

# CYPRESS SEMICONDUCTOR

## PRODUCT CHANGE NOTIFICATION

**PCN:** 990028

**DATE:** July 27, 1999

**Subject:** FIFO, 3.3V, x 36, Data Sheet Change with Errata

**To:**

**Category:** «CAT\_»

**Level:** «LEVEL\_»

**Cypress part numbers affected:**

CY7C43686V, CY7C43684V, CY7C43683V, CY7C43682V, CY7C43666V, CY7C43664V, CY7C43663V, CY7C43662V, CY7C43646V, CY7C43644V, CY7C43643V, CY7C43642V, all speeds.

**Customer part numbers affected:**

**Description of change:**

This change was initiated to resolve a functionality issue on our x36 family of Unidirectional/Bidirectional/Tri-Bus Synchronous FIFOs. When using these devices in **FWFT** (First Word Fall Through) mode, an error may occur in operation of the device when written to and read from near the empty boundary, causing excess words to appear at the output. See errata attached to the datasheets for details plus proposed board level solution.

Please be aware that usage in CY Standard mode is not affected.

Cypress will only ship product to customers who acknowledge this issue and agree that the product is acceptable for their applications. For any concerns, please contact your local Cypress sales representative.

Cypress plans to redesign the family as an "A" revision to resolve this functionality issue. The data sheets have been revised to include an errata for the current family. Moving forward, the part number will change to include the "A" revision. The revised data sheets with errata, as well as the "A" revision datasheets, can be downloaded from the Cypress Web site:

<http://www.cypress.com/fifo/datasheets.html#Synfif>

Jim Townsend  
Business Process Manager

*Please notify Jim Townsend of any changes in contact names or addresses.  
Phone 408 943-2716 Fax 408 943-4897 Email [pcn\\_adm@cypress.com](mailto:pcn_adm@cypress.com)*

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**Benefit of change:**

Accurate data sheet for customer use.

**Qualification status:**

N/A.

**Sample status:**

Samples are available by contacting our local sales office.

**Approximate Implementation Date:**

Product is available immediately with approval as there are no changes to the device. "A" revision devices will be available by 4Q99.

**Response Required:**

Cypress will only ship product to customers who acknowledge this issue and agree that the current product is acceptable for their applications. This form must be signed and returned as soon as possible. If acceptance is not received, delays in shipment may occur.

Change accepted by: \_\_\_\_\_ Note: If Change is Not applicable to your facility enter N/A

Print Name: \_\_\_\_\_ Company: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

PCN Sent to: «contact \_\_\_\_\_» Company: «cyp\_customer\_name\_»

*Fax signed approval to Jim Townsend at 408-943-4897 or reply by E-mail.  
For any additional information regarding this change, contact your local sales representative.*

## ERRATA for Cypress 36-bit 3.3V Synchronous FIFO (CY7C436XXV)

The First Word Fall Through (FWFT) mode was found to have an issue with its logic when there is only one word left in the FIFO. If a new word is written into the FIFO right after the Output Ready (OR) flag is updated when the final word in the FIFO is read, this new word will fail to fall through; a duplicate of the previous word will be at the output instead. The new word will only appear at the output at the following clock cycle. The timing diagram (figure 1) below illustrates the issue:

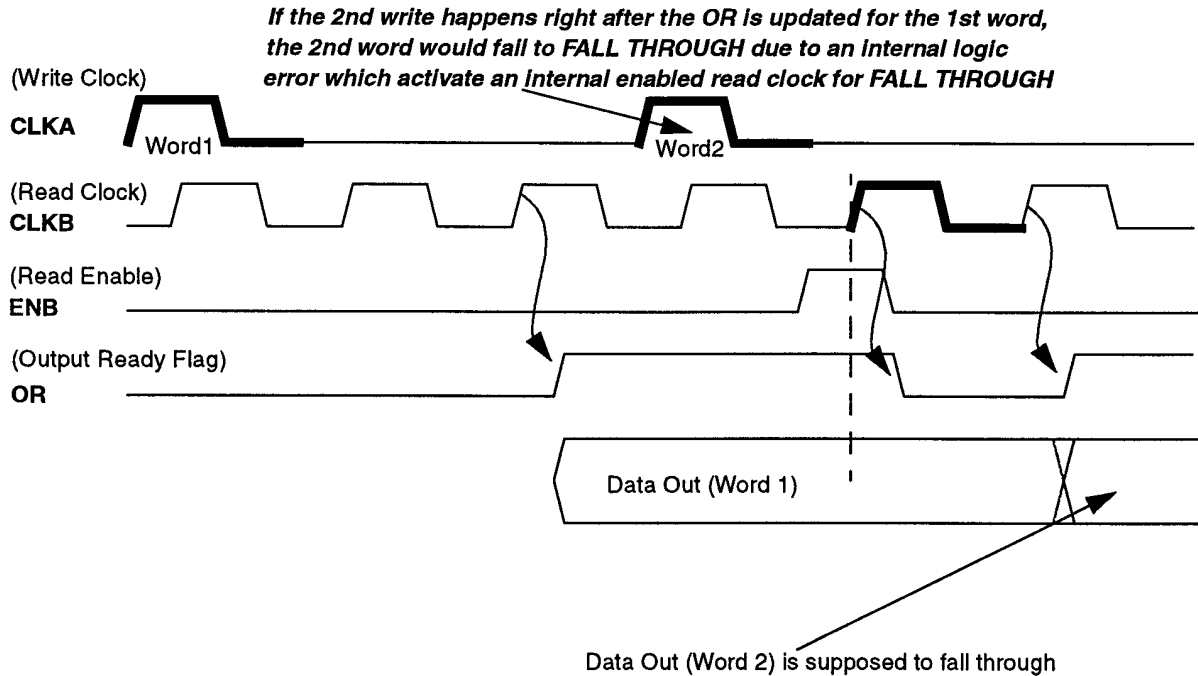


Figure 1.

Note that only FWFT mode demonstrates such behavior, there is no such issue with the CY standard mode in existing parts. The permanent solution to this issue is being implemented in Rev A of CY7C436XXV and is due for release in the September time frame. Users requiring FWFT mode in their application may implement the following solution in Figure 2 until the new revision is available:

**ERRATA for Cypress 36-bit 3.3V Synchronous FIFO (CY7C436XXV) - continued**

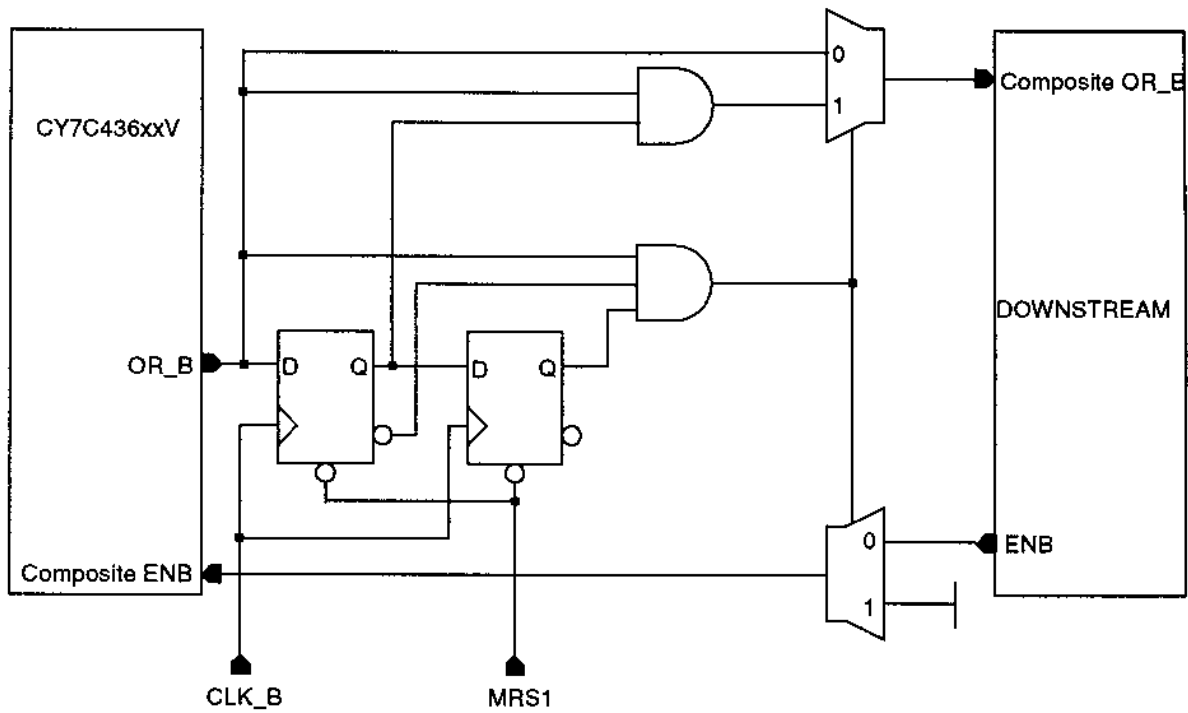


Figure 2.