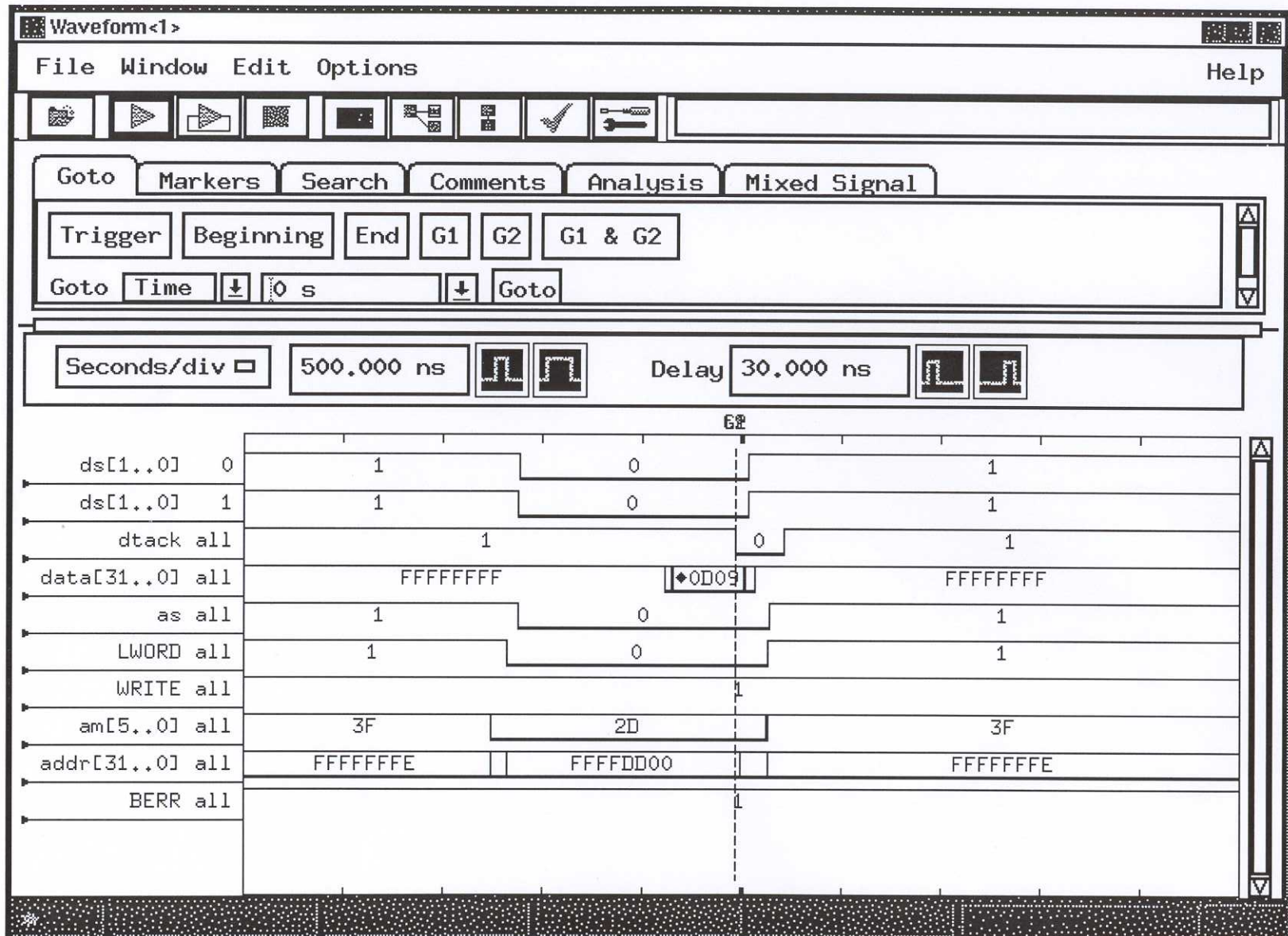
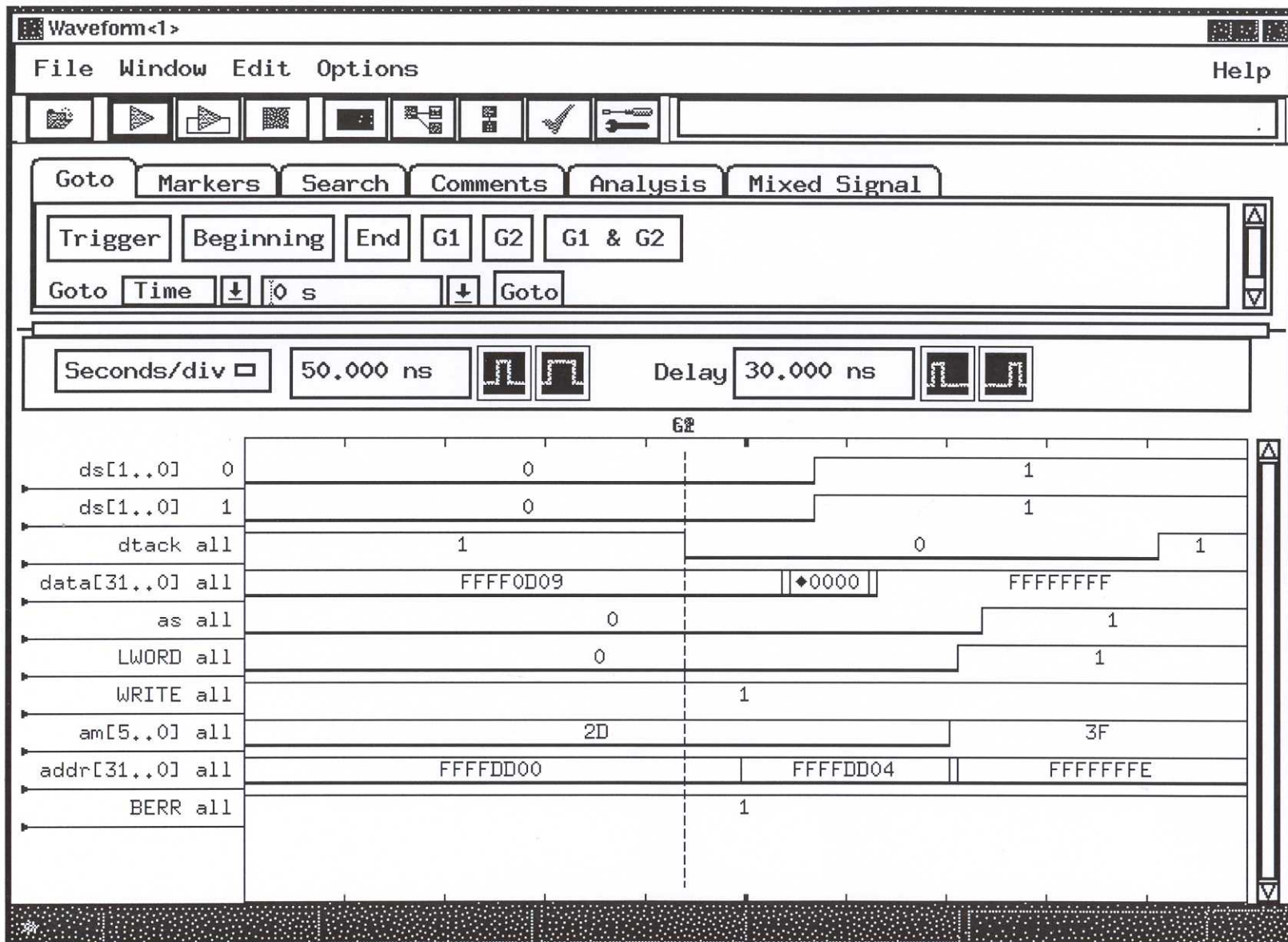


