

Re: Parkes hi-resTV tapes of Apollo 11 surface activity

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From: Gene Seibel (gene_at_pad39a.com)

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thomsona@flash.net (Allen Thomson) wrote in message
news:<501f9880.0407240801.57a57ffb@posting.google.com>...
> *(I sent this to FPSpace, but thought it might be of interest here*
> *also.)*
>
> <http://www.parkes.atnf.csiro.au/apollo11/> has an interesting little
> write-up on their reception of the TV images of the initial Apollo 11
> surface operations that notes,
>
> *The TV pictures from the Moon were narrow band slow-scan TV, that*
> *is, 10 frames per second (non-interlaced) and 320 lines per frame.*
> *In order to broadcast them to the waiting world, the pictures had*
> *to first be converted to the commercial TV standards...*
>
> *"For Apollo 11, an RCA scan-converter was used, which operated on*
> *an optical conversion principle. The pictures were displayed on a*
> *10-inch black-and-white monitor and a Vidicon TK22 camera was*
> *pointed at the screen. As each frame of the 10 frames per second*
> *picture was received, it was displayed on the monitor. The camera*
> *was gated to scan a single field at the EIA (NTSC) rate of 1/60th*
> *of a second, that is it did not take a picture until the 10-inch*
> *monitor had completed displaying a full frame. The output of the*
> *camera was transmitted and simultaneously recorded on magnetic disc.*
> *The disc recording was then played back a further five times and*
> *transmitted. While the disc recorder was playing back, the monitor*
> *screen was blacked out and the next frame started displaying. The*
> *monitor had enough persistence that it retained the picture, and*
> *RCA built special circuits to adjust for any loss of brightness*
> *between the top and bottom of the picture. In this way, a 30*
> *frames per second (60 interlaced fields per second) TV was*
> *produced – with only one in six fields being live. "*
>
>
> *Then it provides a comparison of the image quality as received at*
> *Parkes*
>

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- > http://www.parkes.atnf.csiro.au/apollo11/images/Parkes_Apollo11_TV_SSTV_Polaroid_small.jpg
- >
- > vs what we saw on our home TVs:
- >
- > http://www.parkes.atnf.csiro.au/apollo11/images/Parkes_Apollo11_TV_commercial_small.jpg
- > and notes,
- >
- > *It is clear from these comparisons, that the pre scan-converted*
- > *SSTV images were of a higher resolution and definition and*
- > *contained much more detail than was actually broadcast to the world.*
- >
- >
- > *I have to wonder what modern image processing techniques could do*
- > *with the SSTV images.*

There was a lot of loss of resolution in the crude system used them. These days the conversion could be made with no perceptible loss of resolution, and probably enhanced to look even better. I'm sure the extra 50 frames per second could be interpolated for a very smooth final product.

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Gene Seibel
<http://pad39a.com/gene/broadcast.html>
Because I fly, I envy no one.