FASTBUS

F290

Crate/Cable Segment Display

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FEATURES

- **Displays Crate or Cable Segment lines**
- **Diagnostic Read/Write register**
- **Single-step FASTBUS cycles**
- **Captures current state of segment 'AD' lines**
- **Front panel input and output trigger**

GENERAL DESCRIPTION

The Model F290 Display Module is a single-width diagnostic module which displays the status of FASTBUS Crate or Cable Segment signals. A switch selects between Crate or Cable Segment signal lines. The module operates in either a tracking or latched mode, asserting the bus wait (WT) signal (switch-selectable) at each timing transition to permit single-stepping or auto-stepping of individual FASTBUS transfers. The duration of wait (WT) in the auto-step mode is adjustable via a front panel potentiometer.

The F290 front panel contains a trigger input LEMO that permits an external device to assert bus WT, thus halting the FASTBUS transfer and allowing the signal states to be viewed on the front panel LEDs. This module also has a front panel trigger output controllable via the Control Status Register#0 (CSR#0).

The F290 also contains a geographically addressable Read/Write register to perform system diagnostics and verification of system integrity. The Cable Segment geographical address is selectable via an on board DIP switch and is displayed on LEDs labeled "GA <4:0>" if the Cable Segment is selected. The F290-A02 option contains the Cable Segment drivers to permit Cable Segment diagnostics to be run on the internal Read/Write register.

MODES OF OPERATION

The F290 can operate in five switch-selectable modes: 1) Transparent, 2) Single-Step, 3) Auto-Step, 4) Track, and 5) Latch or Hold. Each of these modes are equally selectable on the crate or the Cable Segment.

Transparent Mode

The F290 in the transparent mode displays the current status of the segment lines without asserting wait (WT) states. This mode gives a visual indication of the bus activity and possible stuck bits on the Segment. The F290 transparent mode (WTEN display is turned off) is selected when the momentary toggle switch labeled "WT EN/DIS" toggled to DIS (disable) position, or at POWER-ON (integrated RB = 1 and BH = 0), or when CSR#0 <22> is set to a logic one. The WTEN status is indicated by CSR#0 <06>; a logic one indicates WTEN is enabled.

Single-Step Mode

The F290 in the Single-Step mode asserts WT on the Segment at all timing transitions and maintains WT until the monentary toggle switch labeled "SS-Auto" is toggled to SS. This mode permits FASTBUS segment operations to be single-stepped from the front panel. The single-step mode is selected by setting the SS-AUTO toggle switch to its center position (or halt position) with the WT-EN display turned on. A logic zero of CSR#0 <07> indicates the mode is set to single-step.

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Auto-Step Mode

The F290 in the Auto-Step mode asserts WT on the Segment at all timing transitions which is similar to the single-step mode. However, WT is negated after a fixed time interval determined by the front panel potentiometer labeled "TIME ±". This mode is selected by setting the SS-AUTO toggle switch to the Auto position with the WT-EN display turned on. A logic one in CSR#0 <07> indicates the Auto-Step mode is selected.

Track/Latch Mode

The address/data lines of the backplane or Cable Segment of the F290 in the Latch mode are latched into a 32-bit register and displayed on the front panel LEDs at the assertion of the internally generated WT. The Track mode simply displays the current state of the address/data lines.

POWER REQUIREMENTS

−5.2V — 2.6A
+5.0V — 2.6A
−2.0V — 1.6A
±15V — 10mA

ORDERING INFORMATION

Weight: 1.3 kg (2 lb. 13 oz.)

Model F290-A01	—	Crate/Cable Segment Display
Model F290-A02	—	Same as F290-A01 with complete set of Cable Segment Drivers
Model F290-A03	—	Same as F290-A02 with Auxiliary Cable Card
Accessories	—	Model F020-A01 - Module Extraction/Insertion Tool Model F210-A01 - Active Extender Model F211-A01 - Passive Extender