



TIDBINBILLA SPACE TRACKING STATION

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PLEASE QUOTE:

Dr. R.D. Ekers
CSIRO
PO Box 76
Epping, 2121

28 November 1991

Dear *Ren*

→ *Mike*

*- Suggest you file for future
quick reference. It's sure to come
up again!*

While riding with John Bolton to the Telescope last week we discussed one of our mutual favourite subjects - Apollo 11 lunar TV and Parkes. He mentioned that "people at Epping were upset" when I was reported as saying (presumably during Apollo 11 twentieth anniversary) that the first TV was through Honeysuckle rather than Parkes.

I was Deputy Director and in charge of operations at Honeysuckle at the time, and remembered that Parkes came up soon after Honeysuckle, but only had the written log (which I used on one of my slides).

Since I got back from Parkes, we stumbled over an audio tape with the Houston communications ("Net 2") and the internal Honeysuckle intercomm ("Alpha") mixed on it. Attached is a transcript of the relevant part, plus a copy of the tape, which shows that Parkes TV was used from about 10 minutes after TV came on - about 8 minutes after stepping onto the lunar surface. At that time, Houston reports "best picture yet", i.e. compared with Honeysuckle and Goldstone, and my recollection is that they stayed with Parkes for the rest of their view. It would therefore be accurate to say that the majority and best Apollo 11 TV was from Parkes, but the first lunar step was from Honeysuckle to Australia, and, via Houston, to the rest of the world.

Part of me doesn't care at all what is stated, but, given that it was the highlight of my career (and of others who were at Honeysuckle), the other part of me would like to see the record set straight. So if/when the subject comes up again, maybe we can find more accurate words.

Mike

M.J. Dinn
Director, CDS

(CC: John Bolton, Dave Cooke)

Extract from Apollo 11 tape

00.00	HSK (Dinn)	HSK LOS CSM
00.25	HOU TV	GDS video, Houston TV, Net 2
	GDS	GDS Video, go ahead
	HOU TV	Roger, are you receiving any kind of FM downlink?
00.30	GDS	Houston TV, GDS Video
	HOU TV	Go ahead, GDS video
	GDS	Roger we do have FM downlink, we are not receiving TV at this time
	HOU TV	Roger
01.05	GDS	TV on line, GDS TV on line
	HSK (Dinn)	HSK video on line
	HOU TV	Houston TV, we have both sites 5 by
	HOU TV	GDS Video, Houston TV
	GDS	GDS video, go ahead
	HOU TV	Can you confirm that your reverse switch is in the proper position for the camera being upside down?
	GDS	Stand by, we will go to reverse position
		We are in reverse
	HOU TV	Roger, thank you
02.50	HOU TV	All stations, we have just switched video to HSK
03.00	[on moon]	
05.30	RTC	HSK, RTC, Net 2
	HSK	HSK
	RTC	Roger, take your on site history, put it end of file please
	HSK	Wilco
06.20	HOU TV	All stations, Houston TV. We have just switched to GDS video
07.00	HSK (Reid)	RTC, HSK, Net 2
07.15	HOU TV	HSK, Houston TV. We have just switched back to you again.
	HSK	Roger
	HSK (Reid)	RTC, HSK Net 2
	RTC	Go ahead HSK
	HSK (Reid)	Confirm end of file
	RTC	Roger, thank you
07.20	HOU TV	GDS TV, Houston TV
	GDS	GDS TV, go ahead
	HOU TV	Roger, would you check your polarity switch please
	GDS	Roger
	HOU TV	That's better
08.20	HOU TV	All stations, Houston TV. Switching to GDS
09.35	Ops (Reid)	SUDS, OPS, Alpha. Can you confirm we are receiving PKS data now?
	SUDS (Gallegos)	Yes

	Ops (Reid)	OK, take out receiver 1 and put in PKS main demod 4 PM
10.15	SYD VID	Houston TV, Sydney video.
	HOU TV	Houston TV, go ahead
	SYD VID	Please be advised I have a very good picture from PKS, shall I give it to you?
	HOU TV	Roger
	SYD VID	You have it
	HOU TV	Roger, beautiful picture, thank you
10.26	HOU TV	We are switching to PKS at this time
	GDS	Houston Comtech, Net 2
	HOU	Houston Comtech
	GDS	Did you copy that uplink on the downlink at that time
	HOU	Yes sir we did
	GDS	Roger
	NETWRK (Randall)	HSK, Network, Net 2
	TIC	HSK, TIC, Net 2
	HSK (Reid)	Network, HSK
	NETWRK	Go ahead TIC
11.12	TIC	What is the signal strength from PKS
	HSK	Standby
	HSK	Signal level is negative 89
11.40	TIC	Negative 89, thank you
	NETWRK (Randall)	HSK, Network
12.05	HSK (Reid)	Network HSK
	NETWRK (Randall)	Right, you might pass on to the PKS people their labour was not in vain, they've given us the best TV yet.
	HSK (Reid)	Roger, thank you very much, they'll appreciate that, they're monitoring.

