GFK-0161H
August 1997

Bus Transmitter Module

Features

- High Performance Parallel Programmer Interface
- Bus Expansion Interface
- Supports up to 7 Expansion racks
- Three LED indicators provide module, programmer port, and expansion port status
- No DIP switches to set, easy software configuration into PLC system

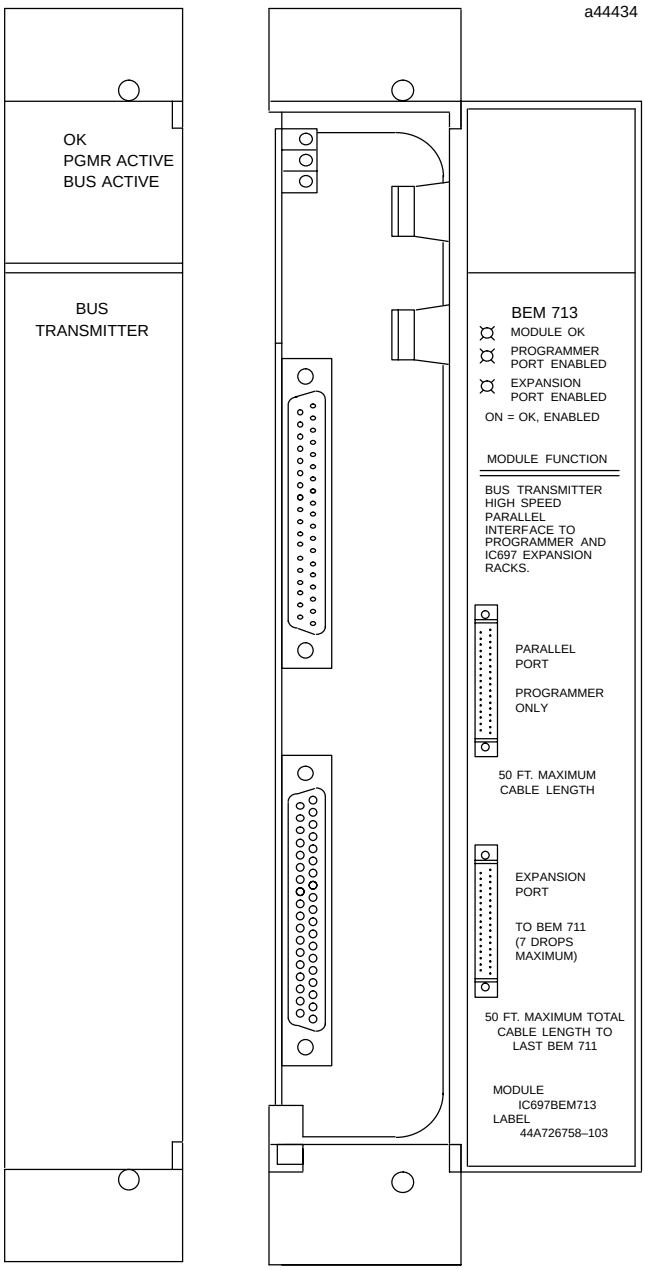
Functions

The Bus Transmitter Module (BTM) permits expansion from the main CPU rack when more modules are required in a system than can be contained in the CPU rack. The BTM allows expansion from the CPU rack to a maximum of 7 additional IC697 PLC racks. It also provides a high performance parallel interface to the programming device.

The module occupies a single slot and has two connectors. The top one is for attachment to the programming device. The bottom one is for a daisy-chained arrangement through Bus Receiver Modules to expansion racks.

Three green LEDs provide status indication of each port and module status.

The BTM must be configured into the IC697 PLC system using the MS-DOS® or Windows® programming software configuration function.



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Installation

- Installation should not be attempted without referring to the applicable *Programmer Controller Installation Manual* (See reference 3).
- Make sure rack power is off.
- Install in any slot (except slot 1) in the main CPU rack.
- Turn on power.

Note

BTM Version IC697BEM713A must be installed to the right of any IC697 interrupt source modules (GBC, PCM, Integral Inputs). BTM Version IC697BEM713B and later versions can be installed as shown in Figure 1.

Module Mechanical Keying

This module includes a mechanical key that prevents inadvertent substitution of one module type for another in a given slot. The key fits a uniquely shaped area on the board below the connector. The key is included with each module.

