PS/OP/Note 89-34
16 octobre 1989

OP/PS/CERN

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The Geninfo Collection



# Geninfo, Update and Infoio : A set of Three programs

## Abstract

This note describes three programs and some of the hardware, that are involved in the production of the LEAR General information display.

## Preface

The Lear General Information Display (Geninfo), displays the principle parameters and current status of LEAR. It was originally conceived to facilitate the life of the LEAR operator controlling the machine from the Main Control Room.

## 1. Introduction

This note describes three programs and some of the hardware, that are involved in the production of the LEAR General information display. The Lear General Information Display (Geninfo), displays the principle parameters and current status of LEAR. It was originally conceived to facilitate the life of the LEAR operator controlling the machine from the Main Control Room.

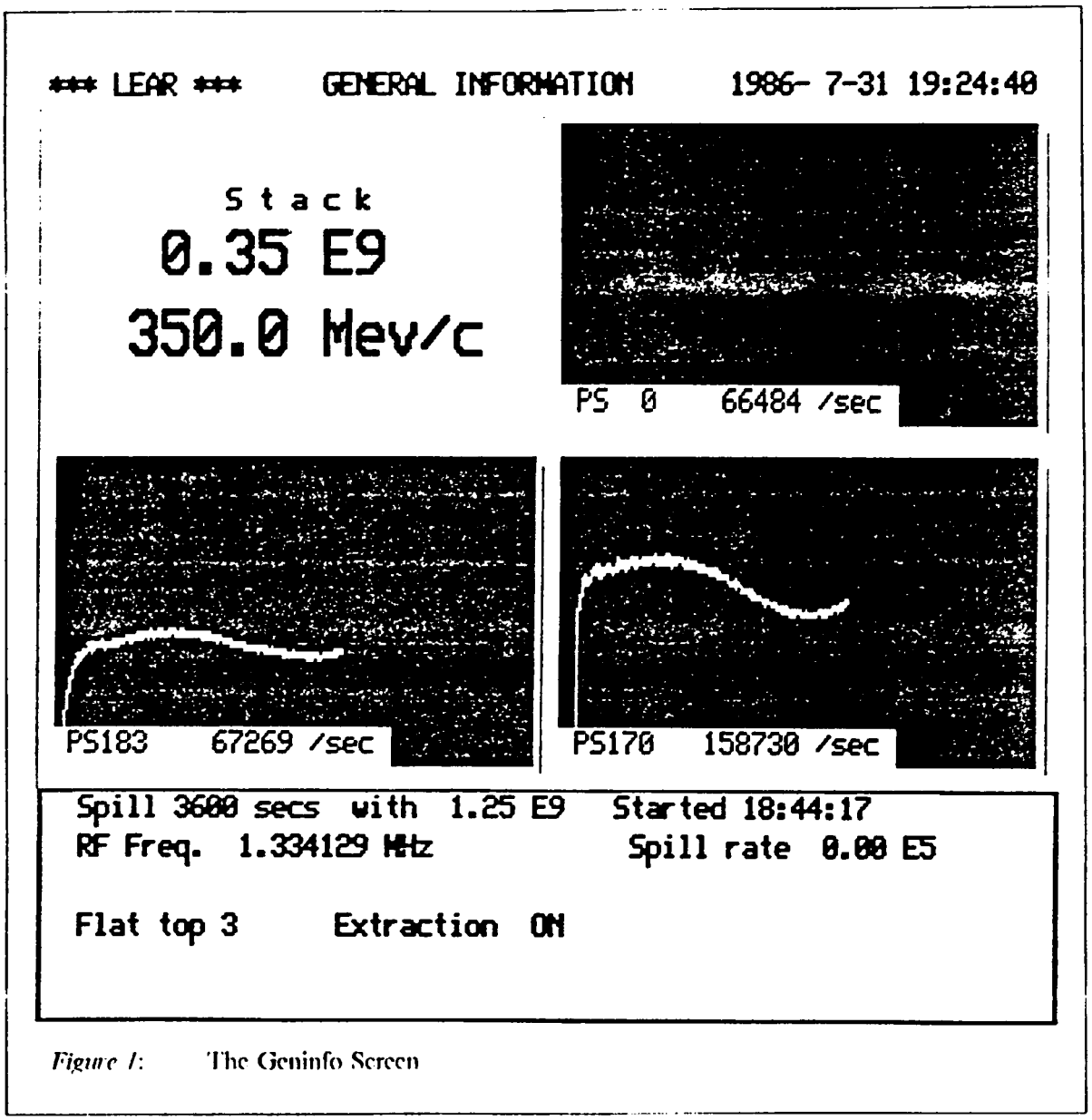


*Figure 1:* The Geninfo Screen

## 2. HARDWARE

This application makes use of several camac modules in Crate 15, including a DICO display controller, a J11 auxiliary crate controller, dual pointer mailbox, and an 11 input 24 bit scalar. Scintilator signals coming from the active experiments enter the scalar along with a calibration signal. The resulting display is distributed to the MCR and also to the various Physics barracks.

**Note:** The Geninfo display and the Lear Cycle display are distributed to the physics barracks via a single cable, a VHF switch and a program called **SWITCH** running in the HP85 in rack RAF 028 performs this task.

## 3. SOFTWARE

Three programs contribute to the smooth running of the geninfo display.

**GENINFO** This is a realtime data acquisition program, down line loaded to the J11. The scaler counts are acquired and the selected channels displayed graphicaly and numericaly. The mailbox informtion including the LEAR RF, Stack intensity, Beam momentum, inhibit and extraction status, are all displayed via the DICO.

**UPDATE** Acquires timing and beam information from the control system and passes it to the Geninfo mailbox.

**INFOIO** Allows selection of scalars, the graph to be used and scale of the graph, display experiments number.

