

Coprocessor Modules

IC697ADC701

GFK-0521E
August 1997

Alphanumeric Display Coprocessor (ADC)

Features

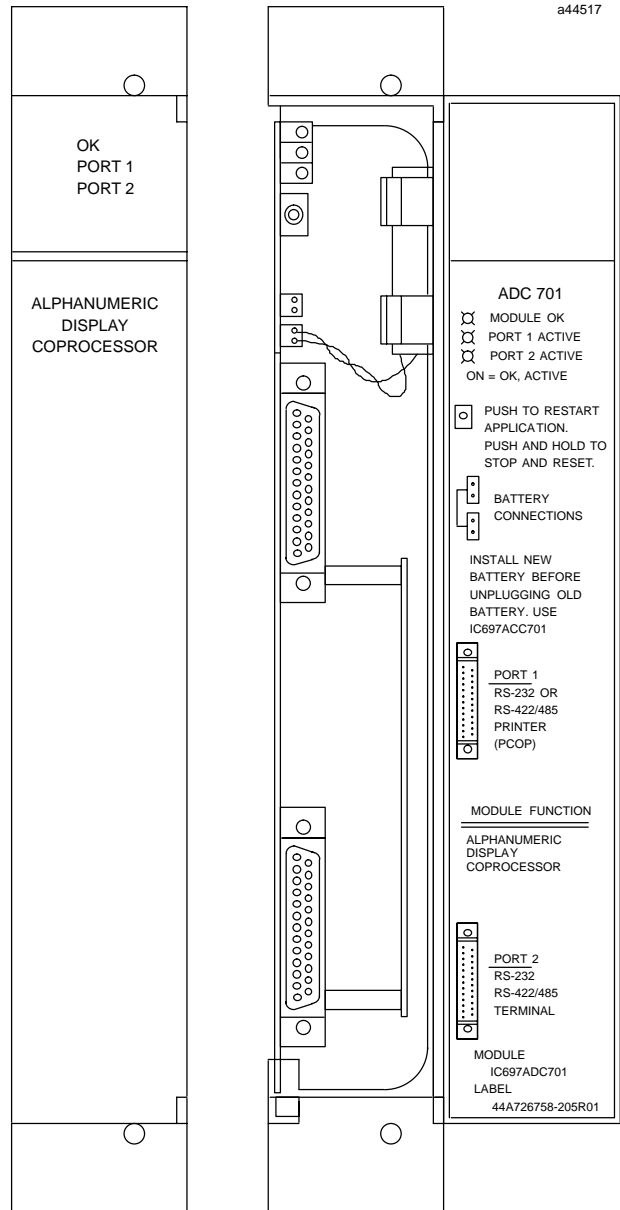
- Single slot Alphanumeric Display Coprocessor
- Runs Alphanumeric Display System software
- 12 Mhz, 80C186 microprocessor
- High performance access to PLC memory
- Reset pushbutton; three status LEDs
- Soft Configuration (No DIP switches or jumpers) with MS-DOS® or Windows® based programming software configuration function
- Easy fill-in-the-blank system building
- Pop-up windows; pull down menus
- 15 User definable function keys per screen
- Printer logging to a serial printer

Functions

The Alphanumeric Display Coprocessor Module is a coprocessor to the IC697 PLC CPU. It is programmed to perform Alphanumeric Display System display, report, and alarm functions through an Operator Interface Terminal, which can be an OIT or Mini OIT, a VT100 compatible terminal, or an IC647 industrial computer or IBM® compatible personal computer running TERME. It communicates with the IC697 CPU over the system backplane.

Up to 63 Alphanumeric Display Coprocessors can be supported in a single IC697 PLC system and can be located in either the main rack or expansion racks.

Operation of the module may be initialized by depressing a pushbutton on the module or by an attached ADS (PCOP) development system. The status of the ADC is indicated by three green LEDs on the front of the module.



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Installation

- Installation should not be attempted without referring to the applicable *Programmable Controller Installation Manual*, the *ADS User's Manual*, and the *ADS Reference Manual*.
- Make sure rack power is off before installing the Alphanumeric Display Coprocessor module.
- Connect the battery to either of the battery connectors on the module (see figure 2).
- Install in the rack (see figure 1).
- Turn on power.

The module should power-up and blink the top LED. When the diagnostics have completed successfully the top LED stays on.

