the landing just assuming that maybe the thing was working right. I did not

APOLLO 14 MISSION COMMENTARY 2/5/71 15:00CST 120:36GET CM-48/3

KITTY HAWK take that target 16, however, because I thought maybe we could get it again, if the thing gets to working right.

CAPCOM Okay, sounds good.

KITTY HAWK Hey, Ken, one other question.

CAPCOM Okay, go ahead.

KITTY HAWK Okay, originally criteria had been that that shutter slit would stop an inch from the side. That's not really an iron clad operating mode then. Is that correct?

CAPCOM Well, I'm not real sure what you mean by iron clad operating mode, Stu. It indicates that the shutter is in fact still being properly sync because your timing thing hasn't been lost. But it doesn't tell you that the shutter is firing at the proper time. It just means the shutter curtain itself is still hooked up.

KITTY HAWK Okay, but ... .

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71, 15:10 CST, 120:46 GET, CM49/1

KITTY HAWK           Okay. But I'm sure you got the word there that, you know you can trip this beauty and sometimes it stops an inch from the side like it should and then other 4 or 5 times that I looked at that little operation, twice it stopped out maybe twice that far, maybe 2 inches or a little more out. It didn't always stop the same distance out.

CAPCOM                Okay, Stu. Gordy says that's - that indicates that we do have a sync problem.

CAPCOM                I guess one thing I'd like some verification on, Stu, is the randomness of this oscillation that you're getting. Does it happen the same in STAND BY and AUTO?

KITTY HAWK            You mean the noise?

CAPCOM                Yes, sir.

KITTY HAWK            Yes. It's - It doesn't change when you go from STAND BY to AUTO. It doesn't change when you move the nonessential bus switch from main A to main B. It doesn't change when you poke around on the connector on 227. It just seems like it's there. And in all the modes it went - like you say, it started intermittently on that low pass, came on then went back off again, but now every time that I've turned the power on, I've gotten the noise. I don't always get the shutter operating - I meant the - well, the shutter operation, as far as the counter moving and the FMC operating. But the noise is always there.

CAPCOM                Okay. And can you associate that more with AUTO than STAND BY or anything like that?

KITTY HAWK            That's a negative.

CAPCOM                Okay.

KITTY HAWK            Just turn the power on in STAND BY and it's there.

CAPCOM                Roger.

KITTY HAWK            And you go to AUTO - you go to AUTO and you start taking the pictures but the noise is still there.

CAPCOM                Okay. I understand. Thank you.

KITTY HAWK            Okay, Ken. I'm going to turn off my handy dandy switch here and we'll see yall in the morning.

CAPCOM                All right there. All your systems look GO.

KITTY HAWK            Jolly good.

CAPCOM                Kitty Hawk, Houston. This is in the blind. No need to answer. Would you remember your (garbled) being sure that your biomed is plugged in.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/5/71, 15:20 CST, 120:56 GET, CM50/1

Dead air.

END OF TAPE



APOLLO 14 MISSION COMMENTARY, 2/6/71 129:50 GET CM-51/1

CAPCOM Hello Kitty Hawk, good morning Kitty Hawk  
this is Houston. Over.

KITTY HAWK Hello, Houston, Kitty Hawk.

CAPCOM Roger, Stu. Good morning. You're loud  
and clear.

KITTY HAWK Roger, same here. It must have been a  
good comm attitude.

CAPCOM Roger. I guess we're coming up in about  
roughly 15 minutes starting this (garbled) static radar.  
I have some pads to get up for plus a little discussion.  
So if you grab your shuttle book, I'll give you a couple  
of them right now.

KITTY HAWK Okay, I've got it.

CAPCOM Okay. Got a map update Rev 26 for page 33.

KITTY HAWK Go ahead.

CAPCOM LOS is 131 05 17 180 at 131 30 08  
AOS 131 51 34. Go ahead.

KITTY HAWK Okay. 131 05 17 13130 08 131 51 34.

CAPCOM Okay. You got that one okay. Same page  
the retical stereo photo pad T start 131 44 21 T stop 132  
32 42. Over.

KITTY HAWK Roger. 131 44 21 132 32 42.

CAPCOM You got that one okay. And the page  
before your consumable update. For a GET of 129 55 RCS total  
64 percent Quad A 67, Baker 61, Charlie 66, Delta 63.H2 tank 1  
56, tank 2 56.02 tank 1 79, tank 2 78, tank 3 26 percent. Over.

KITTY HAWK Okay. 129 55 RCS total 64 Quad 67 61  
66 63 H2 56 56 02 79 78 26.

CAPCOM Roger. That's correct, Stu.

CAPCOM Stu, this is Houston. Will you give us P00  
and ACCEPT, and we'll give you a stay vector?

KITTY HAWK Okay. You have it.

CAPCOM Stu, this is Houston. You have time for  
a little conversation.

KITTY HAWK Yeah, go ahead.

CAPCOM Okay. As far as the plan ahead for today,  
REV 25 and 26 are no changes in the solar book. We need to  
know if you by any chance got up early and did any more to  
the high con in a way of the procedures that Mattingly  
gave to you last night. If you didn't any way, we need to  
find out the answer on that high con by the next rev or so  
so we can choose the plan that we're going to take depending  
on the status to get Descartes photos. Over.

KITTY HAWK No, I'd planned on doing that but I didn't  
make it, Gordon. I'll try to get to it just as soon as I can.

CAPCOM Okay. He probably went into great detail.  
The main thing is to determine if the shutter looks like it's  
working right, and if the shutter's working right and it's  
advancing film, even though it's making noise bell tells us

APOLLO 14 MISSION COMMENTARY, 2/6/71 129:50 GET CM-51/2

CAPCOM                   it's worth to at least try and use it.  
If the shutter's not working, we'll no-go it and just go  
all the way with the Hasselblad 500 millimeter.

KITTY HAWK               Okay. I'll try to get on it.

CAPCOM                   And, at any rate, we're going to use ...  
take some ... at least one pass with the 500 millimeter  
to be sure. Also, we're looking like we may give you a  
stowage change.

END OF TAPE

KITTY HAWK Okay. I'll try to get on it.  
CAPCOM And at any rate, we're going to use - take some - at least one pass with the 500 millimeter to be sure. Also, we're looking like we may give you a stowage change to improve L over D. That will be coming later if we decide that it's necessary. And there is a change to what we gave you for normal docking procedures. If you can turn to the docking part of the solo book I might as well give you that right now.

KITTY HAWK Okay. We got a little while before we get to that one, Gordon. If it's all right with you, why don't we let me hold off and I'll get the crack in here.

CAPCOM Okay. Fine.  
CAPCOM Stu, Houston. We're going to send up another uplink. What it is, is an uplink to something in the computer called FANG which is your short burn thrust constant. It should take out the slight error that you saw in the third burn.

KITTY HAWK Hey, that's a good show. Appreciate those updates.

CAPCOM Stu, Houston. Can you give us a quick handle on how well you slept last night?

KITTY HAWK Oh, slept about normal. I guess I probably got 6 hours sleep maybe. 5-1/2 or 6.

CAPCOM Roger.  
KITTY HAWK And I had no medication and I guess there's no sense fishing out my dosimeter - - getting it out of my pocket. I've got the broken one.

CAPCOM Roger.  
KITTY HAWK And Gordon, just so you'll know. I'll work on that highcon over here during the eat period from 130:40 starting at that time frame and won't get a chance to give an answer to you I guess until we come back around on the other pass. But I'll - regardless of how it turns out, you want me to press ahead with the normal procedures here at 131: - on that pass starting at 131:40, huh?

CAPCOM Roger. That's affirmative, Stu. And an answer by that time will be good enough. Next two revs should be all nominal procedures. And we're through with the - -

KITTY HAWK Okay.  
CAPCOM We're through with the computer also.  
KITTY HAWK Okay.  
CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston.  
CAPCOM Okay. We're all configured for the bistatic radar test down here. If you'll go ahead and do the procedure shown on 130 (garbled) vhf antenna

APOLLO 14 MISSION COMMENTARY, 2/6/71, 00:22 CST, 130:00 GET, CM52/2

CAPCOM left and OMNI Charlie and we'll  
talk to you next time around, I guess.

KITTY HAWK Okay. I understand that we're all  
configured and you've got all your commands in and you want  
me to go to vhf left and S-band - I meant to OMNI Charlie  
now?

CAPCOM That's affirmative, Stu.

KITTY HAWK Okay. I verify vhf antenna left  
and I'm going to OMNI Charlie and I guess we'll talk to you  
later.

CAPCOM Adios.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 130:10 GET CM-53/1

All dead air.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 130:20 GET CM-54/1

All dead air.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 130:30 GET CM-55/1

All dead air.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 130:40 GET CM-56/1

All dead air.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 130:50 GET CM-57/1

All dead air.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 131:00 GET CM-58/1

All dead air.

