## Differential Chaining Card (8-bit Parallel)



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# 53A-145 DIFFERENTIAL CHAINING CARD OPERATING MANUAL

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## 53A-145 DIFFERENTIAL CHAINING CARD

## OPERATING MANUAL

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#### 53A-145 DIFFERENTIAL CHAINING CARD

#### DESCRIPTION

The 53A-145 Differential Chaining Card is a printed circuit board assembly for use in a CDS 53A system. This card provides a differential communication link between the card cage it is plugged into, and the next card cage in a chained system.

The Chaining Card allows data transfer rates of 500,000 ASCII characters (8-bit parallel) per second up to a distance of 1,000 feet.

#### **CONTROLS AND INDICATORS**

The following controls and indicators are provided to select and display the functions of the 53A-145 Card's operating environment.

#### Power LED

The Power LED provides a valuable diagnostic tool by giving the system programmer a visual indication of the action which the system is currently taking. Whenever the 53A-145 Card is addressed by the system controller, the Power LED goes out. The LED remains out until another function card is addressed. Since only one function card can be addressed at a time, an unlit Power LED indicates the function card with which the system controller is currently communicating. The Power LED being lit not only indicates that the 53A-145 Card is unaddressed, but that all required dc power (5V dc,  $\pm$ 15V dc) is being supplied.

#### Fuse

The 5 Volt dc power bus has a fuse that protects the system from overloads. If the fuse has blown, the Power LED will not light.

#### I/O LED

The I/O LED will be lit when the system is in input and out when in output. As a matter of convention input means data being input by the system controller.

#### Data LEDs (B0 - B7)

Below the I/O LED is a column of eight LED's, labeled from top to bottom B0 through B7. These LED's display the current data word that is being either received or transmitted by the Chaining Card. The least significant bit is B0.

#### **SPECIFICATIONS**

Differential Drivers/Receivers: TI 75119

Differential Impedance: 130 ohms.

Protocol: ASCII 8-bit parallel.

Chaining Distance: 300 meters.

<u>Data Rate</u>: 500,000 ASCII characters per second.

Power Requirements: The 5V power is provided by a 53A-060 power

supply located in the 53A-002 Card Cage.

Voltage: 4.75V to 5.25V DC.

Current: 0.95 amperes, maximum quiescent.

0.98 amperes, peak.

Cooling: Provided by the fan in the 53A-002 Card Cage.

Temperature: -10°C to +65°C, operating (assumes ambient

temperature of 55° and airflow to assure less than

10°C temperature rise). -40°C to +85°C, storage.

Humidity: Less than 95% R.H. non-condensing, -10°C to

+30°C.

Less than 75% R.H. non-condensing, +31°C to

+40°C.

Less than 45% R.H. non-condensing, +41°C to

+55°C.

Dimensions: 197mm High, 220mm Deep, 13mm Wide.

(7.75" X 8.66" X 0.5")

Dimensions, Shipping: When ordered with a 53A-002 Card Cage this card

will be plugged into the Card Cage Chaining slot.

When ordered alone the shipping dimensions are:

254mm X 254mm X 127mm.

(10" X 10" X 5")

Weight: 0.23 Kg. (0.5 lbs.)

Weight, Shipping: When ordered with a 53A-002 Card Cage this card

will be plugged into the Card Cage Chaining slot.

When ordered alone the shipping weight is:

0.64 Kg. (1.4 lbs.)

Mounting Position:

Any orientation.

Mounting Location:

Plugs into the Chaining slot of the 53A-002 Card

Cage.

**Output Connections:** 

53A-743 cable.

**Equipment Required:** 

Communications Card, Control Card and

mainframe.

Equipment Supplied:

53A-145 Chaining Card.

Spare fuse, (part #42202-54001).

Operating manual, (part #00000-11450). Service manual, (part #00000-21450).

#### **INSTALLATION**

The 53A-145 Chaining Card must be installed in the red chaining slot.