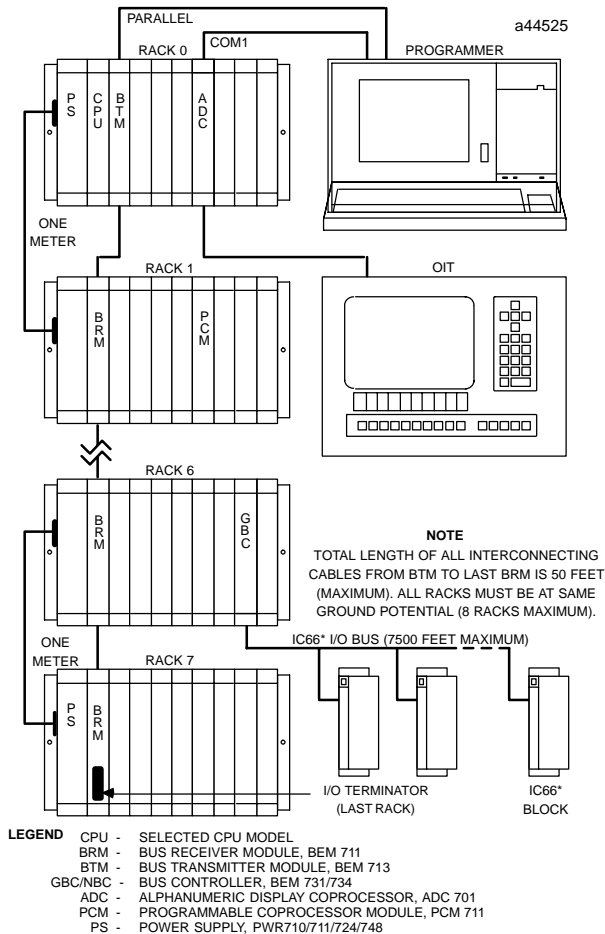


Figure 1. Typical PLC System Configuration

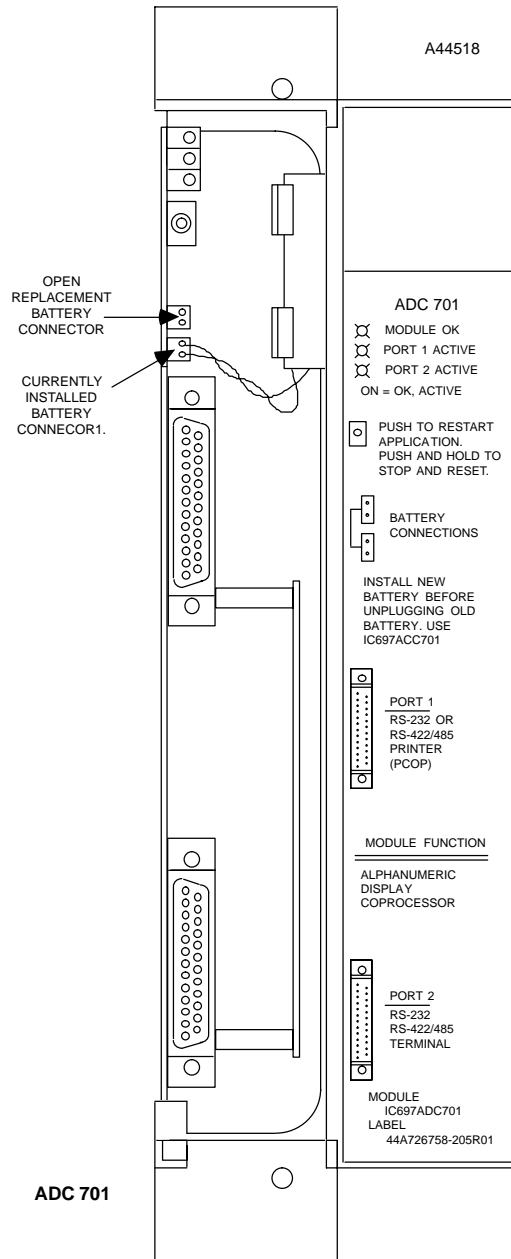


Figure 2. Alphanumeric Display Coprocessor Module - User Details

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Programming and Configuration

An IC647, IC640, or an IBM-compatible PC, XT, AT, or PS/2 computer with PCM Development Software (PCOP) installed connects to the top port as shown in figure 3. The default setting is 19,200 bps. The PCM Development Software is used to configure the serial port parameters and to install the Alphanumeric Display System software onto the ADC. Refer to the *ADS User's Manual*, for details of operation.

Port 1 (3PL) and Port 2 (4PL)

Port 1 (3PL) is normally connected to an RS-232 serial COM port of a host computer for communications to PCOP at 19.2 Kilobaud. Alternately, port 1 may be connected to a serial RS-232 printer (see the *Alphanumeric Display System User's Manual* to reconfigure Port 1). Figure 3 shows typical cable connections for this purpose and Table 1 shows the details of the RS-232 signals.

Table 1. Port 1 and 2 – RS-232 Signals

PIN	FUNCTION	SIGNAL NAME	I/O
1	Shield	-	-
2	Transmitted Data	TD	Output
3	Received Data	RD	Input
4	Request To Send	RTS	Output
5	Clear To Send	CTS	Input
7	Signal Ground	GND	-
8	Data Carrier Detect	DCD	Input
20	Data Terminal Ready	DTR	Output

