

# Mark5A Disk-FIFO Mode

## Abstract

There is a new disk-FIFO-only mode that augments in2net in Mark5A to allow up to many-hour-long time delays or network transfer rates much slower than real time.

## Suggested Usage

Use disk FIFO with in2net to transfer to disks (OS or SS) on remote (target) machines especially when network connections are slow compared to the selected data rates as set by formatter configurations and input-board modes. Use ordinary (default) RAM FIFO with in2net for transfers directly to correlators (using net2out) with network connections that are fast enough to keep up with almost-real-time at the selected data rates.

## Setup

Disk-FIFO-only mode requires a scratch disk pack in bank A. If this is an 8-pack, then up to half-speed formatter output (512 Mbaud) will be supported. Erase this disk pack (using SSErase or Mark5A's `reset=erase`) *before* restarting Mark5A in disk-FIFO-only mode as follows:

```
Mark5A -m 0 -d 1 &
```

The `-m 0` and the `&` are optional, as usual. The `-d 1` causes disk-FIFO-only mode as required for this operation. When Mark5A is running in this mode, a `status?` query will show (among other things) `0x20`, "Disk-FIFO-only special mode," and many of the normal Mark5A commands and queries will return errors and not function. In this mode, in2net will use the disk pack as (most of) its FIFO.

## Operations

You can run Mark5A from `tstMark5A` or from the Field System, as usual. Except for the FIFO size, in2net commands and queries operate as usual. A typical sequence might be:

- (1) Start the receiving program, for example `Net2file`, on the target machine.
- (2) Set and check the formatter configuration and the input-board data mode with the `mode=...` command and `mode?` query especially to verify input board connected and data synchronized.
- (3) Connect to the target machine using `net_protocol=...`, if necessary, and then `in2net=connect:...` commands.
- (4) Start and stop each scan with `in2net=on` and `in2net=off` commands.
- (5) Log the byte position before the start of each scan (or at the end of each scan) using an `in2net?` query (instead of a `position?` query as in recording).

This log will be less precise than `in2net?` in normal (RAM FIFO) mode because there is up to one SS block (65528 bytes) lost. But `data_check?` or `track_check?` at the correlator starting near the logged positions will give exact answers.

To go back to normal operation after you've finished with disk-FIFO-only mode, you'll need to shut down and restart Mark5A without `-d 1`. The scratch disk pack will also need to be erased (again) for its normal operation.