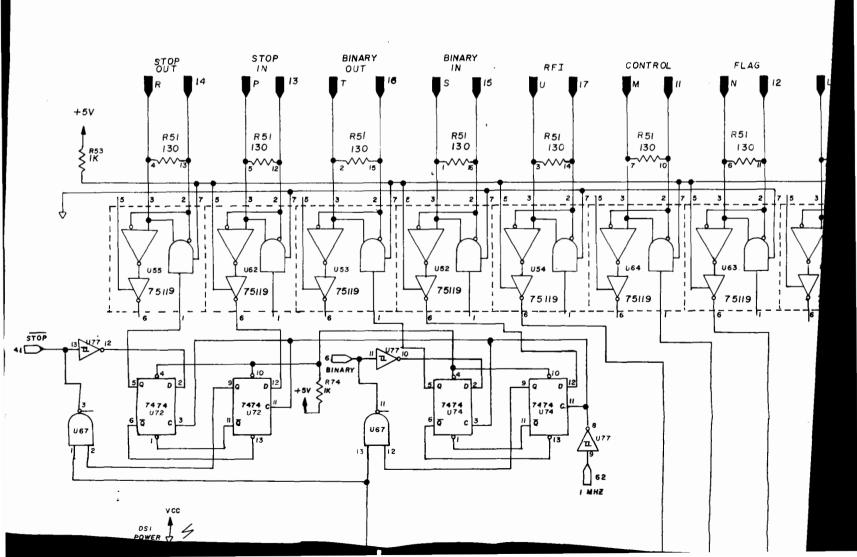
#### **CAUTION:**

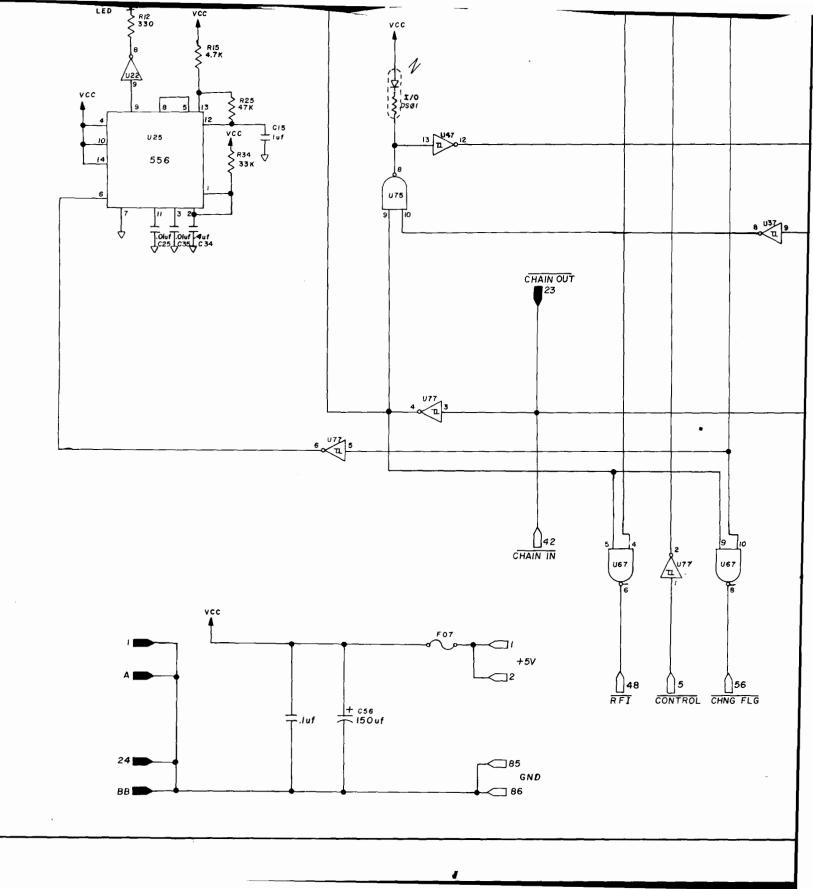
To avoid plugging the card in backwards, observe the following:

