Datasheets

Digital Electronics

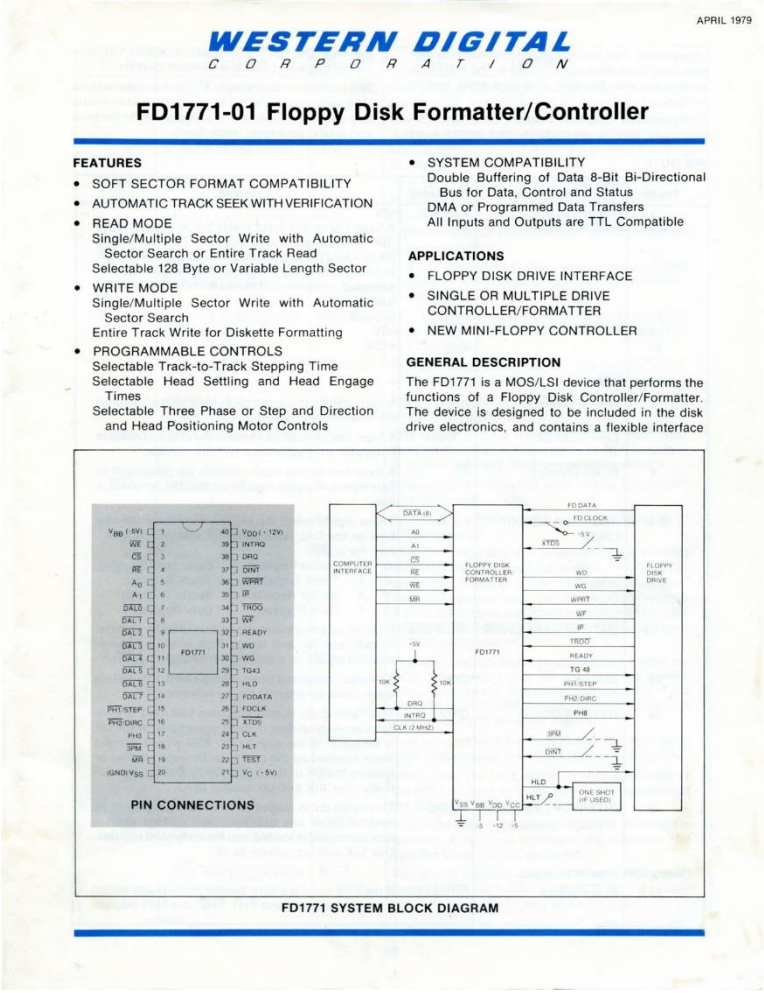
Wolfgang Neff

Datasheets (1)

- Datasheet
  - Technical documentation
  - Summarizes characteristics
    - Function
    - Physical design
    - Pins and connections
    - Electrical specifications
  - Shows typical applications
    - Role of the component in a system

Datasheets (2)

- Structure
  - Title
    - Product Name
  - Subtitle
    - Characterization
  - Content
    - Specification
  - History
    - Revisions



APRIL 1979

WESTERN DIGITAL
CORPORATION

FD1771-01 Floppy Disk Formatter/Controller

FEATURES

- SOFT SECTOR FORMAT COMPATIBILITY
- AUTOMATIC TRACK SEEK WITH VERIFICATION
- READ MODE
  Single/Multiple Sector Write with Automatic Sector Search or Entire Track Read
  Selectable 128 Byte or Variable Length Sector
- WRITE MODE
  Single/Multiple Sector Write with Automatic Sector Search
  Entire Track Write for Diskette Formatting
- PROGRAMMABLE CONTROLS
  Selectable Track-to-Track Stepping Time
  Selectable Head Settling and Head Engage Times
  Selectable Three Phase or Step and Direction and Head Positioning Motor Controls
- SYSTEM COMPATIBILITY
  Double Buffering of Data 8-Bit Bi-Directional Bus for Data, Control and Status
  DMA or Programmed Data Transfers
  All Inputs and Outputs are TTL Compatible

APPLICATIONS

- FLOPPY DISK DRIVE INTERFACE
- SINGLE OR MULTIPLE DRIVE CONTROLLER/FORMATTER
- NEW MINI-FLOPPY CONTROLLER

GENERAL DESCRIPTION

The FD1771 is a MOS/LSI device that performs the functions of a Floppy Disk Controller/Formatter. The device is designed to be included in the disk drive electronics, and contains a flexible interface

PIN CONNECTIONS

FD1771 SYSTEM BLOCK DIAGRAM

Datasheets (3)