Glossary

RTC	Houston <u>R</u> eal <u>T</u> ime <u>C</u> ommand
TIC	Houston <u>T</u> elemetry <u>I</u> nstrumentation <u>C</u> ontroller
Network	Houston's ground network controller, sitting in the main control room
Houston TV	TV/Video selection controller
SB1	Honeysuckle Receiver/Transmitter/Antenna Supervisor (Len Litherland)
SB2	Tidbinbilla ditto (Bruce Window)
Data	Honeysuckle telemetry supervisor
PAM	Astronaut backpack data (<u>P</u> ulse <u>A</u> mplitude <u>M</u> odulation) processor (Laurie Turner)
Ops	Honeysuckle Ops Supervisor Mike Dinn and Tom Reid, plus John Saxon assistant)
Net 2	World wide network, Houston to/from tracking stations
Carnarvon	Tracking Station (Paul Oates)
SUDS	<u>S</u> bands <u>D</u> ata <u>D</u> emodulation <u>S</u> ystem (Kevin Gallegos)
Alpha	Main internal Honeysuckle intercomm loop
Sydney Video	A position at OTC, responsible for selecting video source to Houston (Parkes or Honeysuckle)

9 21
10 07 35

5 53 12
2 38 12
15

DSIF LOG SHEET 14 SK SITE

15

DATE 21 JUL (GMT) LOG KEEPER SAXON.

2325528

725

MISSION Lunar Surface & CSM pers 17 thru 22

993

33924
30324
36

GMT	EVENT
	CSM L/O 17 (cont)
0143	Nascom relay verified.
0146	FM dump - 96 from 0143.13 THRU 15° Elev mine 014905.
0150	FM off
0152	TV off test signals ON
0154	Go for cabin depress.
0201	CSM LOS wing
0202	" AOS ") To LBR & R/V voice. worked pseudo nascom
021127	HS LD 00222 0904 2105
021906	Lunar Sun MCC.
0221	0.15 Deg offset in A
0223	-140 CSM droppings
022330	CSM LOS wing
	-0.25 X -0.5 Y
0228	CSM AOS HGA
0244	-100 FM on LM.
	EVA EKG & Wase on LBR
0251	CDR on LM porch
025400	TV ON
025625	CDR on Moon !!! Processing HSK & GDS TV alternately.
0306	Starches up using Air TV & PAIM - 90 dbm
0325	Video recorder VR 1100 red cannot ETO R/K
	40 18.
0340	AOS stat
034252	CSM FM ONCMD.
034940	FM carrier
034525	Dump mod 32:1
0346	2106 LM H/S & 0028
034751	LOS to FM &

JSS: f.y.i

→ Mike
- see p2

C.D.S.C.C.

16 DEC 1991

TIDBINBILLA

Mr. Mike Dinn
Director, CDSCC
P.O Box 4350
Kingston, ACT 2604

Dear Mike

Many thanks for the copy of your letter to Ron Ekers with a summary of part of the network tape and the tape itself. From the latter it seems that there were known problems with Goldstone even before the moonwalk. We were not in on the network - the control room only had the up and down links to the spacecraft through speakers. If we wanted to get into the network we had to use a telephone. I believe that three of us simultaneously got the TV, Parkes on offset feed, HSK and GDS. It is obvious that Parkes was ignored at this stage, probably no one outside expected us to be receiving until the predicted acquisition on the main feed. Equally obvious is that the first minute or so came from HSK and as far as Australia was concerned continued with HSK until Parkes acquired on main beam. Not so clear is what happened in the US as Houston appeared to have an unsuccessful try at GDS at 06.20 which only lasted 55 seconds before going back to HSK. At 08.20 they apparently got a better signal from GDS and switched back. At 09.35 it was realized that PKS data was available, at 10.15 switched to used and used from 10.26. I don't believe that we did get the message from NETWRK at 12.05; my recollection is that the first indication we had that Parkes was going worldwide was from Walter Cronkwhite's overlaid commentary on the ABC relay - "That white spot on your screen is coming from Parkes (the hole in the screen of the Sydney US standard scan converter, burnt the night before)".

I should explain that I did not see any of the TV until Parkes was well established on main beam. I was principally concerned with the guidance of the telescope during the off-axis beam period and the changeover and as you know the other half of the control room is cut-off by the M.E. column. What was happening on our slo-scan monitor, I gathered from Bob Taylor's commentary. I saw our tape replay and also the ABC's replay that evening and there didn't seem to be any difference, both had the very marked improvement in S/N ratio as the main feed came into used. Hence my impression that Parkes signal was in use from the beginning.

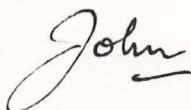
We are obviously in agreement on that piece of history now. The only thing that remains to be settled is what happened at Goldstone. As I told you, Taffy Bowen and I tried to find out. We were having a quiet beer after it was all over and Taffy said "I wish I knew what happened to Goldstone. Let's talk to Bill

(Merrick)." I got hold of him fairly easily on the phone. As far as I remember he said that they had had a very good picture at the dish itself but that it had disappeared into the ground about twenty miles from the site. I guess he really meant that it had been substantially degraded. Probably there was less than a factor of 2 at site between the two 210-fts as the lunar temperature would have been the major contribution to receiver noise at Goldstone so the loss was not too serious.

It would be of interest to have everything cleared up. As you imply you couldn't care less about the priorities and neither do I. The same is probably true of everyone else who was involved in the operation at the time, we collectively succeeded and that was all that mattered to us - unfortunately this is something that historians never seem to understand; for them A has to have beaten B.

I'm naturally sending a copy of this letter to Ron who is now the keeper of RP's archives. It was a pleasure to meet you in person finally at Parkes. I'm sorry for the delay in writing but our connections to the sewer in Buderim plus Christmas letters had to have priority.

Best wishes for Christmas

A handwritten signature in cursive script that reads "John".

John Bolton