

# VLBA ACQUISITION MEMO #350

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To: VLBA tape drive users  
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Subject: Version 7 of RECON  
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Version 7 of RECON, the recorder controller program which is resident in firmware, is now available. It is a modest revision of version 6, its main feature being incorporation of programmatic control of the front-panel lights and switches. There were also several lesser upgrades added and bugs fixed. In order to facilitate the use of the new version, I have compiled this short list of the changes. Documentation of the new features can be found in the updated versions of VLBA Acquisition Memos, numbers 71 and 238. The executable code may be retrieved by anonymous ftp from bashful.haystack.edu (192.52.61.16), in the directory vlba/recon-7. The files are named rom3.s and rom4.s, and are in the Motorola S-record format. Also in the same directory are current copies of the documentation: this note (version7.tex), Acq. Memo 71 (protocol.txt), and Acq. Memo 238 (recon.tex).

## Bug Fixes

1. (version 6.1) Fixed addressing error which affected SYSTRK selection in using commands 84-89.
2. (version 6.1) Put code into IDLE task to monitor ramping signal, so as to switch to high gain as quickly as possible on ramp-back at end of slew. VLBA users ramping at high-speed were having occasional loss of loop.
3. (version 6.1) Have startup sequence write "N" into battery-backed-up RAM, disabling the power-up test, so that the Debug PROM can always be entered with the abort button, regardless of the state of the battery.
4. Soft error codes were being OR'ed into word 75. Changed to just overwrite the current contents.

## New Features

1. Added software support of user-programmable buttons and lights.
2. Rotate reels 1 second longer on bar code read attempt.

3. Disable record current in all output groups on fast motion controls, specifically fast forward or reverse (B2), unload (B4), and footage positioning (B7).
4. Modify the meaning of bit 6 of word 73, the GSW, to mean vacuum OK, and servo ready.
5. Maintain a second set of error words, in locations ED-EE, to mollify some users.
6. Turn the vacuum motor off in the event of an emergency vacuum-loss shutdown, so that the tape won't "flap in the breeze".

### Postponed for further consideration:

- Stop peaking when the power falls below a user-defined threshold.
- Post a data-read flag whenever data is successfully extracted and placed in locations 1E-1F.
- Adaptive setting of inchworm motor speed.