END OF TAPE

KITTY HAWK Houston, do you read Kitty Hawk?  
CAPCOM Kitty Hawk, Houston. You're way down  
in the mud there. Try it again.  
KITTY HAWK Okay, how do you read?  
CAPCOM Okay, you're still real weak, Stu.  
CAPCOM Try it again now, Kitty Hawk.  
KITTY HAWK Okay, Houston, Kitty Hawk. Can you read?  
CAPCOM Hey, there, I got you loud and clear now.  
KITTY HAWK Okay, you ready for some words on the  
hycon?  
CAPCOM We're standing by.  
KITTY HAWK Okay. I did that little routine that  
Ken talked to me about last night and sure enough that  
noise we hear is the shutter oscillating and you put the  
power on mode switch standby and the shutter sits there  
and oscillates back and forth. If you go to AUTO and when  
the intervalometer times, the shutter appears to stop  
while - during the FMC. When the FMC kicks up, the shutter  
appears to stop at that point, then goes back to oscillating  
again. It does the same thing in single frame mode.  
CAPCOM Okay, Stu. I think when you go to AUTO  
into intervalometer time the shutter appears to stop.  
Did it kind of follow the intervalometer setting at all?  
KITTY HAWK Yeh. On a (static) the FMC operates and  
the shutter appears to stop and you know (garble) Hello,  
how do you read.  
CAPCOM Okay. I think I've got you again now, -  
KITTY HAWK Hello, Houston. How do you read?  
CAPCOM Okay, I've got you again now, Stu. How  
am I?  
KITTY HAWK Okay. Okay you're loud and clear. And  
it does the same thing in the mode in the single whenever  
you hit the button why the FMC operates and the shutter  
appears to stop and then starts back oscillating.  
CAPCOM Okay, Stu. When the shutter does oscillate  
on the thing, does it kind of go back and forth or does it  
seem like it keeps going around? You know, does it seem  
like it keeps going around in the same direction or does  
it oscillate back and forth?  
KITTY HAWK Well, I guess I might have to look at it  
again to be real certain but I- Yeh, it goes back and forth.  
I might check that in a little bit if I get the chance -  
or when I get the chance but it looked like it was just  
sitting there going back and forth on the thing.  
CAPCOM Okay, Stu, stand by one.  
CAPCOM Okay, Stu, what we're thinking is that  
you know the shutter kind of goes back and forth anyhow  
and if it goes back and forth kind of at the intervalometer  
setting and the spools rotate, you know to indicate that



CAPCOM                    the film was in fact moving. It looks like it may be operating in the AUTO mode okay and we could probably be able to get the pictures. Now if that's a completely you know if the shutter kind of oscillates, not with respect to the intervalometer setting, they may not be working correctly, see. I guess I'm still not quite clear in my own mind that if the shutter's oscillating back and forth at the rate of the intervalometer setting.

CAPCOM                    That's a negative on that one, Ron. It's a fast oscillation, like the check that he had wanted me to make was kind of a longer set on 60 and - and so every second we intervalometer triggers and FMC operates but the shutter in between is just banging back and forth.

CAPCOM                    Okay, I understand now.

KITTY HAWK                And the oscillation on the shutter appears to stop at the time the intervalometer triggers.

CAPCOM                    Okay -

KITTY HAWK                You know I looked down the lens with a flashlight and I see - I looked down the lens with a flashlight and I see the shutter's (inaudible) and it appears to freeze at the time the intervalometer triggers (garbled)

CAPCOM                    Okay, Kitty Hawk, Houston. You faded out again there, I missed your last comment.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 02:22 CST, 132:00 GET, CM60/1

CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston.  
CAPCOM Okay. It looks like you're working  
on the high gain there. We got pitch at minus 84 and yaw -  
pitch at minus 84 and a yaw of 346.  
CAPCOM Okay. I think we should have you  
now, Stu.  
KITTY HAWK Yes. It looks pretty good now.  
CAPCOM Hey, it's beautiful.  
CAPCOM Okay. When the shutter does stop  
on the thing there at the 1 second intervals, can you see  
the shutter slip at all?  
KITTY HAWK No. I thought it might stop out  
there. No, I couldn't. And also when I open - put magazine  
W in, I noticed the slit went right out in the middle of  
the magazine there, if that means anything and I didn't -  
couldn't particularly see the slit when the shutter stopped.  
But I can look for that again. You know, it's a little  
difficult to tell what I'm looking behind to see whether  
I really should be able to see the slit or not. But I can't  
check it out for you right now. We've got the dc camera  
running off the scientific box over there. Well, I guess  
you - unless you don't particularly want the high bit rate  
anyway. But I can go ahead and power it up here in a minute  
and run through it while you're on the line and answer any  
questions.  
CAPCOM Okay. It doesn't look like that's going  
to cost us anything there. Don't forget you got the langrenus  
B your photo target there.  
KITTY HAWK Yes. I'm watching that one.  
CAPCOM And Stu, while I've got you here,  
I want you to look over your flight plan there on 13242 for  
the north (garbled) pole attitude. I got a different pitch  
attitude.  
KITTY HAWK Okay. Would you hold that one?  
CAPCOM Okay.  
CAPCOM Kitty Hawk, Houston. OMNI Bravo.  
CAPCOM Kitty Hawk, Houston. I know you're  
looking out the window there at Langrens now but when you  
set up for the camera there let's try a 10 frame per second  
instead of 60. 10 frames per minutes I mean, instead of  
the 60, for the frame rate.  
KITTY HAWK Stand by. I'll get that in a minute.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 132:10 GET CM-61/1

CAPCOM Kitty Hawk, Houston. Looks like the first thing we ought to whip to you here is some 500 millimeter procedures. So if you've got a place to copy those down. There's about 11 steps on it. And, the next rev we'll use the 500 millimeter.

KITTY HAWK Okay. (too low)

CAPCOM Stand by one, Stu. I just barely got you there.

CAPCOM Okay. Kitty Hawk try the high gain, the pitch minus 50, yaw 181.

KITTY HAWK Okay. How do you read now?

CAPCOM Okay. You're real weak, Stu. How do you read me?

KITTY HAWK You're loud and clear. (garbled)

CAPCOM Okay. I could just barely hear you, but if you're reading me good why don't you go ahead and let me know when you're ready to copy some 500 millimeter procedures.

KITTY HAWK Okay. I'm ready now.

CAPCOM Okay. Step 1, configure camera CM 4/EL/500/BW-PCM cable. The 16 millimeter control cable paron F 11 1/250 infinity. 42 frames 5 second intervals, magazine papa. Step 2 set coads in left hand rendezvous window. Adjust for plus 10 degrees. Step 3 verb 49 maneuver to high resolution photo attitude. And just a note, time to start the maneuver and the maneuver attitude will be updated. Step 4 change your DAP par 1 2 11103 and Stu, we talked about that. Whether to use a 2 degree or 1/2 degree per second, there. I personally prefer the 2 and the R1. And, then if you don't quite hack it, you know that's a little correct. Okay. Step 5 ... I missed that, say again.

KITTY HAWK (Voice too low)

CAPCOM Okay. I didn't quite hear that, but I think you got it. Step 5 pick up 50 DET. Step 6 configure the BSE, high bit rate record forward command reset. Step 7 at T start EL camera ON and DET start up. Step 8 at T start plus 1 minute ordeal pitch 305 track Descartes with coads

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 02:42CST 132:30GET CM-62/1

CAPCOM Step 8, at T start plus 1 minute  
ordeal pitch 305, track Descartes with COAS. Are you still  
with me, Stu? Okay, I can't read you at all, now, Stu.

KITTY HAWK (garble) go ahead.

CAPCOM Okay, Stu, I'm going to go ahead and  
read you step 9. At T start plus 3 minutes 28 seconds  
ordeal pitch 215, terminate tracking, EL off. Step 10,  
configure DSE to low bit rate, Step 11, record frame num-  
ber. Okay, in the blind, that's it.

KITTY HAWK Okay, how do you read.

CAPCOM Okay, you're really weak, Stu. I  
don't know, if you can read the ABC meter on the high gain,  
maybe I can reach you if you can keep the high gain off.

CAPCOM Okay, Kitty Hawk, Houston, let me  
try one more time here. If you're reading me, okay I've  
got some more site plan updates for you here.

KITTY HAWK Okay, I'm reading you loud and clear,  
Ron.

CAPCOM Okay, Stu, you're still down, but  
let's do the flight plan update. At 132 40 change your  
pitch attitude on the north galactic pole there, change the  
pitch attitude to 280, high gain angles pitch minus 81, yaw  
210. Okay, skip on over in your solo book there to time  
at 133:31. Delete the verb 49 maneuver to the LTC attitude.  
And delete at 133:40, the proceed pro to start the pitch  
rate. And delete all reference to LTC photography target  
2/8. Okay, at 134:00 add - you still with me, Stu?

KITTY HAWK No, I didn't get all of it, you  
dropped down for a while. I picked up here at 133:40.

CAPCOM Okay, Stu, at 133:31 ...

KITTY HAWK Go ahead.

CAPCOM Okay, Stu, at 133:31 delete the verb  
49 maneuver to the LTC target. And at 133:40 ...

KITTY HAWK I got that, forget it.

CAPCOM Say again.

KITTY HAWK (garble)

CAPCOM Man, this comm is terrible, I can't  
read you.

KITTY HAWK Okay, (garble)

CAPCOM Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 02:52CST 132:30GET CM-63/1

DEAD AIR

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 132:40 G.E.T. CM64/1

CAPCOM                   Okay, Kitty Hawk, Houston. Noise stopped down here, we may have some com now.

KITTY HAWK               Hey, how 'bout that, Houston. Looks like we may have a good signal starting.

CAPCOM                   Beautiful. Now man, that's great to hear your voice like that. Okay, Stu. I want to make sure that we get our 500 mm stuff up to you and make sure you have that before we do anything else.

KITTY HAWK               Okay.

CAPCOM                   Okay, I'm not sure where I faded out on the update I was going to give to you. I passed up delete the vertical LTC photography stuff at 133:30, did you get that?