When the module is first installed, the key latches onto the backplane center rail. When the module is extracted, the key remains in the center rail, configuring the slot to accept only identical module types.

If it is necessary to change the module location in the rack after the key has been latched onto the center rail of the rack, the key can be removed by pushing it upward to unhook the latch while pulling it off the rail. It may then be reinserted onto the module and the module inserted into the rack in the desired location. Note: Only the power supply can be placed in the leftmost rack position.

Programmer Connection, Parallel

For a parallel interface (MS-DOS programmer only), the programmer is connected to the top connector of the BTM with cable IC647CBL703 as shown in Figure 2.

Expansion Rack Attachment

The BTM is attached to BRMs in expansion racks with cable IC600WDFxxx (where xxx is length in feet) as shown in Figure 1.

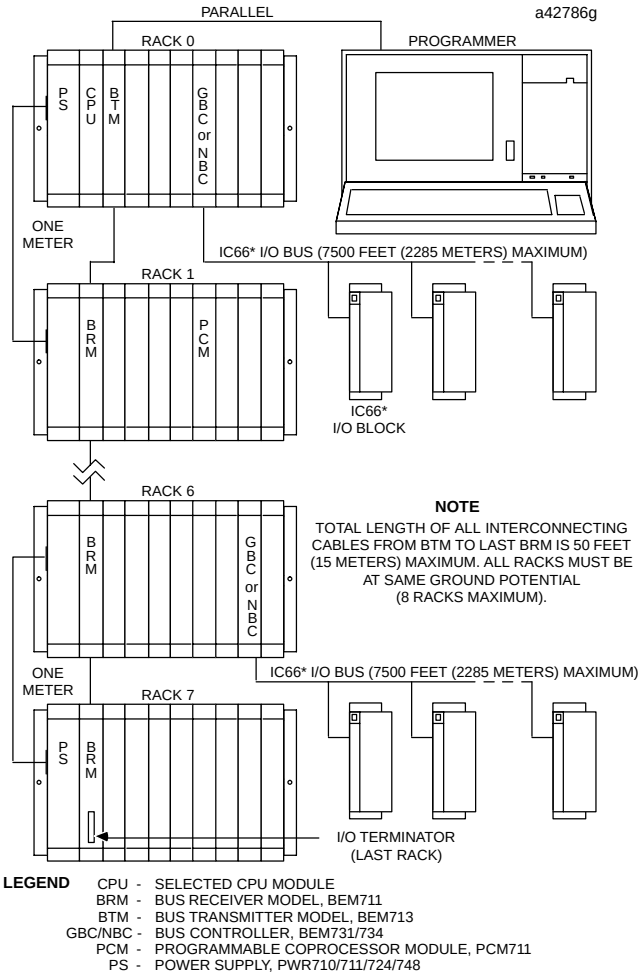

Figure 1. Typical PLC System Configuration

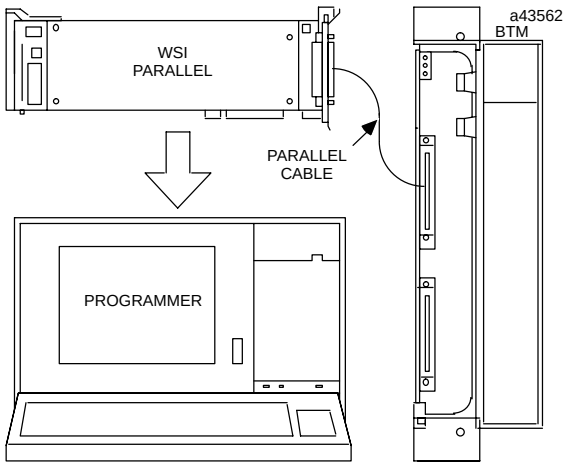

Figure 2. Parallel Programmer Attachment to BTM

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Status Indications

Three green LEDs at top of module provide module status information as described below.

The top LED (MODULE OK) LED is *ON* when the CPU software completes its power-up configuration of the BTM, and has polled (or attempted to poll) each expansion rack in the system. It is *OFF* when any of these conditions are not met.

The middle LED (Programmer Port Enabled) is the Programmer Port Active LED. This LED is either *blinking* or *ON* when the programmer and the PLC are communicating. It is *OFF* when they are not communicating. Note that this port is *not* used in communications between the Windows programmer and the PLC.

