
Hall C Slow Raster Setup Procedure

Document Number: MCC-PR-06-003

Revision Number: Rev. 3b2; **DRAFT**

Technical Custodian: Chris Cuevas

Estimated Time to Perform: 10 minutes

Procedure Overview

This procedure is for use by operators in the MCC Control Room and describes the threshold limit setup of the Hall C Slow Raster Magnet Monitor screen. The Hall C slow raster magnets are installed in the Hall C beamline at locations 3C20AH and 3C20AV. The raster system produces a spiral raster pattern, and the raster must be ON whenever CW beam is delivered to the SANE polarized target. Hall C personnel configure the raster hardware and enter magnet current settings as appropriate for the beam energy and current; MCC personnel verify the magnet current settings and then calculate the threshold limits, which are based on the magnet current settings. The Hall C Slow Raster Magnet Monitor screen is used to monitor the slow raster magnet current, set the current limit thresholds, and clear FSD faults. See [Figure 1 on page 3](#) for a block diagram of the raster system.



Prerequisites

1. Contact the Hall C Shift Leader and verify that Hall C personnel have configured the raster magnets (3C20AH and 3C20AV) to produce a spiral pattern on the Hall C target for the given beam current and beam energy. Ask the The Hall C Shift Leader for the intended magnet-current settings, and record these settings for use later in this procedure.

Procedure Steps

1. Stop the beam from entering Hall C by whatever means the MCC Crew Chief deems appropriate (beam off, switch to an upstream dump, insert Faraday Cup, etc.).
2. Open the Hall C Target Slow Raster Monitor screen ([monticello.edl](#)⇒Hall C⇒Hall C Raster, Slow).
3. Compare the present X and Y magnet current readbacks with the settings provided by the Hall C Shift Leader (see Prerequisites, Step 1). Do the values match?



- A. Contact the Hall Shift Leader and have him/her verify the present raster system setup is appropriate for the beam energy and current.

4. Click on the **Calculate Thresholds** button. The new threshold settings are automatically calculated based on the present magnet current settings. Verify that the thresholds make sense when compared to the X and Y magnet current readbacks (the thresholds should $\pm 15\%$ of these readbacks).
5. Record the calculated thresholds in the ELog for later reference. (??is this step necessary, couldn't these value be archived??)
6. Click on the **Clear** button to reset the Fast Shutdown (FSD).
7. Establish beam to the polarized target as requested by the hall. Did you get a raster system FSD trip?

NO YES →

Go to
[Step 8](#)

A. Check the FSD status bits to see which limit caused the trip. Is the magnet current setting within the threshold limits?

YES NO →

Go to
[Step D](#)

B. Call the Hall C Shift Leader and request the proper raster current setpoint. If a change is made, click on the **Calculate Thresholds** button, and try to establish beam again. Did you get another raster system FSD trip?

YES NO →

C. PROCEDURE COMPLETE.

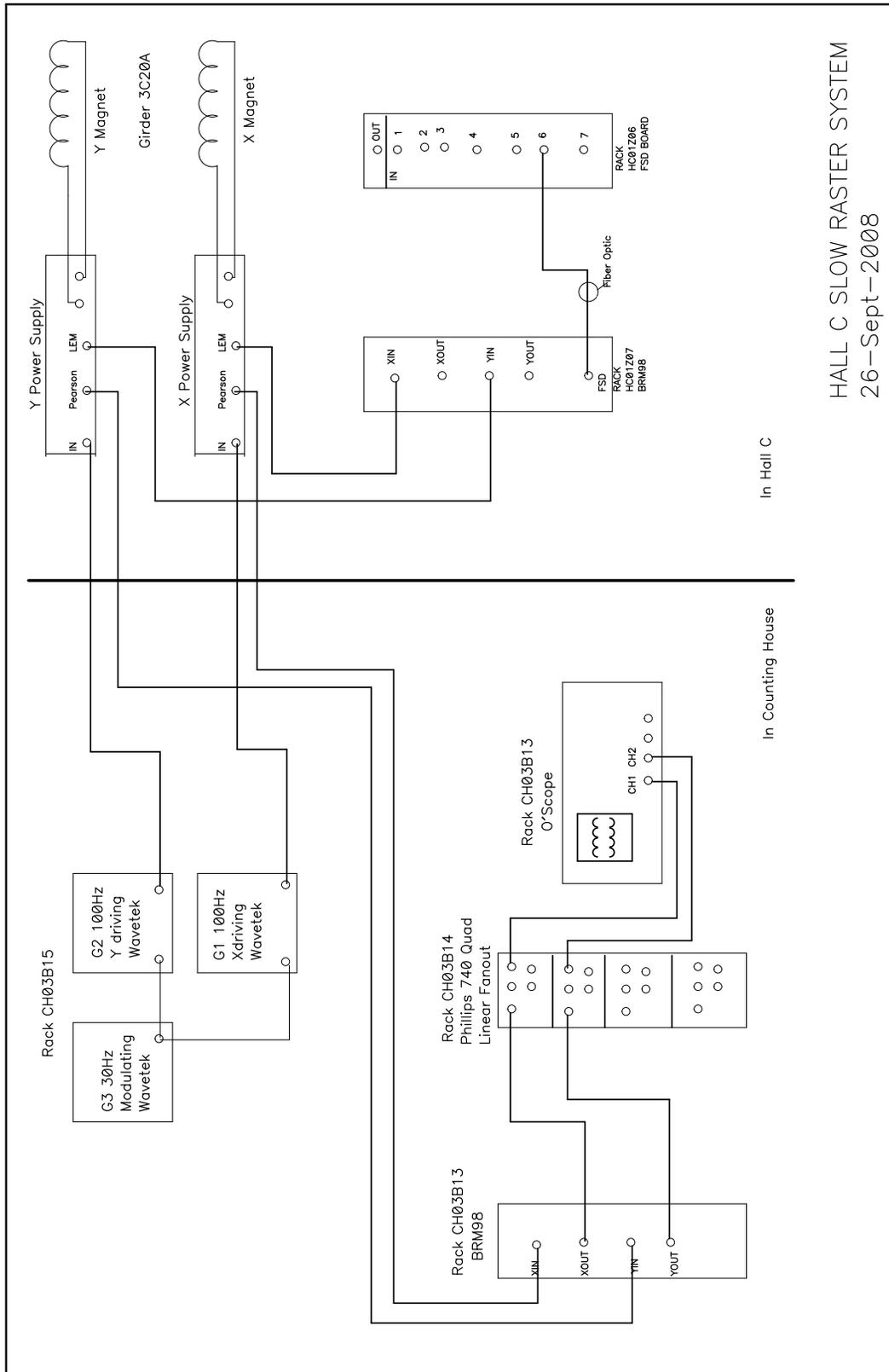
D. Contact one of the following personnel for help with the system:

	Extension #	Cell/Pager	Home #
Bill Gunning	5017		879-2420
Chris Cuevas	5053	869-5704	865-0461
Mark Jones	7733	584-7733	

8. PROCEDURE COMPLETE.



Figure 1: Hall C Target Raster Block Diagram



HALL C SLOW RASTER SYSTEM
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