KITTY HAWK               That's affirmative. I got a 133:30 no VERB 49 maneuver, no PRO and ORDEAL 328 and delete all LTC starting at 2 dash 18.

CAPCOM                   Okay and how about over at 134?

KITTY HAWK               No, I didn't get anything there.

CAPCOM                   Okay, at 134, add - you got a VERB 49, to ROLL 0, PITCH 248, and YAW 0. Over.

KITTY HAWK               Okay, at 134 VERB 49 to 0, 248 and 0.

CAPCOM                   Okay, and then use 500 mm procedures and did you get all of those?

KITTY HAWK               That's affirmative. Let me just recap here slightly.

CAPCOM                   Okay. Wait one, Stu, let me get you your T start time for the 500 mm there is at 134:20, at 134:20.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 132:50 GET CM-65/1

CAPCOM                    Okay. And then use 500 millimeter procedures. And, did you get all of those?

KITTY HAWK                That's affirmative. Let me just recap here slightly.

CAPCOM                    Okay. Wait one, Stu. Let me get you your T start time for the 500 millimeter there, is at 134 20 - at 134 20 and T start time is 134 20 19.

KITTY HAWK                Okay. I had the PGNS, now tell me again T start.

CAPCOM                    Say again, Stu.

KITTY HAWK                I did not get that last bit about the times. Give me those again.

CAPCOM                    Okay. That's 134 20 in the flight plan there, T start is 134 20 - 134 20 19.

CAPCOM                    Okay. And, now we can go ahead and review those 500 millimeter procedures.

KITTY HAWK                Okay.

KITTY HAWK                Okay. I'm going to configure the camera CM 4 EL 500 black and white PCM cable and 16 millimeter control cable. F 11 1/250th infinity. I'm going to shoot 42 frames with me manually flicking them off every 5 seconds. I'll use magazine P, P as in papa. And, I'll use the coads, set on 10 degrees, and do the Verb 49 maneuver. Probably won't change the DAP, last tracking went real well at minimum impulse.

CAPCOM                    Okay, look while he's talking about that tracking.

KITTY HAWK                I'll zero the ... I'll zero the event timer. I'll configure the DFP high bit rate record forward. Command reset. I guess I'll do that just prior to T start. T start, I'll turn the camera on, start the event timer, and at T start plus a minute, I should be in a ordeal pitch at 305. And, I'll start the coad track of Descartes, and at T start plus 328 should be around an ordeal pitch at 215. I'll terminate the track, turn the camera off, go to low bit rate, record the frame number.

CAPCOM                    Okay. Sounds real good there, Stu. Looks like you got it under control. I don't know, have you ever used that 16 millimeter camera instead of the intervalometer you know on the PCM cable.

KITTY HAWK                No, I sure haven't.

CAPCOM                    Okay. I've check that out real good and every time you punch it, just like on a 16 millimeter you take a picture you know. And, it'll reach all the way over to your left hand there so you got that in your left hand and whipping away with your right hand on the minimum impulse, you know.

KITTY HAWK                Okay. That shouldn't be any problem. That coad track and minimum impulse is extremely smooth, Ron.

KITTY HAWK It just hangs right there.  
CAPCOM Beautiful. Okay, the only difference as you notice, the rest of them are going to be at a zero roll so you'll be pitching the opposite direction on the thing as you did then, you did for the one for the ... the last pass there.  
KITTY HAWK Okay.  
CAPCOM And, I got some -  
KITTY HAWK - I'm flexible, I'll be able to handle that.  
CAPCOM Beautiful, I'm sure you can. Okay, at AOS, I got the AOS pitch and yaw angles for you. At about 133 50 in there.  
KITTY HAWK Okay. Go ahead.  
CAPCOM Okay. And, pitch of minus 59, and yaw of plus 345, instead of OMNI B there.  
KITTY HAWK Okay. (garbled) OMNI B pitch minus 59 yaw plus 345.  
CAPCOM Roger. You'll be coming over the hill there in your lunar libration attitude.  
KITTY HAWK Okay. And, the ... on magazine Q on that vertical stereo ended up on frame number 187.  
CAPCOM Roger. 187 on magazine Q. And, on page 33 there, do you have your torque and angles for your P52.  
KITTY HAWK Roger. Minus 00036 minus 00157 plus 00 091 at a time of 131 18 30.  
CAPCOM Roger. Minus .036 minus .157 plus .091 at 131 18 30.  
KITTY HAWK That's affirmative.  
CAPCOM Okay. Looks like you may have some time to mess around with this LPC probably 134 135 or somewhere around there. Maybe before that. But, basically, it looks like it ... well, we're really not sure that it works or not but we think it probably won't. But as a final check on it, if you get a chance, do the same procedures as kind of before. Except, put your frame rate down to 10 frames per minute instead of 60. And, that'll be a slower operation there and kind of observe, first of all, looking through the lens you should be able to see the shutter slit or at least a piece of tape looking like stuff you know, where the shutter slit is and kind of get an idea of what's happening to the shutter slit if you can. And, from what I understand from what you said before is that it looks like it's zigging back and forth until the intervalometer hits the thing and then it kind of stops for a second or something and then it starts zigging back and forth again. Is that kind of correct?  
KITTY HAWK That's affirmative. That's the way it looked a moment ago.  
CAPCOM Okay.



APOLLO 14 MISSION COMMENTARY, 2/6/71 132:50 GET CM-65/3

KITTY HAWK It freezes when the intervalometer trips.  
CAPCOM Okay. I understand it freezes when the intervalometer kind of trips the system, so to speak.  
KITTY HAWK That's true, and it also does it when you have (garbled) signal and you push the button.  
SPEAKER I don't know what the problem is, we got a good signal strength.  
CAPCOM You faded out on that one, Stu, I missed it.  
KITTY HAWK Okay. And that's the same operation in both switch signals when you push the signal spring button.  
CAPCOM Okay. You might try tweaking up your high gain there a little bit, Stu. I can't hear you.  
CAPCOM Yaw is a plus 210.  
KITTY HAWK I'm showing a real good signal strength, Ron.  
CAPCOM Okay. You're just real weak, but clear now. So, I think I can hear it.  
KITTY HAWK Okay. How's that.  
CAPCOM Okay. Real weak, but clear, I think.  
CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston, Kitty Hawk.  
CAPCOM Okay, Stu.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 02:23 CST, 133:00 GET, CM66/1

CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston. Kitty Hawk.  
CAPCOM Okay, Stu. We're going to rewind -  
start the tape recorder rewinding at LOS on the thing. And  
we see the barber pole indicating that it's completely re-  
wound. Then go ahead and do your normal procedures and  
start at the low bit rate, you know, command reset and  
et cetera.

KITTY HAWK Yes. That will be a good deal, you  
know at the start of that stereo stuff I check the tape at  
LOS and it was very by the time we got to the start of the  
stereo strip and I guess it hadn't been rewound.

CAPCOM Roger.

KITTY HAWK I wound it back and once I got about  
45 seconds of high bit rate the start of that stereo strip.

CAPCOM Okay. Understand.

CAPCOM Okay, Stu. We got about 2 minutes  
until LOS and you might be advised that Ed and Al are out  
roaming around the lunar surface working up toward Cone  
Crater. I kind of lost track of exactly where they are  
but - -

KITTY HAWK (garbled) Sounds real good. Thank  
you.

CAPCOM Kitty Hawk, Houston. About 30 seconds  
to LOS. Your 180 for rev 27 is 133:28:29.

KITTY HAWK Okay. 133:28:29.

CAPCOM Roger. LOS and AOS are off about a  
minute.

KITTY HAWK Okay. While I'm back side I can  
find my way without using that 180 time. Why don't we just  
discontinue that if things - -

CAPCOM I'll catch you the next time around.  
I missed it.

END OF TAPE

CAPCOM Kitty Hawk, Houston. I've got your data now?

KITTY HAWK Hello, Houston. How do you read Kitty Hawk?

CAPCOM Kitty Hawk, Houston. I think we got you that time, kind of weak though.

KITTY HAWK Okay. It looks like we'll lock up here in just a second.

CAPCOM Kitty Hawk, Houston. We got rid of the background noise now, probably have some good comm air.

KITTY HAWK Roger on that. This is the highest signal strength I've seen so far.

CAPCOM Man, that's the best I've heard you. Sounds real good. Hey, Stu, I guess the one thing I really didn't get out of you, you talk about the hycon camera, do you have any confidence at all in that thing?

KITTY HAWK Well, I guess I really don't know the inner workings well enough to say that, Ron. The racket sure does sound bad but when you see the frame counter going you figure it's doing something. I don't really know. I didn't get a chance to look at it but soon as we finish up here I'll - I've got it out and if I get a chance why, we'll - we'll run through an exercise here with you on the loop and maybe we can then arrive at some conclusion.

CAPCOM Okay. Just for your information, Al and Ed are just about on the edge of Cone Crater now.

KITTY HAWK Oh, great. How was the climb?

CAPCOM Well, it was a little further away I think than they really thought it was going to be. They're going to go up on the west rim I guess instead of the east rim. That's what it looks like right now. It's kind of the southwest rim. They're sending back all kinds of good deal information about the soil and texture and what have you, the rocks.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 04:19 CST, 133:57 GET, CM68/1

KITTY HAWK Great. How was the climb?  
CAPCOM It's a little further away I think than they really thought it was going to be. They're probably going to go up on the west rim, I guess, instead of the east rim. It looks like right now. It's kind of the southwest rim. They're sending back all kinds of good deal of information about the soil and texture and what have you and the rocks.