**Note:** Update and Infoio where originally resident on the pdp and have been converted and enhanced to run on the vax, making use of the workstation human interface.

### 3.1 Interpreting the Geninfo Display

The display is (hopefully) self explanatory and only if the time is stopped in the top right hand corner does the program need restarting reloading in the j11.

Geninfo is reliant on the **UPDATE** program for the accuracy of the displayed data (apart from the scalar signals), this is normally refreshed once a second via the geninfo mailbox.

Two messages which appear periodicaly on the display are ***"NO EXTERNAL UPDATE"*** and ***"NO CAL SIGNAL ON SCALAR NN"*** , where NN is a number between zero and eleven.

**NO EXTERNAL UPDATE**

Occurs when has been more than two seconds since the last mail delivery from update. This can occur if the LEAR RF acquisition takes slightly longer time than normal. The message disappears as soon as there is a new delivery. If this message appears continuously than either the UPDATE program needs restarting (likely after a database crash) or Geninfo has stopped (unlikely).

**NO CAL SIGNAL ON SCALAR NN**

Refers to the external calibration source, which is fed to the scalar module. A calibration signal greatly improves the accuracy of the displayed count rates.

The three windows are charts, and are available for displaying the count rates, and their variation through the spill, of three different experiments. The width of this window is just slightly larger than that of the [current] spill duration. The height of the each window and its associated scalar is programmed using **INFOIO.**

## 3.2 The update program

This program is automatically started when UXLEA1 is rebooted. Doing a show system on UXLEA1 shows the status of the program which is normally HIB, COM, EFW. Every few minutes a small command procedure checks the status of the update program and if update has stopped, update will be restarted.

The spill duration is acquired at the start of each spill. The radio frequency is acquired every five seconds and relies on the correct functioning of the UPHPIB JJ1.

## 3.3 Infoio

This is the only user interactive program and is used to load the chart parameters to the geninfo mailbox via a touch panel.