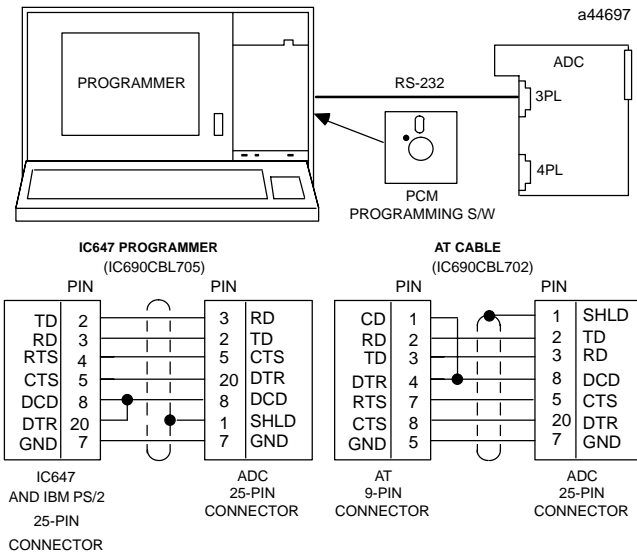


Figure 3. Example of PCM Development System Connection to ADC

Serial Ports

Although both ports are RS-232 and RS-422/RS-485 compatible and the signals shown in both Table 1 and Table 2 are available at each connector, the use of each port is dedicated for ADC operation.

Port 2 (4PL) is configured as a 19.2 Kbaud RS-232 port and interfaces to the OIT or other terminal's RS-232 port for keyboard input and screen output. Figure 4 shows appropriate cable connections and Table 2 shows usable RS-422 signal details.

Table 2. Port 1 and 2 – RS-422/485 Signals

PIN	FUNCTION	SIGNAL NAME ⁶	I/O
7	Signal Ground	SG	-
9	Send Data (A)	SD (A)	Output
10	Request To Send (A)	RTS (A)	Output
11	Clear To Send (A)	CTS (A)	Input
12	Termination for pin 11	-	-
13	Receive Data (A)	RD (A)	Input
21	Send Data (B)	SD (B)	Output
22	Request To Send (B)	RTS (B)	Output
23	Clear To Send (B)	CTS (B)	Input
24	Termination for pin 25	-	-
25	Receive Data (B)	RD (B)	Input

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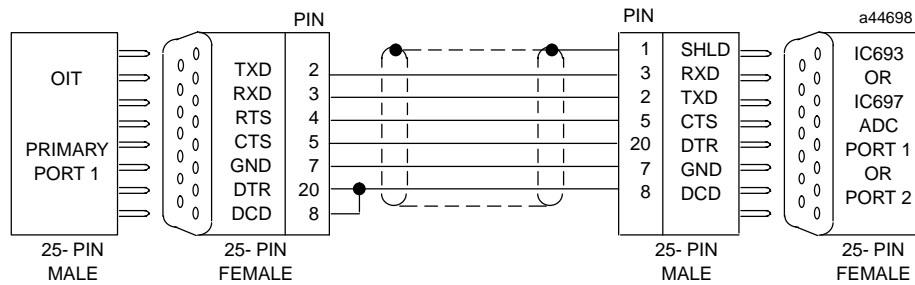


Figure 4. ADC Port 2 Connection to an OIT

Configuration

There are no user DIP switches or jumpers on this board for configuration. However, the Alphanumeric Display System software must be loaded using PCM Development Software (refer to the *Alphanumeric Display System User's Manual* for details). The ADC must be configured with the MS-DOS or Windows based programming software configuration function prior to use.

Status Indication

Three Status LEDs are available as shown in figure 2. The top LED indicates the condition of the ADC module, the bottom two LEDs indicate serial port activity.

Controls

One pushbutton is provided. Push and hold for less than 5 seconds will restart the Alphanumeric Display System software. Push and hold for more than 5 seconds and the module factory default configuration will be installed (this action will not clear memory but will permit communications with the programmer using factory default settings).

Batteries

A lithium battery (IC697ACC701) is installed as shown in figure 2. This battery maintains user memory when power is removed. Be sure to install the new battery in the unused battery connector before removing and discarding the old battery. If during power-up diagnostics a low battery is detected, the Module OK LED (top) will not stay on.

Table 3. References

Reference	Title
1	ProgrammingSoftware User's Manual
2	ProgrammableControllerReferenceManual
3	Programmable Coprocessor Module and Support Software User's Manual
4	ProgrammableControllerInstallationManual
5	AlphanumericDisplaySystemUser's Manual
6	AlphanumericDisplaySystemReference Manual
7	Operator Interface Terminal User's Manual
8	Mini Operator Interface Terminal User's Manual
9	IC600 Operator Interface Terminal User's Manual

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Table 4. Specifications for IC697ADC701 †

Battery	
Shelflife	10 years at 20°C (68°F)
Memory retention	6 months nominal without applied power.
Current Required from 5V Bus	1.0 amp
Serial Ports	RS-232andRS-422/RS-485compatible
VME	System designed to support the VME standard C.1

† Refer to GFK-0867B, or later for product standards and general specifications. If the PLC installation must comply with supported standards, such as FCC or CE Directives, please refer to the *Installation Requirements for Conformance to Standards*, shipped with the PLC programming software, for additional guidelines.

Table 5. Ordering Information

Description	Catalog Number
AlphanumericDisplay Coprocessor Module	IC697ADC701
LithiumBattery	IC697ACC701

Note: For Conformal Coat option, or Low Temperature Testing option please consult the factory for price and availability.