CAPCOM And Stu, I guess you've been taking a look, haven't you, at the - in our landmark book there in the Descartes COAS pictures?

KITTY HAWK That's affirmative.

CAPCOM Roger.

CAPCOM Kitty Hawk, Houston.

KITTY HAWK Go, Houston.

CAPCOM Okay, Stu. I've got some high gain angles for you for after the COAS maneuver. A pitch of minus 48 and a yaw of 177.

KITTY HAWK Okay. Pitch minus 48, yaw 177.

CAPCOM Roger.

KITTY HAWK I sure hate to write in this good column. I'll start my maneuver.

CAPCOM Okay.

CAPCOM Kitty Hawk, Houston. OMNI Bravo.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 14:29CST 134:07GET CM-69/1

CAPCOM

Kitty Hawk, Houston, Omni Charlie.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 04:39 CST, 134:17 GET, CM70/1

CAPCOM Kitty Hawk, Houston. We should have  
you now.  
KITTY HAWK Okay. Roger. Loud and clear.  
CAPCOM Okay. You're loud and clear there, Stu.  
How does it go?  
KITTY HAWK Okay. Went real smooth and the  
frame number is 48.  
CAPCOM Roger. Frame 48. And you think  
you got some good flicks, huh?  
KITTY HAWK That's affirmative. I was touching  
it off once every 5 seconds and - -

END OF TAPE

KITTY HAWK           Okay. Went real smooth and the frame number is 48.

CAPCOM               Roger. Frame 48 and you think you got some good flicks, huh?

KITTY HAWK           That's affirmative. I was touching it off once every 5 second and it was - it held right in there. And they should be good.

CAPCOM               Beautiful. Okay. I guess you're pressing in to checking out the LTC right?

KITTY HAWK           That's affirmative.

KITTY HAWK           I'll get it stretched out here and get it up and then get on with you and tell you what I see.

CAPCOM               Okay.

KITTY HAWK           Okay, Houston. Kitty Hawk.

CAPCOM               Roger. Go, Stu.

KITTY HAWK           Okay. As far as whether or not the shutter is oscillating or going in one direction, I can't tell. We did run out of film on this magazine W and that made it a little easier to see in there. With this shutter sticking like this, you're going to expose any film underneath it because, you know, it's moving at fast enough rate that I can see through and see the flat now. I can see the holes in the flat with the shutter oscillating. It goes fast. I'd say it's a couple of three times a second oscillation. Or at least that's the noise level now. I'm not sure what the shutter's doing it's moving so fast. In AUTO and in single frame when you push the button the shutter does stop for just an instant and just randomly you will see the slit. Now it's not always there. Sometimes it's there, sometimes it isn't, sometimes it's different width on the slit. Now why don't we start there and then I'll entertain the questions.

CAPCOM               Okay, Stu. That sounds like that's a good explanation of what's happening. The shutter is oscillating back and forth and it does expose the film every time it oscillates, it looks like. And even in single frame, it stops an instant.

KITTY HAWK           Yes. Well, I don't know whether - -

CAPCOM               Yes. Go ahead, Stu.

KITTY HAWK           I don't know whether it's oscillating or whether you know it's - I guess it would have to be though. That thing flips back and forth. It suffices to say - -

END OF TAPE

CAPCOM and even in single frame ...

KITTY HAWK I don't know whether ...

CAPCOM Yeah, go ahead, Stu.

KITTY HAWK I don't know whether it's oscilating or whether, you know, it's - I guess it would have to be though, that thing flips back and forth. It safices to say, there's always a slit over the film the things moving so fast. I mean I can see through to the flat.

CAPCOM Okay, Stu, as far as the oscilating are whipping all of the way around, what we simulated here on the ground, is that the shutter just goes around and around in there. And you get a real clicking, you know, something like that. And I guess you've tried your frame return at 10 frames a second.

KITTY HAWK That's affirmative, it's on pins and the inner velometer works. And on the cycle of 10 a minute, why the shutter stopps and then takes back up again.

CAPCOM Okay, is the counter counting at the intervalometer setting more or less.

KITTY HAWK That's affirmative.

CAPCOM Okay. So, my impression is that it's getting multiple exposures on each frame. Is that correct?

KITTY HAWK Yes, that would be it. Any film that's behind is going to be exposed as the slit moves back and forth. And like I say, the range is fast enough that with your eye, you know, you can look right through the shutter in the center and see the holes in the flat while it's doing it's thinking thing.

CAPCOM Okay, understand.

KITTY HAWK And maybe if you could drum up any more questions, why, you know, this is a pretty good time, I've got the beast out here.

CAPCOM Okay, we've got our photo guys, here, I'll give them a poll and see if they've got any questions.

KITTY HAWK Hey, Ron, I want to make sure I'm making myself clear, so, keep asking me til you get across what you want to know.

CAPCOM Okay, Stu. Okay, Stu, one question here. While all the curtain is or the shutter, you know, is clicking, sliding back and forth there, is the frame counter counting at that time or is it only counting, you know, kind of like when it's supposed to?

KITTY HAWK The frame counter is counting when it is supposed to.

CAPCOM Okay, the frame counter is counting when it's supposed to and while the shutter is irradic, flip-ping back and forth or round and around, whatever it's doing, the frame counter is just standing still, is that correct?

KITTY HAWK That is affirmative. It does not



KITTY HAWK            move with this clicking or with the shutter oscilation. It only counts either when you hit the single frame or when the inner valometer times.

CAPCOM                Okay, understand. Okay, Stu, it looks like we're still so uncertain on the Hycon, that we want to press on and use the 500 mm on the next rev. And we will not use the Hycon on the next Rev.

KITTY HAWK            Okay, I guess we need to talk a little bit about how we're going to do this, Ron.

CAPCOM                Okay, I've got some flight plan updates here for you. Starting out at 135:20 on you Solar book, there.

KITTY HAWK            Okay, 135:20, I'm there.

CAPCOM                Okay, delete the verb 49 maneuver and press on to 135:35. Delete the )garble). Delete - I hate to say this. Delete King photo, before there at 135 about 45. And also delete the Fan Crator strip there at target 4.

KITTY HAWK            Okay, I've got you, go ahead.

CAPCOM                Okay, and, of course, delete all references to the LTC photo on target 6. And then at 136:00 on page 38.

KITTY HAWK            Okay, go ahead.

CAPCOM                Okay, add verb 49 to roll 0, pitch 249 and yaw 0. Use 500 mm procedures. P start 136:18:40. And Kitty Hawk, Houston, did you copy that?

KITTY HAWK            Rog, okay a readback. We're marking off the 135:20 no verb 49 maneuver, 135:35 no prod on the ordeal and marked off in blood is the King photos, the Fan Crator photos, deleting any reference to LTZ target 6 and a 136 we'll do a verb 49 maneuver to 0 249 0, use the 500 mm procedures, P start at 136:18:40.

CAPCOM                Okay, that's good and then I've got you map update for Rev 28 on page 37 there.

KITTY HAWK            Okay, now, this is another track of Decar, is that right, Ron?

CAPCOM                That's affirmative and stand by one, I may have a slightly different aim point there. That's affirmative.

KITTY HAWK            Okay, Ron, have you got your decart coas out?

CAPCOM                Sure do.

END OF TAPE

CAPCOM ... that's affirmative  
KITTY HAWK Okay, Ron, have you got your Descartes  
coas out?  
CAPCOM Sure do.  
KITTY HAWK Okay, mark down the aim point. The aim point  
is shown on it, that crater right by the center of the X.  
CAPCOM Right.  
KITTY HAWK That did show up when I first started,  
so see right up toward the top of the page, two craters  
right together?  
KITTY HAWK I meant move up about a quarter of an inch  
from the center, can you see a little doublet there?  
CAPCOM Okay, I think I'm with you, yeh.  
KITTY HAWK Okay, that was my aim point on that pass.  
Those two showed up better at first before this one down  
here so I picked up on them and you know that's essentially  
between the two bright ones and about 3/16's of an inch  
up from the center of the coas as shown on it.  
CAPCOM Okay, I think - I'm not sure which way  
is up. Is it the bottom of the page or the top of the page  
now that you're talking about? I got a little doublet kind  
of toward the bottom of the page.  
KITTY HAWK No, no. Take the center of the coas and  
move toward the top of the page about a quarter of an inch.  
They're not really touching each other but there are two  
small craters there, just to the left of the center line of  
the coas.  
CAPCOM Okay, I've got you. I've got you.  
KITTY HAWK Okay, that was my aim point on that pass and  
it stayed pretty good.  
CAPCOM Okay, real good. Do you think you can  
pick up the - you know the aim point as on the coas? As shown  
on the picture for this rev?  
KITTY HAWK Yeh, I think so. I can probably get  
down there in it.  
CAPCOM Okay, that'll be real good. And then if  
we have -  
KITTY HAWK Before we go any further - Hey, Ron, be-  
fore we press on, would anybody object to me going wide  
dead band here? Would that affect the comm or anything?  
CAPCOM Yeh, it does, Stu. We talked about that  
and you're fat on fuel so let's stay in nor-bit band  
down here so we'll keep the comm.  
KITTY HAWK Okay.  
CAPCOM You're about 90.  
KITTY HAWK ... very good and I interrupted, go  
ahead, Ron.  
CAPCOM You're about 90 pounds above the flight  
plan there.

KITTY HAWK           Okay, so on this pass I'll try to get this aim point dead center. Actually, I was under the impression that the place we really want to aim is a little to the south and a little to the west from where the center of this is marked here on this map. Why don't you verify that for me and we'll talk about it when I come around.