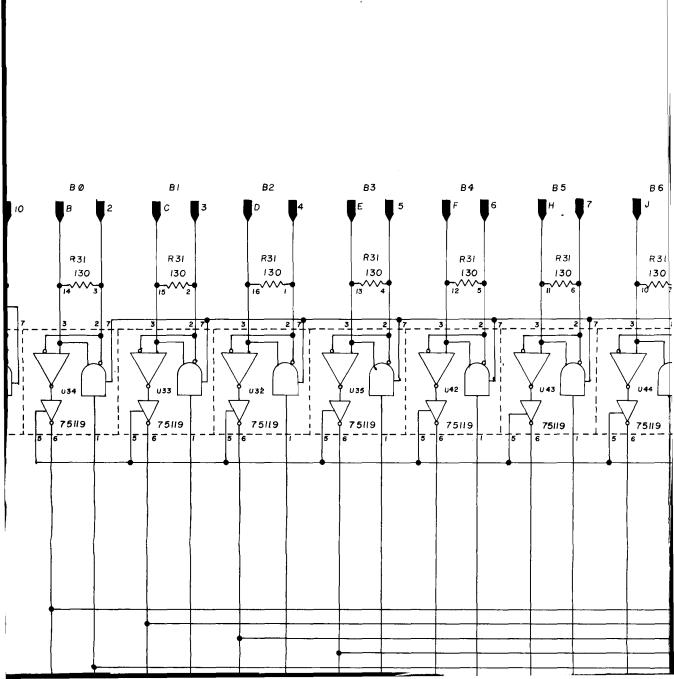
- a. Match the keyed slot on the card to the key in the backplane connector. The component side should be to the <u>right</u> for a 53 Series Chassis and to the <u>top</u> for a 63 Series Chassis.
- b. There are two ejectors on the card. Make sure the ejector marked "53A-145" is at the top for a 53 Series Chassis and to the left for a 63 Series Chassis.