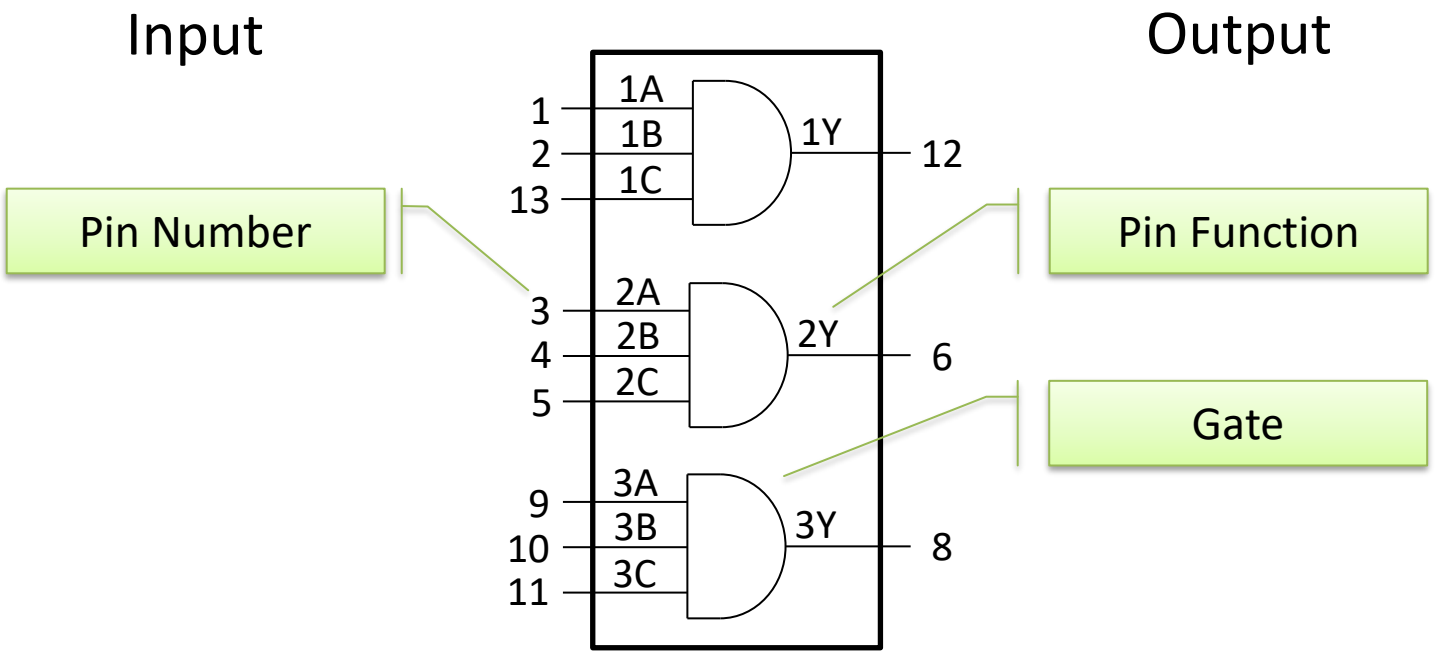
- Contents
  - General description
  - Functional diagram
  - Functional description
  - Pinning information
  - Pin description
  - Limiting values
  - Recommended operating conditions

Datasheets (4)

- Characterization
  - Example: 74HC11 - Triple 3-input AND gate
    - Triple → There are three components
    - 3-input → Each component has three input lines
    - AND gate → The component is an AND gate
  - Example: MAX7219 - 8-Digit LED Display Driver
    - 8-Digit → There are eight digits
    - LED Display → They are displayed on a LED display
    - Driver → The component drives the display

Datasheets (5)

- Functional Diagram
  - Example: 74HC11 - Triple 3-input AND gate



Datasheets (6)

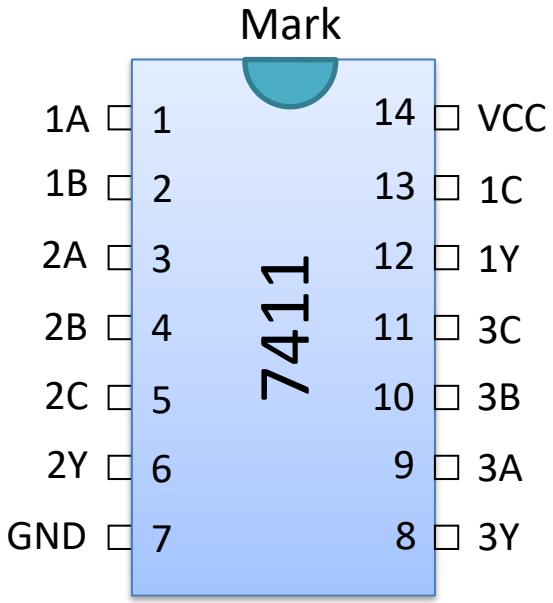
- Functional Description
  - Example: 74HC11 - Triple 3-input AND gate

Input			Output
nA	**nB**	**nC**	**nY**
L	X	X	L
X	L	X	L
X	X	L	L
H	H	H	H

L = low voltage; H = high voltage; X = don't care

Datasheets (7)

- Pinning Information
  - Example: 74HC11 - Triple 3-input AND gate



Datasheets (8)

- Pin Description
  - Example: 74HC11 - Triple 3-input AND gate

Symbol	Pin	Description
1A, 2A, 3A	1, 3, 9	data input
1B, 2B, 3B	2, 4, 10	data input
1C, 2C, 3C	13, 5, 11	data input
1Y, 2Y, 3Y	12, 6, 8	data output
V_{CC}	14	supply voltage
GND	7	ground (0 V)

Datasheets (9)

- Limiting Values
  - Example: 74HC11 - Triple 3-input AND gate

Symbol	Parameter	Min	Max	Unit
V_{CC}	supply voltage	-0.5	+7	V
I_O	output current		±25	mA
I_{CC}	supply current		50	mA
T_{stg}	storage temperature	-50	+150	°C
P_{tot}	total power dissipation		500	mW

Datasheets (10)

- Recommended operating conditions
  - Example: 74HC11 - Triple 3-input AND gate

Symbol	Parameter	Min	Typ	Max	Unit
V_{CC}	supply voltage	2.0	5.0	6.0	V
V_I	input voltage	0		V_{CC}	V
V_O	output voltage	0		V_{CC}	V
T_{amb}	ambient temperature	-40		+125	°C