CAPCOM                Okay. Yeh I remember (garble) talking about it and I was going to make it a little equalateral triangle with those two craters that were right in the pretty close to the center of the X, you know just a little bit, like you say, to the top there. And I'll verify that for sure, though.

KITTY HAWK            Okay.

CAPCOM                And, Stu, here I've got your map update for rev 28 there on page 37.

KITTY HAWK            Okay, go ahead.

CAPCOM                Okay, 180 is 13526 51.

KITTY HAWK            Okay, 13526 51 and I guess I was talking about this when we went AOS last time, I'm really not - don't need that time. I can find my way around real good. Why don't we just dispense with padding that up, save the chatter.

CAPCOM                I figured you'd say that. You know we've had real good training on where we are up there so - plus the fact you're within a P21 if you really get lost on the way so sounds like a good idea.

KITTY HAWK            Okay and do have data on me now, Ron?

CAPCOM                That's affirmative.

CAPCOM                We even have high bit rate this time.

KITTY HAWK            Well, how about that. I know after all this talking and everything I just happened to look over here, my cabin pressure is up, what do you say about it there? I'm reading on the gage here about 5.8 or so.

CAPCOM                Let me make a quick check with ECOM.

CAPCOM                Yeh, Stu, you know you pumped it up before you went to bed last night and the (garble) accumulator is kind of building it up a little bit and you just got a real tight cabin. We don't think it's a problem at all.

KITTY HAWK            Okay. You just don't breathe much when you're in here by yourself, huh.

CAPCOM                Yeh, I guess that's it. And, Stu, go for the point as depicted in the coas picture.

KITTY HAWK            Okay, I'll put her on there dead center.

CAPCOM                Okay.

KITTY HAWK            Okay, Ron, just to make sure I understand here now, red A I won't do anything the way the flight plan is now until 136 when I go for another Descartes track. You verify that?

APOLLO 14 MISSION COMMENTARY 2/6/71 134:47 G.E.T. CM73/3

CAPCOM Yeh, that's right. And let me do some checking here, I don't know if you're going to be able to sneak in any pictures of King you know as you're coming up there or not.

KITTY HAWK Okay, well, I'll - I can use the time to get this thing stowed, ready for my hiking buddies.

CAPCOM Okay. Speaking of your hiking buddies, they're about, it looks like a little more than half way back from Cone, heading back toward the LM. Okay, one other flight plan change I got here on the -

KITTY HAWK Okay, real fine.

CAPCOM ... reference to the batteries. At a - flip over to 137.

KITTY HAWK Okay 137.

CAPCOM Okay, and put charge battery A at that point in time. And take battery B off of charge at that time instead of at 136:15.

KITTY HAWK Okay, I'll move charge battery A from 136:15 to 137.

CAPCOM Roger.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 134:57 GET CM-74/1

CAPCOM                    Okay Kitty Hawk, Houston here. You got  
about a minute to go before you go around the horn.

KITTY HAWK                Okay. We'll see you in a few minutes.

CAPCOM                    Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 06:06 CST, 135:44 GET, CM75/1

CAPCOM Kitty Hawk, Houston. How we doing?  
KITTY HAWK Howdy, you guys. Getting along real fine.  
CAPCOM Okay, Stu. We've got you this time,  
I think.  
KITTY HAWK Yes. I'm reading you loud and clear.  
CAPCOM Okay, Stu. We'd like to give the  
high gain a chance here to do it's stuff with the servo  
electronics power in secondary. So what we'd like to have  
you do is go to secondary with the high gain servo elec-  
tronics power switch. Switch your - while you track mode  
in manual set in a pitch of minus 58, a yaw of 185 and B  
width to wide. And then go into a normal acquisition, you  
know, try to get it to AUTO and then medium and then down  
to narrow. If for some reason that doesn't work, well then  
go on back to the way we've been doing it there in manual  
medium and primary electronics.  
KITTY HAWK Okay. Now the electronics are in  
secondary now, Ron. They have been since yesterday.  
CAPCOM Oh, okay. Well, why don't we press  
on anyway and try a normal acquisition on the thing then.  
Put your pitch to minus 58, yaw to 185.  
KITTY HAWK All right.  
CAPCOM And we'll see if it will track in  
AUTO at all.  
KITTY HAWK Okay. We'll give it a go.  
CAPCOM Got narrow.  
KITTY HAWK How about that sports fans. There  
AUTO and narrow. Looks solid.  
CAPCOM Yes. It worked looks like.  
CAPCOM Okay. Let's go ahead and leave it  
there and let's see if it will track when you start to man-  
euver to the COAS tracking attitude.  
KITTY HAWK Okay.  
CAPCOM And Stu, for your information, Al  
and Ed are back at the LM. Al's down there hitting golf  
balls. Seeing now far he can hit them.  
KITTY HAWK How's that coming out?  
CAPCOM Well, it looks like they had a couple of  
slices there, but then finally got a hold of one and really  
drove it down the old lunar surface.  
CAPCOM Stu, you doing anything now. You  
want to talk about this normal - -

END OF TAPE

CAPCOM                   Stu, you doing anything now, or do you want to talk about the normal docking procedure changed there on page 52.

KITTY HAWK               Okay. Just a second. Let me float out from under the couch here and get my book.

CAPCOM                   Okay.

KITTY HAWK               Okay. I'm on page 52.

CAPCOM                   Okay, Stu. Let me talk about it here a minute for a little bit. As you know, normal procedures are we go whipping on in there, we get contact with the drogue. And, as soon as we get captured, we go to CMC free. So the basic difference there is that we want the LM to do a little bit of thrusting. If for some reason you know it doesn't go to ... the capture light just don't capture when you make contact. So, we just want you to press on in there, contact the drogue and report contact to the LM and then at that point the LM is going to do a plus X. And, then as soon as you capture on the thing there you go to CMC free. So at about -

KITTY HAWK               Okay. Go ahead, Ron.

CAPCOM                   Okay. Just to have it down in writing there. Where it says to transfer to capture latch at about 144 7 or 8 in there somewhere, change that to a translate to a contact with drogue.

KITTY HAWK               Okay. Translate to contact with drogue.

CAPCOM                   And then add report contact to the LM immediately following that.

KITTY HAWK               Okay. I'll write that down. Sure I won't have to tell him.

CAPCOM                   I don't think so either. But, that's his cue to go ahead and plus X if necessary you know.

KITTY HAWK               Okay. I've got that.

CAPCOM                   Okay.

KITTY HAWK               - the contact with drogue, report contact to the LM and CMC free at capture.

CAPCOM                   Yeah, that's right. CMC free at capture. The thing we didn't want to be is have you a CMC free and the LM pushing against you, you know, other words don't go to CMC free until you get captured.

KITTY HAWK               Okay.

CAPCOM                   And, that's it.

KITTY HAWK               Very good.

KITTY HAWK               - Ron that S-band's hanging ... the antenna's hanging right in there. We should have done that days ago, huh?

CAPCOM                   Yeah, it looks like it's done pretty good so far. Let me see how the signals checks good with NCO.

APOLLO 14 MISSION COMMENTARY, 2/6/71 135:54 GET CM-76/2

CAPCOM                    Okay, Stu. It looks like it's striking  
okay here. When you lose the high gain, switch to OMNI  
Delta.

KITTY HAWK                OMNI Delta.

CAPCOM                    The guys are really having a ball down  
there on the lunar surface throwing away their tools. Mak-  
ing javelins out of them and everything.

END OF TAPE



APOLLO 14 MISSION COMMENTARY, 2/6/71, 06:26 CST, 136:04 GET, CM77/1

KITTY HAWK Houston, 14.  
CAPCOM Okay, Stu. I can just barely read  
you.

KITTY HAWK Disregard me. I was just going to  
ask you a question about the EVA. I'll catch you later.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 136:14 GET CM 78/1

CAPCOM Kitty Hawk, Houston. If you read it's about  
30 seconds from P start.

KITTY HAWK Houston, do you read, Kitty Hawk

CAPCOM Okay, Kitty Hawk. This is Houston.  
We've got you now.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 06:46 CST, 136:24 GET, CM79/1

KITTY HAWK Houston, (garbled)  
CAPCOM Okay, Kitty Hawk. This is Houston.  
We've got you now.  
KITTY HAWK Okay. Well, that should have been  
right on the target, Ron. and my frame counter is 87.  
CAPCOM Roger. 87 on that one.  
And while I think about it, on page 35 there we missed your  
percent remaining on the galactic survey and lunar libration  
camera.  
KITTY HAWK Okay. After the lunar libration,  
I'm reading 60 percent.  
CAPCOM Roger. 60 percent.  
CAPCOM Kitty Hawk, Houston. We got too  
much background noise here. We're trying to get the high  
gain. Can you roll that 60 degrees? And then try to  
borrow on the high gain of pitch minus 50, yaw of plus 50.  
KITTY HAWK Okay. Ron. Let me hold off for about  
2 or 3 minutes, if you would please.  
CAPCOM Okay.  
CAPCOM And then when you get there, we'll  
be giving you an update and also I've got some P24 pads for  
you.  
KITTY HAWK Okay.

END OF TAPE

CAPCOM Kitty Hawk, Houston, those angles were pitch at minus 50 the yaw at plus 50.

KITTY HAWK Houston, you read, Kitty Hawk?

CAPCOM Okay, Kitty Hawk, Houston. Man, that's a lot better on the ears, now. Okay, you want to whip it - whip into P00 and accept and we'll ship you up a state vector and also a clock sync.