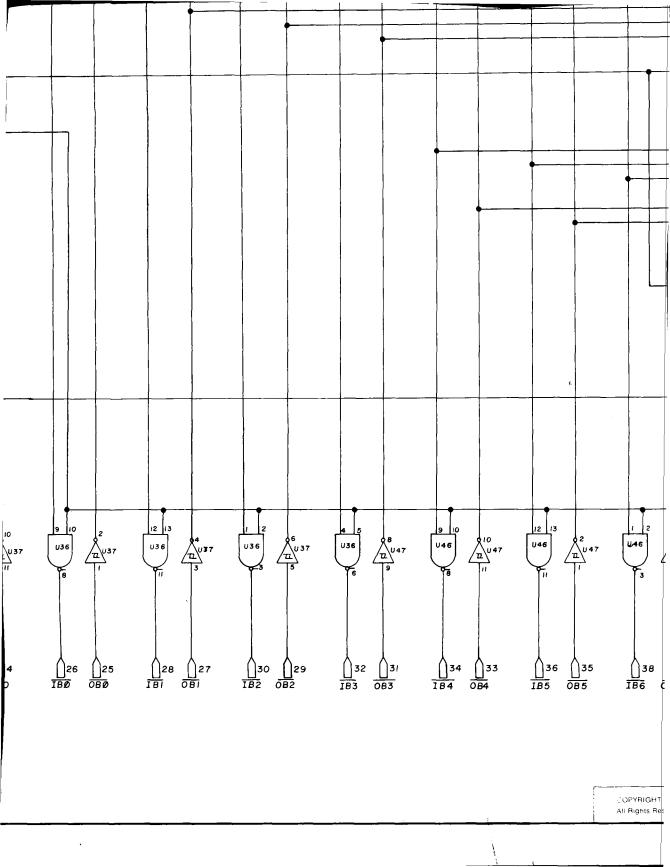
#### **CAUTION:**

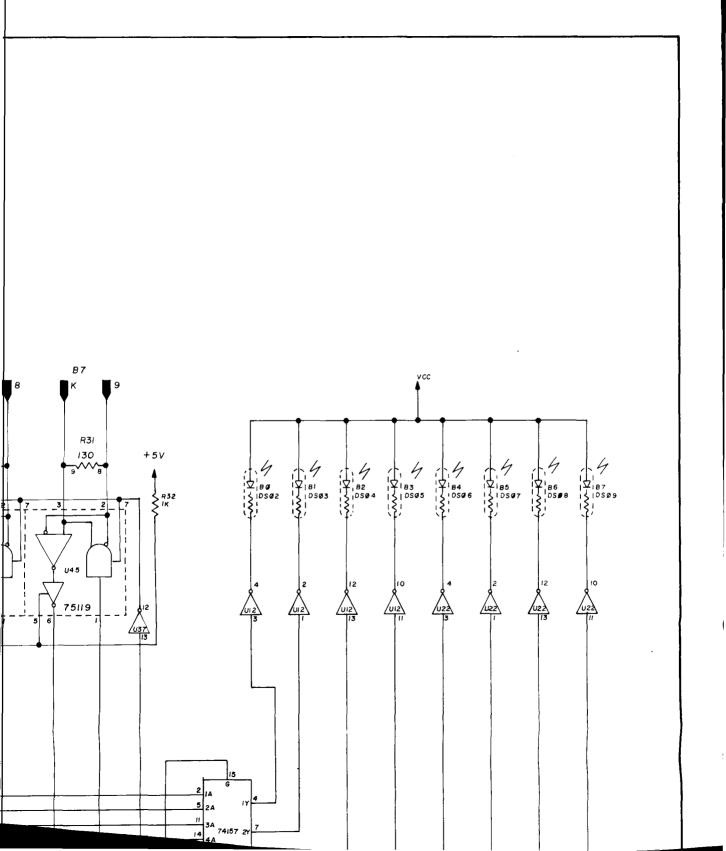
The 53A-145 Card is a piece of electronic equipment and therefore has some susceptibility to electrostatic damage (ESD). ESD precautions must be taken whenever the module is handled.

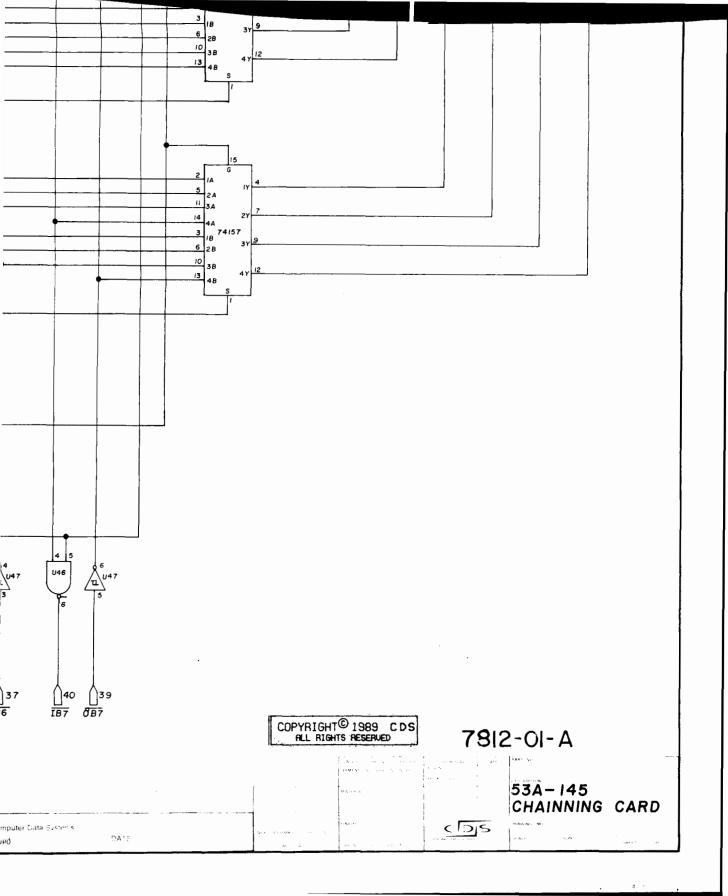












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