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Title:

RC 3503
OPERATOR'S GUIDE

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Abstract:

This paper describes how to operate the debug console on RC 3503 and how to use the built-in diagnostic test.

For details about the RC 3503 CPU architecture/instructions, refer to RCSL: 52-AA316 RC 3500 General Purpose Controller, Reference Manual.

(15 printed pages).

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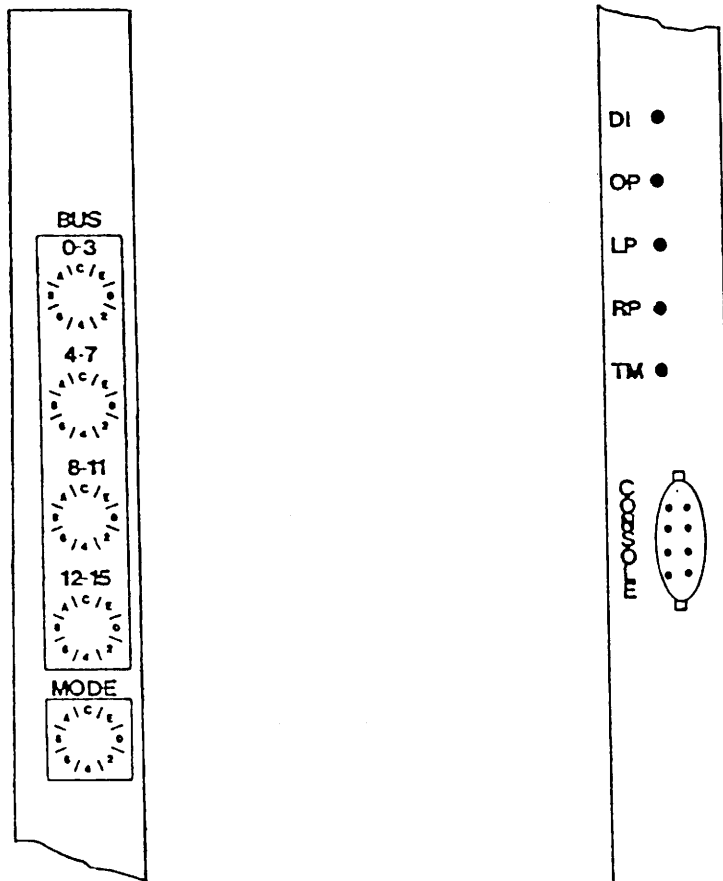
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1. PROCESSOR FRONT PANEL

1.

The front panel of the processor board contains five switches, five indicators, and a jack.



1.1 Switches

1.1

All switches are rotary switches with 16 positions, indicated by the hexadecimal numbers 0 to F. The switches are set by means of a screwdriver.

1.1.1 Bus Switches

1.1..

The four switches marked BUS are used to supply the processor with data. There is a switch for bits 0 to 3, 4 to 7, 8 to 11, and 12 to 15.

1.1.2 Debug Mode Switch

1.1.2

The switch marked MODE is used to select the baud rate for the debug console (see sect. 1.3) and to control the execution of the built-in test programs as follows:

<u>Setting</u>	<u>Baud Rate</u>	<u>Test Program Execution</u>	
0 , 8	300 bps	run test	loop
1 , 9	1200 bps	run test	loop
2 , A	300 bps	skip test	
3 , B	1200 bps	skip test	
4 , C	300 bps	run test	no loop
5 , D	1200 bps	run test	no loop
6 , E	300 bps	skip test	
7 , F	1200 bps	skip test	

Explanation

run test The programs are executed whenever the autoloader button is pressed.

skip test The programs are not executed.

loop The programs are executed in an endless loop.

no loop The programs are executed once.

The test programs are described in the next section.

2. When a control command is terminated, the last executed display command is repeated, but no modification of the displayed data is allowed. Here the debug console awaits the next command.

The following display commands are available:

M <gadr> Modify memory

Displays the contents of the 8 memory locations starting at <gadr>.

W <reg> Modify working registers

Displays the contents of the 8 working registers starting at <reg>.

L <level> Modify working registers

Displays the level number and contents of the 8 working registers belonging to <level>.

Y <adr> Modify control microprocessor RAM

Displays the contents of the 8 control microprocessor RAM locations starting at <yadr>.

2.3 Control Commands

2.3

The following control commands are available:

R Run

Causes the PU to start instruction execution.

S Instruction step

The PU will execute one instruction, stop, and reactivate the debug console.

S <steps> Multi-instruction step

The PU will execute <steps> instructions, stop, and reactivate the debug console.

C Instruction step on current level

Like S, but on the current level if possible.

C <steps> Multi-instruction step on current level

Like S <steps>, but on the current level if possible.

2.4 Command Parameters

2.4

All numbers entered and displayed are hexadecimal.

At any time the entering of an empty command (i.e. CR) will cause the previous command to be repeated.

A global address <gadr> is entered in one of the two following formats:

<base> : <disp>
 : <disp>

where:

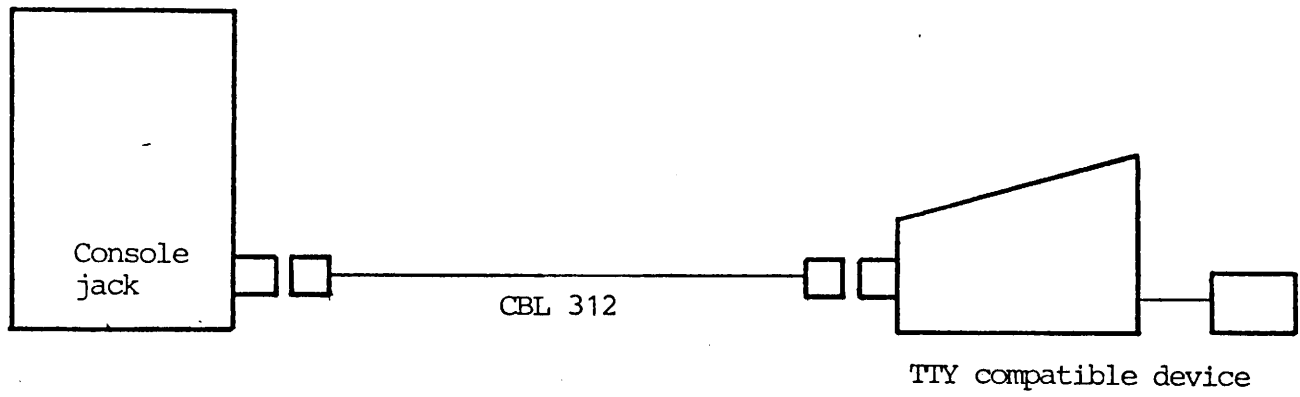
<base> is the leftmost 16 bits of the 32-bit address.

<disp> is the displacement within the selected memory module, i.e. the rightmost 16 bits of an address.

If the second format (: <disp>) is employed, the last entered base is echoed and used.

3. INSTALLATION

3.



CBL 312 is used to connect a TTY compatible device to the console jack on CPU 201.