KITTY HAWK Okay on P00 and accept.

CAPCOM Okay, and you about ready to start copying PADS on page 40 there for RP 4?

KITTY HAWK I'm ready, go ahead.

CAPCOM Okay, P 1, 137:38:43 43 33, 45 13, 46 01. It's south 02. (garble) 137 51 34 56 24 58 04 58 52, south 06. Okay, for DE 2, T 1 138 11 23 16 13 17 53 18 41, north 08. Okay, for NKE T 1 138 31 14 36 04 37 44 38 32, south 22. And readback.

KITTY HAWK Okay, RP4 137 38 43 43 33 45 13 46 01, south 02. And (garble) is in, 137 51 34 56 24 58 04 58 52 south 06. 138 11 23 16 13 17 53 18 41, north 08. 138 NKE 138 31 14 36 04 37 44 38 32, south 22.

CAPCOM Beautiful readback there, Stu.

KITTY HAWK Okay, we're all set.

CAPCOM And Al and Ed are back in the Lm, now.

KITTY HAWK How many golf balls did Al have with him?

CAPCOM I thought I saw three real good swings there.

KITTY HAWK Great.

CAPCOM And Kitty Hawk, Houston, the computer is yours.

KITTY HAWK Okay, thank you.

CAPCOM Hey, Kitty Hawk, Houston.

KITTY HAWK Go ahead.

CAPCOM We noted the - maybe a little more fuel usage there. Did possibly you have a couple of direct switches maybe on that COAS target or something?

KITTY HAWK Yes. Yes, I did. The - you need three hands to get that going where you've got one hand on that fool camera control and then to throw the switch, so, I was taking a couple of pictures and I used the direct for a little bit there.

CAPCOM Okay, that clears it up. I figured that maybe what it might have been and wanted to check.

CAPCOM And Kitty Hawk, Houston, if you want to dig out your G and C check list there on page G 9-4, I have a couple of constants to change there in that erasable load.

KITTY HAWK Okay, I'm ready to copy.

CAPCOM Okay. On page G 9-4 column Delta line 10, change it from 02210, change it to 02263.

KITTY HAWK Okay, 9-4 under Delta line 10 now reads 02263.

APOLLO 14 MISSION COMMENTARY 2/6/71 06:57CST 136:35GET CM-80/2

CAPCOM            Okay, and then one line 11 the same  
column, Delta, change it from 36321, change it to 15472.

END OF TAPE

KITTY HAWK           Okay. 15, 472 for Delta line 11.  
CAPCOM                Okay. And these are those - the  
(GARBLED) locations that we changed yesterday on the thrust  
model, you know.  
KITTY HAWK            Okay.  
CAPCOM                Hey, Stu, just out of curiosity,  
when you looked by Lansberg Bravo did you get - you think  
you got some 250 millimeter pictures of that area? You  
know when you had the long pass.  
KITTY HAWK            Yes. Yes. I should have got some  
good ones of Lansberg B.  
CAPCOM                Okay.  
KITTY HAWK            It was - they were 500.  
CAPCOM                Oh, okay. Beautiful...  
CAPCOM                Okay, Stu. You can go ahead and  
whip into Y deadband there for a while if you want. It  
looks like we got a good high gain now.  
KITTY HAWK            Okay.  
CAPCOM                And also in looking through this P24  
it looks like we're changing the shutter speeds on each one  
of those things for the diagonal. Just a reminder.  
KITTY HAWK            Okay.  
CAPCOM                And Stu, just for a matter of infor-  
mation here on further findings, right now we're looking  
at rev 30, where we've got our zero phase things - the for-  
wards and backwards. And we'll probably go ahead and do  
the backwards zero phase but not the forward and do another  
COAS maneuver on Descartes area.  
KITTY HAWK            Okay. Sounds good.  
CAPCOM                And if you got a half a minute here  
you might pull out you Descartes COAS picture again and I can  
explain your aim point for that pass.  
KITTY HAWK            Okay. I've got it right here.  
CAPCOM                Okay. As you're look at the page  
you've got a picture of the COAS in there. And on the east  
side or toward the bottom of the page you can see that little  
Doublet about 1 and a half marks or 1 and a third marks down  
from the center of the COAS. Right on the vertical COAS line.  
KITTY HAWK            Yes. I've got that.  
CAPCOM                Okay. It's just east - -  
KITTY HAWK            Is that the A point?  
CAPCOM                That's the A point, by golly.  
KITTY HAWK            What are we doing way over there?  
CAPCOM                Well, it's just a little further  
east than the two bright craters, you know.  
KITTY HAWK            Okay. Yes.  
CAPCOM                And - -  
KITTY HAWK            Okay. I'll make that the A point.  
CAPCOM                Okay. See and then you started out

APOLLO 14 MISSION COMMENTARY, 2/6/71, 07:07 CST, 136:45 GET, CM81/2

CAPCOM a little bit west of the A point on the map and then we got one right at the A point. And then we're getting these just a little further east so we'll have some stereo strips quite a ways through the area there.

CAPCOM Okay. Another thing, Kitty Hawk. To help out with the quads a little bit here. You can whip back into VERB 48 there. Use Bravo Delta for roll.

KITTY HAWK Okay.

CAPCOM Hey, Stu. You might like to know I don't know where they're going to put all those rocks they found down there on the surface, but the LM was full so you better find a place for them.

KITTY HAWK Yes. That's what I been doing. Trying to get things organized for the avalanch.

CAPCOM Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 136:55 GET CM-82/1

CAPCOM (garbled)  
CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead, Houston.  
CAPCOM Okay, Stu. We got about 2 minutes till  
LOS here. Just for a little bit of advance planning we're  
pretty sure we'd like to bring the probe back with you.  
So ... and right now we're thinking about stashing it down  
there between A6 and A10. You know down below the LMP  
scots there somewhere.

KITTY HAWK Okay. Well, you know that ... okay.  
You know you don't put the probe between A6 and A10, you  
know. It goes on top of A10.

CAPCOM Yeah, I know, Stu. I don't know ... it's  
I don't know ... we'll work out the storage down there. But  
it looks like maybe you can stick the point, you know, down  
in there somewhere, or at least get part of it down between  
the two of them. And, I realize there isn't much room. It'll  
be mostly on top.

KITTY HAWK That ought to take care of L over repro.  
CAPCOM Yeah, repro's kind of happy about that.

END OF TAPE



APOLLO 14 MISSION COMMENTARY, 2/6/71, 08:08 CST, 137:45 GET, CM83/1

CAPCOM            Kitty Hawk, Houston. We've got  
you a low bit rate now. Lot of background noise here and  
I probably won't be able to hear you very much but you're  
in and not as good high gain antenna attitude.

KITTY HAWK        Okay.

CAPCOM            And Kitty Hawk, Houston. I show you  
about 30 seconds from T1 on the (garbled) end.

KITTY HAWK        Roger.

END OF TAPE

Feb 7 4 32 AM '71

APOLLO 14 MISSION COMMENTARY 2/6/71 137:55 G.E.T. CM84/1

CAPCOM Kitty Hawk, Houston. Time to start your camera and shutter speed should be 1/250th.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 138:06 GET CM-85/1

CAPCOM Kitty Hawk, Houston. I missed your  
T1 time caller, but it's time to start the camera, now, on  
BE 2.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 08:39 CST, 138:16 GET, CM86/1

KITTY HAWK            Okay, Houston. Kitty Hawk. I'll  
give you those gyro torquing angles in a minute.

CAPCOM                Kitty Hawk, Houston. You can try  
it. I might be able to copy.

KITTY HAWK            I'll catch you in about 2 or 3 minutes,  
Ron.

CAPCOM                Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 08:49 CST, 138:26 GET, CM87/1

KITTY HAWK Houston, 14.  
CAPCOM Okay. You're way down in the mud there, Kitty Hawk, but go.  
KITTY HAWK Okay. I saw the LM again when I went across them.  
CAPCOM Hey. By golly. That's amazing. That's great.  
KITTY HAWK Yes. It's a little harder without the long shadow that it was putting out yesterday. I - what I was doing was just playing around. I should have been - gotten P24 marked on it, but that was a good mark that I - I mean a good pass that I had yesterday.  
CAPCOM Roger.  
CAPCOM Hi, Stu.  
KITTY HAWK Hi, Fredo.  
CAPCOM I haven't got to talk to you in a couple of days.  
KITTY HAWK Well, you missed (garbled).  
CAPCOM Yes. Just a little bit.  
CAPCOM Kitty Hawk, Houston. The camera ought to be running.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 08:59CST 138:36GET CM-88/1

CAPCOM                    Okay, Kitty Hawk, the lack of noise  
is music to my ears.

KITTY HAWK                Okay.

CAPCOM                    And ...

KITTY HAWK                Looks like you have a good lockup  
here.

CAPCOM                    Yeah, it's working fine. And we're  
standing by for your magazine percentage and also your P 52.

KITTY HAWK                Okay, the magazine percentage is  
35.

CAPCOM                    Roger, 35.