The bottom LED (Expansion Port Enabled) provides the status of the expansion bus. This LED is either *blinking* or *ON* when the BTM is communicating with the Bus Receiver Modules connected to it through the parallel I/O bus link. It is *OFF* when they are not communicating.

Removing a Module

The instructions below should be followed when removing a module from its slot in a rack.

- Grasp the board firmly at the top and bottom of the board cover with your thumbs on the front of the cover and your fingers on the plastic clips on the back of the cover.
- Squeeze the rack clips on the back of the cover with your fingers to disengage the clip from the rack rail and pull the board firmly to remove it from the backplane connector.
- Slide the board along the card guide and remove it from the rack.

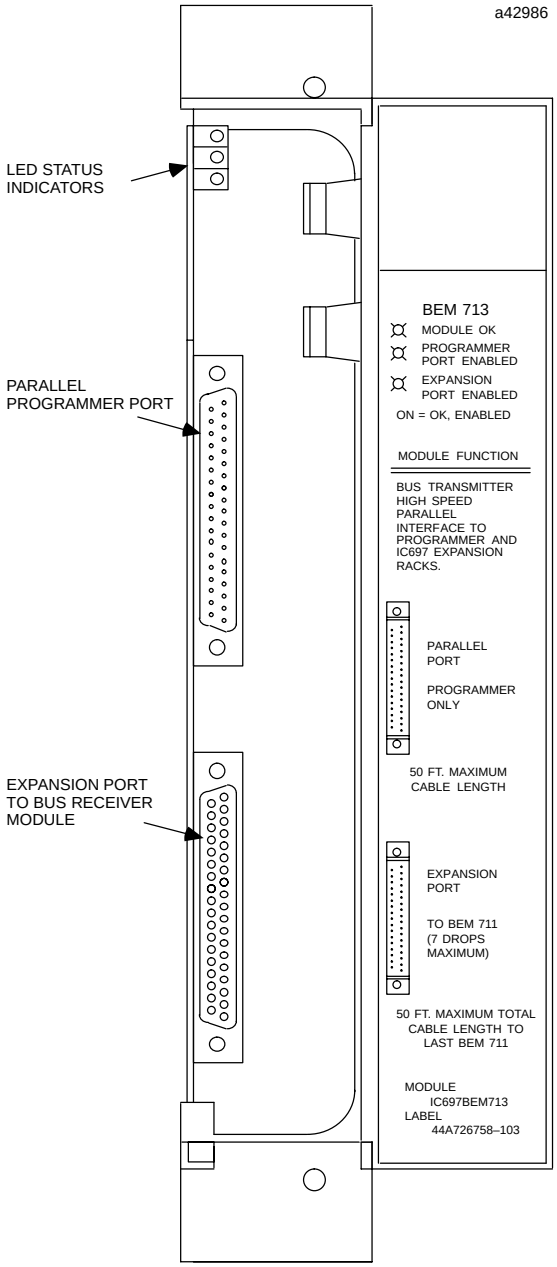

Figure 3. Bus Transmitter Module - User Details

Table 1. References

Reference	Title
1	Programming Software User's Manual
2	Programmer Controller Reference Manual
3	Programmable Controller Installation Manual

Table 2. Specifications for IC697BEM713 †

Current Required from 5V Bus	1.4 Amp
Programmer Interface Specification	
Effective Data Rate	500 Kbytes / sec
Time to store 16 Kbyte program	20 - 30 seconds
Maximum cable length	50 feet (15 meters)
Expansion Interface Specification	
Maximum cable length	50 ft maximum per system
Effective Data Rate	500 kbytes / sec
Electrical Isolation	non-isolated differential communications.
VME	System designed to support the VME standard C.1

† Refer to GFK-0867B, or later for product standards and general specifications. For installations requiring compliance to more stringent requirements (for example, FCC or European Union Directives), refer to *Installation Requirements for Conformance to Standards.*

Table 3. Ordering Information

Description	Catalog Number
Bus Transmitter Module	IC697BEM713
Programmer Cable, parallel	IC647CBL703 (10 ft. (3m) cable)
I / O Cable	IC600WD005A (5 ft. (1.5m) cable)
	IC600WD010A (10 ft. (3m) cable)
	IC600WD025A (25 ft. (7.5m) cable)
	IC600WD050A (50 ft. (15m) cable)

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