**Max rate** [N] refers to the chart scale, and is its maximum height.

**Scalar** [N] refers to the scalar for a particular source.

**PS no** [N] refers to the displayed experiment number.

**Note:** Where [N] is 1 to 3, and the top right chart is chart [1], bottom right [2], bottom left [3].

The [Cal] parameters set up the calibration signal, necessary for the accuracy of the displayed rates.

The "Load Data", "Update Data", and "Reset Data" refer to the loading of the data and have three different effects.

**Load Data** Waits until the next spill before using the new parameters

**Update Data** Uses the new parameters straight away

**Reset Charts** Clears the charts and uses the new parameters.

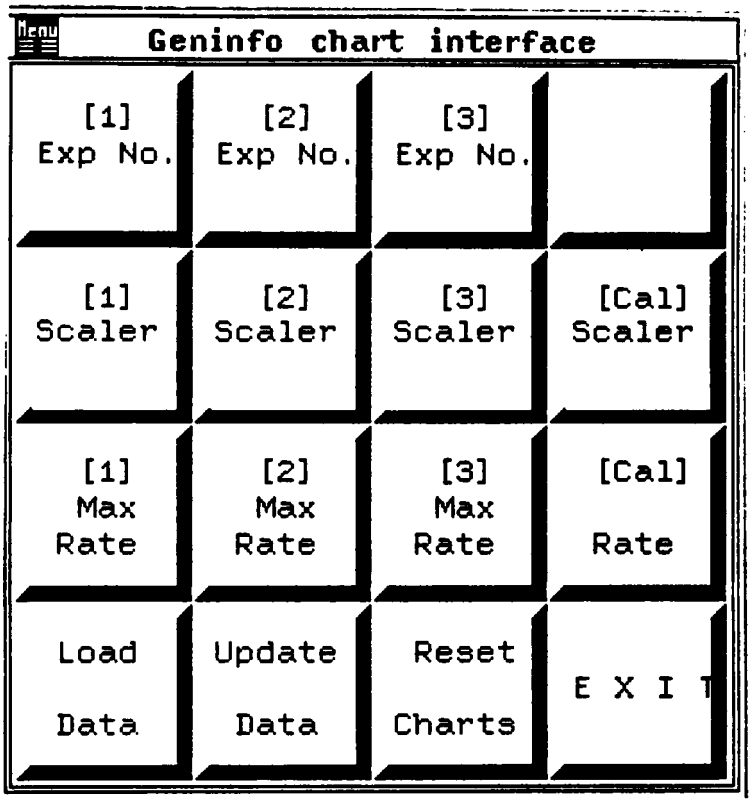


*Figure 2:* Infoio Touch Panel

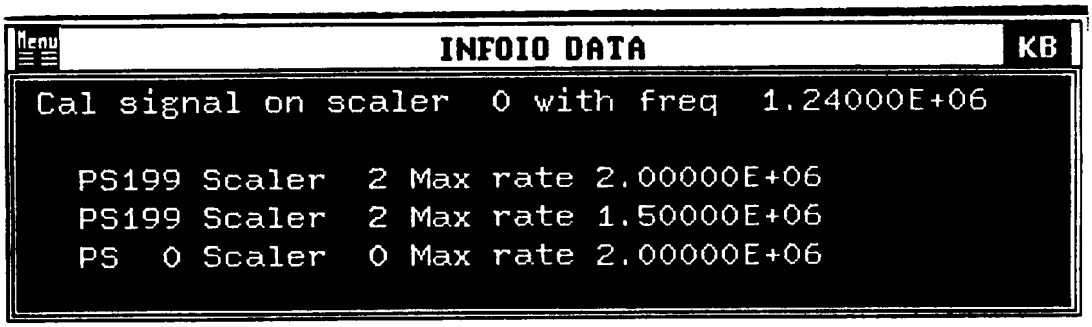


*Figure 3:* Infoio Current Data

Distribution

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LEAS
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