KITTY HAWK                And, let me find my P 52.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 138:46 GET CM-89/1

KITTY HAWK And, the P52 if you're ready.  
CAPCOM Ready to copy.  
KITTY HAWK Okay. Minus 00002 minus 00166 minus 00  
005 torque at 137 1800.  
CAPCOM Do you want to talk about your Noun 05  
today?  
KITTY HAWK Oh, I had all zeroes on this one.  
CAPCOM I figured as much. Okay. We copy minus  
.002 minus .166 and a minus .005 torque's at 137 1800.  
KITTY HAWK Roger. Hey, is Fredo still there?  
CAPCOM Yea, wait one. He's talking to the  
(garbled) right now.  
KITTY HAWK No, that's alright, that's alright. I  
was just ... you know not only seeing the LM, I saw the Sun  
glinting off the ALSEP I'm sure, and I was just wondering  
if it was deployed out by that crater at about CL .8 or 85 65.  
CAPCOM Okay. I got a map here. Looks like it  
was about pretty close to CR and 63 is the ALSEP.  
KITTY HAWK C what?  
CAPCOM Charlie Romeo and 63. It's really Charlie  
Quebec .9 and about a 63.2.  
KITTY HAWK Okay.  
CAPCOM Where did you say you thought you saw a  
bright spot there?  
KITTY HAWK Well, know I'm wondering if I got my  
direction from the LM, you can get the LM because it's by  
the triplet.  
CAPCOM Right.  
KITTY HAWK And, I just looked out and saw the bright  
spot going toward ... parked out by another crater, and I'm  
thinking maybe I got my directions from the LM wrong.  
Is ALSEP out by that crater called Neighbor on the map.  
CAPCOM Wait a minute, I don't have Neighbor on this  
particular map I'm looking at. ALSEP is kind of between  
Doublet and Triplet, if you can see that part of it there.  
And, it's toward Doublet from the LM.  
KITTY HAWK Yeah, well that's where I called ...  
that's where I said the first time, and it didn't fit in.  
You told me Charlie Quebec .9.  
CAPCOM Wait a while, Stu, till I get the same  
map you're looking at.  
CAPCOM Okay. I was looking at a smaller map  
it's got some more numbers in there. You're right, it's really  
right there by Neighbor, just south of Neber. It's right in  
a line between the center crater of Triplet and Doublet.  
KITTY HAWK Well, now the coordinates I called the  
first time just ... You know, I didn't compare the map when  
I was looking through the sextant, but it looked to me like  
the ... just judging on here the ALSEP would be about CL .9

KITTY HAWK and right at 65 maybe 64.9.  
KITTY HAWK And, see there's a little crater. See that little crater right there at about CL 8 and maybe 64 - 64.5 or something like that.  
CAPCOM Okay. Yeah, I think that was the ALSEP.  
KITTY HAWK Yeah, I think right there is ... yeah. I can see the Sun shining off the beauty.  
CAPCOM That was it, that was it.  
CAPCOM Okay. Kitty Hawk, maybe we ought to whip into the map update or the flight plan update for the next Rev. I think we'll start out with the zero phase and pad backward on page 43.  
KITTY HAWK Yeah, Houston, Kitty Hawk.  
CAPCOM Houston, Go.  
KITTY HAWK Okay, Ron. Where we going to do ... we going to have the first zero phase and then shoot Descartes.  
CAPCOM That's affirm.  
KITTY HAWK Okay. Sounds like a good idea.  
CAPCOM Yeah, it'll be pretty good, and for the zero phase backward pad roll angle is 195.4 pitch 344.4 yaw 359.9. T start 139 41 42. Write down your switch time is 758. And, just a note -  
KITTY HAWK Okay. 195.4  
CAPCOM Got the note there, Stu, while you start the DAC and stop the DAC. Give a call so we can get a time hack on it.  
KITTY HAWK Okay. 195.4 344.4 359.9 139 41 42 switch is 758, and I give you a mark for start and stop of the DAC.  
CAPCOM Okay. Mighty fine. And, at the bottom of the page there on ... at 140. Add a Verb 49 maneuver. Verb 49 to a roll 028 pitch 253 and yaw 0. That's to the COAS striking attitude.  
KITTY HAWK Okay. 140, a Verb 49 to 028 253 and 0 degrees.  
CAPCOM And, as you notice you got a little bit of roll in there, so you ought fun tracking this one with a little pitch and yaw (garbled)  
KITTY HAWK Roger.  
CAPCOM Okay. On page 44 gotten a little deletion there. Delete the Verb 49 at the top of the page there. Say good bye to Isadora Compella, delete photo target 7 there. And, then all that place in there put 5 mm procedures. And, at 140 15 put your T start time of 140 15 13. And, then you can go ahead and delete the zero phase observations forward looking

END OF TAPE



APOLLO 14 MISSION COMMENTARY 2/6/71 138:56 G.E.T. CM90/1

CAPCOM ... which is kind of the rest of the pace there.

KITTY HAWK Rog. It looks like we'll just delete everything else.

CAPCOM That's right. And the target point for that one is as we mentioned before, you know about 1 and a third of those marks down the coas. East of the depicted coas position there.

KITTY HAWK Okay. I'll try to pick up that little doublet there.

CAPCOM Okay.

CAPCOM Okay, Kitty Hawk, we got about a minute to LOS here. Al and Ed are completing a debriefing from their EVA. And I think they got about 160 pounds of stuff - 167 pounds of stuff coming back up to you.

KITTY HAWK Jolly good.

CAPCOM Roger.

KITTY HAWK 160 pounds of rocks and a probe, huh?

CAPCOM Yeh, you betchya.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 10:05 CST, 139:43 GET, CM91/1

CAPCOM                    Okay, Kitty Hawk, Houston. There  
if you read, you got less than 30 seconds to start your  
camera for zero phase.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 10:15 CST, 139:53 GET, CM92/1

CAPCOM Kitty Hawk, this is Houston. We  
got too much background noise again. I can't read you.

KITTY HAWK Okay. Let me see if I can pick  
up the high gain.

CAPCOM No. I just can't make you out.  
Maybe you can get me on the high gain there.

KITTY HAWK It ought to be getting better real  
fast.

CAPCOM Hey. By golly. That's much better.

KITTY HAWK Okay. And stand by just one. I  
want to make a couple of notes here.

CAPCOM Okay.

KITTY HAWK And you got the tape back again.  
I hit command reset there so I can keep the tape run-  
ning. I don't know when it went off during the pass.

CAPCOM Okay. We copy.

KITTY HAWK Okay, Ron. Back with you.

CAPCOM Roger. Go ahead, Stu, with your  
frame number and what have you. I mean your percent.

CAPCOM I was right the first time, frame  
number.

KITTY HAWK Rog. Frame number 83.

CAPCOM Copy 83.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 10:05CST 140:03GET CM-93/1

CAPCOM

Kitty Hawk, Houston, Omni Charlie.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 10:35CST 140:13GET CM-94/1

CAPCOM Kitty Hawk, Houston, about 30 seconds  
to T start.

KITTY HAWK Rog.

CAPCOM Kitty Hawk, Houston, the high gain  
angle, pitch minus 30 yaw 125.

KITTY HAWK Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 10:45 CST, 140:23 GET, CM95/1

CAPCOM - - angles, pitch minus 30, yaw 125.  
KITTY HAWK Okay.  
KITTY HAWK Houston, Kitty Hawk.  
CAPCOM Okay, Kitty Hawk. Go. A little  
background noise, but go ahead.  
CAPCOM You're in good shape now. Background  
noise is from the LM.  
KITTY HAWK How about that. Okay. The tracking  
went pretty good. It's getting this sun angle at the - I  
didn't pick up at Doublet. However, I knew where it should  
be and I got another little one in that area so I think the  
track is pretty close to the area you wanted. The tracking  
went all right. However, in the heat of the battle there,  
I did not get the tape recorder going so we didn't get the  
high bit rate on that track and the frame number is 126.  
CAPCOM Okay. We copy that, Stu. And don't  
leave the dark slide out of that magazine when you take it  
off. Okay? It's a pretty important magazine.  
KITTY HAWK Okay.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 10:55CST 140:33GET CM-96/1

CAPCOM Kitty Hawk, Houston, request P00 and accept, there and we will ship you a state vector or two.  
KITTY HAWK Rog, you have it, P00 and accept.  
CAPCOM Okay, and also, Stu, I've got your consumables update and your P 27 pad here, if you're ready to copy. Start with consumables first.  
KITTY HAWK Okay, I'm ready, go ahead.  
CAPCOM Okay. Consumables GET 140:40, total 60 percent. Okay, now I'll read the quads off of the bottom of Charlie. 61 60 60 60, H2 52 52 02 77 76 25.  
KITTY HAWK Okay, 140:40, 60 61 60 60 60 52 52 77 76 25.  
CAPCOM Okay, that's correct. Move over to page 26 there and I'll give your P 27 for the CSM.  
KITTY HAWK Okay.  
CAPCOM Okay. Verb 71, GET 142:25:00 index 21, 01 501 00 002 77 730 75 126, index 6 is 77 472 41 104 77 633 56 122, index 12 60 206 77 562 00 766 25 263 04 076 index 17 27 204 06 071 10 560. Readback.  
KITTY HAWK Okay, verb 71 142:25:00, 21 01 501 00 002 77 730 75 126 77 472 41 104 77 633 56 122 60 206 77 562 00 766 25 263 04 076 27 204 06 071 10 560.  
CAPCOM Okay, beautiful readback there, Stu.  
KITTY HAWK Okay.  
CAPCOM Kitty Hawk, Houston, we got a few more things to go on the uplink, there. Can you still give us P00 and accept?  
KITTY HAWK Rog, you've still got it.  
CAPCOM Kitty Hawk, Houston, computer is yours.  
KITTY HAWK Okay, thank you.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 11:05 CST, 140:43 GET, CM97/1

CAPCOM Kitty Hawk, Houston. I've got your ascent pads for you.