One read cycle



a closer look



2.2.4 Data Transfer Bus control lines

The following signal lines are used to control the movement of data over the data transfer lines:

AS* Address Strobe
DS0* Data Strobe Zero
DS1* Data Strobe One
BERR* Bus Error
DTACK* Data Transfer Acknowledge
WRITE* Read/Write

2.2.4.1 AS*

A falling edge on this line informs all SLAVE modules that the address is stable and can be captured.

2.2.4.2 DS0* and DS1*

In addition to their function in selecting byte locations for data transfer, as described in Paragraph 2.2.1, the data strobes also serve additional functions. On write cycles, the first data strobe falling edge indicates when the MASTER has placed valid data on the data bus. On read cycles, the first rising edge tells the SLAVE when it can remove valid data from the data bus.

OBSERVATION 2.7:

IEC 821 BUS MASTERS are not permitted to drive either of the data strobes low before driving AS* low. However, due to the fact that AS* might be more heavily loaded on the backplane than the data strobes, SLAVES and LOCATION MONITORS might detect a falling edge on a data strobe, before they detect the falling edge on AS*.

PERMISSION 2.5:

IEC 821 BUS SLAVES and LOCATION MONITORS MAY be designed to capture the address when they detect a falling edge on a data strobe instead of on the falling edge of AS*.

OBSERVATION 2.8:

IEC 821 BUS SLAVES and LOCATION MONITORS that capture the address on the falling edge of the data strobe(s) need not monitor AS*.

OBSERVATION 2.9:

In order to take full advantage of address pipelining as described in Paragraph 2.4.2, or to perform block read and write cycles, a SLAVE should capture the address on the falling edge of AS*.

2.2.4.3 DTACK*

The SLAVE drives DTACK* low to indicate that it has successfully received the data on a write cycle. On a read cycle, the SLAVE drives DTACK* low to indicate that it has placed data on the data bus.