KITTY HAWK Okay. Go ahead.

CAPCOM Okay. Direct ascent rendezvous pad, g.e.t. I of liftoff, 142:25:42:00, NOUN 37, 143:10:54:00, and the TIG for one rev late, liftoff is 142:24:04. Okay. Your coeliptic rendezvous - oh, wait. I'm sorry. CSM weight, 34417, coeliptic rendezvous pad, liftoff TIG is 142:28:12:50, CSI 143:26:36:60, NOUN 37 145:11:30:00 and ready for readback.

KITTY HAWK Okay. Copy. Direct ascent - before I start, give me that for one rev late. What TIG do you have there?

CAPCOM Okay. That's just fit the liftoff for one rev late.

CAPCOM Wait a minute. Hold it. That's the wrong number. For some reason it doesn't match up here.

KITTY HAWK That's what I was thinking.

CAPCOM Yes. You're right. Okay. Copied it down wrong. I'm sorry. Okay TIG for one rev late is 144:24:04.

KITTY HAWK Okay. Direct ascent 142:25:42:00, 143:10:54:00, liftoff one rev late 144 plus 24 plus 04, CSM weight 34417, coeliptic 142:28:12:50, 143:26:36:60, 145:11:38:000.

CAPCOM Okay. Good readback. (garbled) And we probably won't have MSFN relay the next time you come around here. As a matter of fact, I just got the word; we will not have any MSFN relay when you come around the next time.

KITTY HAWK Okay.

END OF TAPE



APOLLO 14 MISSION COMMENTARY 2/6/71 140:53 G.E.T. CM98/1

CAPCOM Kitty Hawk, Houston. We have your torquing angles.

KITTY HAWK Okay. Torque to 140 53 20.

CAPCOM Roger. 53 to 20.

CAPCOM Kitty Hawk, Houston. About 1 minute to LOS there. All systems are GO and we'll see you coming around the other side.

KITTY HAWK Kitty Hawk, roger.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 12:04 CST, 141:40 GET, CM99/1

CAPCOM Kitty Hawk, Houston. Are you having an SOS sandwich there for lunch.

KITTY HAWK Not quite, but I sure wish it was.

CAPCOM Okay. When you get a chance there, Stu, you can go ahead and terminate bat A charge.

KITTY HAWK Okay. I'll do it right now.

CAPCOM Okay. And while you're floating over there, you might be advised that the PT Delta V will probably - more than likely be around 100 feet a second instead of about 90 or so, you know?

KITTY HAWK Okay.

CAPCOM And your ascent pads are good the way they are. Antares is - -

KITTY HAWK Okay.

CAPCOM - - pressing on in good shape. They're getting set for the liftoff about 39 minutes yet. And as you might notice we're on separate air to ground loops - I'll be talking to you through this pass and I'll relay all information on up to you. When you go to the P20 attitude, the OMNI antenna's just make all kinds of noise racket down here, so I may not be able to hear you, but I think you've been hearing me most of the time. So I'll just go ahead and relay probably in the blind most of the time.

KITTY HAWK All right.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 12:23CST 141:50GET CM-100/1

CAPCOM Kitty Hawk, Houston.  
KITTY HAWK Go ahead.  
capcom Okay, Stu, we're going to bring the probe back with us or you guys are anyhow. And for TEI just go ahead and stow it underneath the right hand couch, you know, with the straps as we normally do there for temporary storage. And then on the way back, we'll give you some permanent stowage instructions during transfer to coast. Also, your VHF acquisition time, that's when you come over the horizon for the VHF there, will be 142:20:18.

KITTY HAWK Okay, 142:20:18 and, Ron, I'm going to be off the comm here for probably about four or five minutes.

CAPCOM Okay, understand.

KITTY HAWK Okay, Ron, I'm back on.

CAPCOM Okay, mighty fine, Stu.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71 142:00 GET CM-101/1

CAPCOM                    Okay, Stu. It looks like you're getting about ready to maneuver there. Just want to let you know the LM's in good shape. About the only things that's even pending is their sterable antenna, and it looks like it may not be tracking correctly on the thing so they may be using their OMNI antennas.

KITTY HAWK                Okay.

KITTY HAWK                Okay. Thank you, Ron. We'll see you on OMNI Delta here.

CAPCOM                    Okay. You may see me. I won't see you. We'll hope, maybe it'll work. Yeah, by the way, that's a beautiful job whipping around out there. We got some real good (garbled) update and I'm sure we got a bunch of good pictures, by golly.

KITTY HAWK                Thank you.

CAPCOM                    Kitty Hawk, Houston. The (garbled) pressurized. Antares has a go for liftoff. Direct rendezvous on this pass.

KITTY HAWK                Roger. Thank you, Ron.

CAPCOM                    Roger.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 12:34 CST, 142:10 GET, CM102/1

Dead Air.

END OF TAPE

APOLLO 14 MISSION COMMENTARY 2/6/71 142:20 G.E.T. CM103/1

ANTARES Antares, Kitty Hawk, vhf voice check.  
Can you read me?  
ANTARES Antares, Kitty Hawk. Vhf check can you  
hear me?  
KITTY HAWK Well, I can read you somewhat.  
KITTY HAWK Read you about 35, Al. How me?  
CAPCOM Kitty Hawk, Houston. Little less than  
2 minutes, everything is GO.  
KITTY HAWK Okay, Houston.  
CAPCOM Kitty Hawk, Houston. Antares' got ascent  
engine on.  
KITTY HAWK Okay.  
KITTY HAWK How do you read, Antares?  
ANTARES Rog. I have been reading you. You're  
coming through loud and clear.  
KITTY HAWK Rog. I'm waiting.  
CAPCOM Kitty Hawk, Houston. Antares is GO.  
KITTY HAWK Rog. I'm getting their vhf.  
CAPCOM Kitty Hawk, Houston. Antares is still  
GO from the ground.  
KITTY HAWK Rog. Thank you.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 12:55 CST, 142:30 GET, CM104/1

CAPCOM Kitty Hawk, Houston. PGNCS, AGS  
and MSFN are all in good agreement.  
KITTY HAWK Thank you.  
CAPCOM Kitty Hawk, Houston. Are you copying  
the LM vhf?  
KITTY HAWK That's affirmative, Ron. Reading  
them loud and clear.  
CAPCOM Okay. Mighty fine.  
CAPCOM And Kitty Hawk, Houston. There will  
be a tweak burn.  
KITTY HAWK Understand. There will be a tweak.  
CAPCOM Affirm.  
CAPCOM Okay, Kitty Hawk, Houston. You're  
GO for a direct rendezvous.

END OF TAPE

CAPCOM Kitty Hawk, Houston, we're still checking your vector, you're not that good.

KITTY HAWK Okay, I was just going to start on that when I got a go on it. My VHF won't stay locked on, Ron. It'll just flash me a range and then drop right back off again. Anybody got any good ideas?

CAPCOM Okay, let me check the - you say your VHF won't stay locked on, it locks on and then comes right back out again. Is that correct?

KITTY HAWK That's affirmative. It just flashes me a range and then drops right back to 0.

CAPCOM Okay.

CAPCOM Kitty Hawk, Houston. LM update - or LM state vector update is not required. You're go the way it is. And any better luck on the VHF?

KITTY HAWK Okay. No, it's still the same.

CAPCOM Kitty Hawk, Houston, I just can't read you.

CAPCOM Kitty Hawk, Houston, transmitting time in the blind there because I can't read you, but go ahead and try to take the VHF monitor and see if you get a (garble) light or not.

KITTY HAWK That's affirmative.

CAPCOM And Kitty Hawk, you want to be sure and make sure that the Antares remains quiet on the VHF there, while we're trying to lock up on the thing.

CAPCOM Kitty Hawk, Houston. It looks like the VHF may have locked up after your noun 49 (garble)

KITTY HAWK Yeah, it's going okay.

CAPCOM Okay.

CAPCOM Kitty Hawk, Houston, your vehicle's in good shape ...

END OF TAPE



APOLLO 14 MISSION COMMENTARY, 2/6/71 142:50 GET CM-106/1

CAPCOM Kitty Hawk, Houston. Your vehicle's in good shape. You got about 5 minutes to LOS here. And do your accepting all the optics monitor in good shape. You probably better go ahead and except the VHF (garbled).

CAPCOM Kitty Hawk, Houston.

KITTY HAWK Go ahead, Houston.

CAPCOM Okay. Stu, it looks like were getting some spots in there. Just reinialize the W matrix and go sextant only, sextant only. So, mark it.

KITTY HAWK Okay. (garbled) and I've already accepted one.

CAPCOM Kitty Hawk, don't worry about the W matrix. Understand, just press on, but check the (garbled)

KITTY HAWK It's too late because (garbled)

CAPCOM Kitty Hawk, Houston. Request OMNI bravo.

CAPCOM Apollo 14, this is Houston. The LM PPI ground solution. Delta-VX plus 63 feet per second Y plus 1 Z plus 67. I say again. LM PTI Delta-VX thrust 63.0 Y plus 1.0 Z plus 67.0. Antares over.

CAPCOM Kitty Hawk, Houston. Looks like the best ground solution we have down there for the LM just about as written plus 63.0 plus 1.0 ans plus 67.0.

CAPCOM Kitty Hawk, Houston. About 30 seconds you're looking good. We see you on the other side.

END OF TAPE

APOLLO 14 MISSION COMMENTARY, 2/6/71, 14:02 CST, 143:39 GET, CM107/1

Dead Air.

END OF TAPE