GE Fanuc Automation

PMC494

10BaseT to 10Base2 PMC Media Converter

HARDWARE REFERENCE MANUAL

Document Number: Rx-URMH 121 Rev A

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1 Introduction

The PMC494 provides a media converter to convert a 10-BaseT to 10-Base2. It also provides an additional 3 ports of the 10Base-T, which are routed to the connector J4 of the PMC (user defined I/O Pins).

The two BNC connectors of the PMC494 facilitate connection in the middle of the coax segment without need of using a BNC "T".

1.1 Features

Additional features of the PMC494 card:

- PCI Mezzanine Card (PMC) IEEE 1386

- No connection is made to the PCI Bus

- Three additional 10Base-T ports on J4 of the PMC

- Transition Modules Availability PIM610J4 (optional)

2 Hardware Installation

2.1 Introduction

This chapter provides unpacking, hardware preparation and installation procedures for the PMC494 module.

2.2 Unpacking Instructions

GE Fanuc Embedded Systems boards are protected by an anti-static envelope and/or wrapping. Observe anti-static precautions and work at an approved anti-static workstation when unpacking the board.

> *Note*: The PMC494 is shipped in an individual, reusable shipping box. When the shipping container is received, inspect it for any evidence of physical damage. If the container is damaged, request that the carrier's agent be present during unpacking and inspection of the unit.

Unpack the PMC494 module from shipping carton. Check to verify that all items are present by referring to the packing list. Each PMC494 is shipped with the following items: PMC494 PMC Assembly.

Electronic assemblies use devices that are sensitive to static discharge; this applies to both the PMC494, and the host board onto which it will be mounted. Observe anti-static procedures when handling these boards. The PMC494 should be in an anti-static plastic bag or conductive foam for storage or shipment.

2.3 PMC494 Installation

The PMC494 Module is now ready for installation. Turn all system power off. Remove the host board from the chassis (if currently installed). Locate the PMC connectors on the host board. Carefully plug the PMC494 into the mating connectors on the host's printed circuit board.   Be sure module is seated properly into CMC connectors on the host. Use screws to fasten module into host PCB (refer to the block diagram).
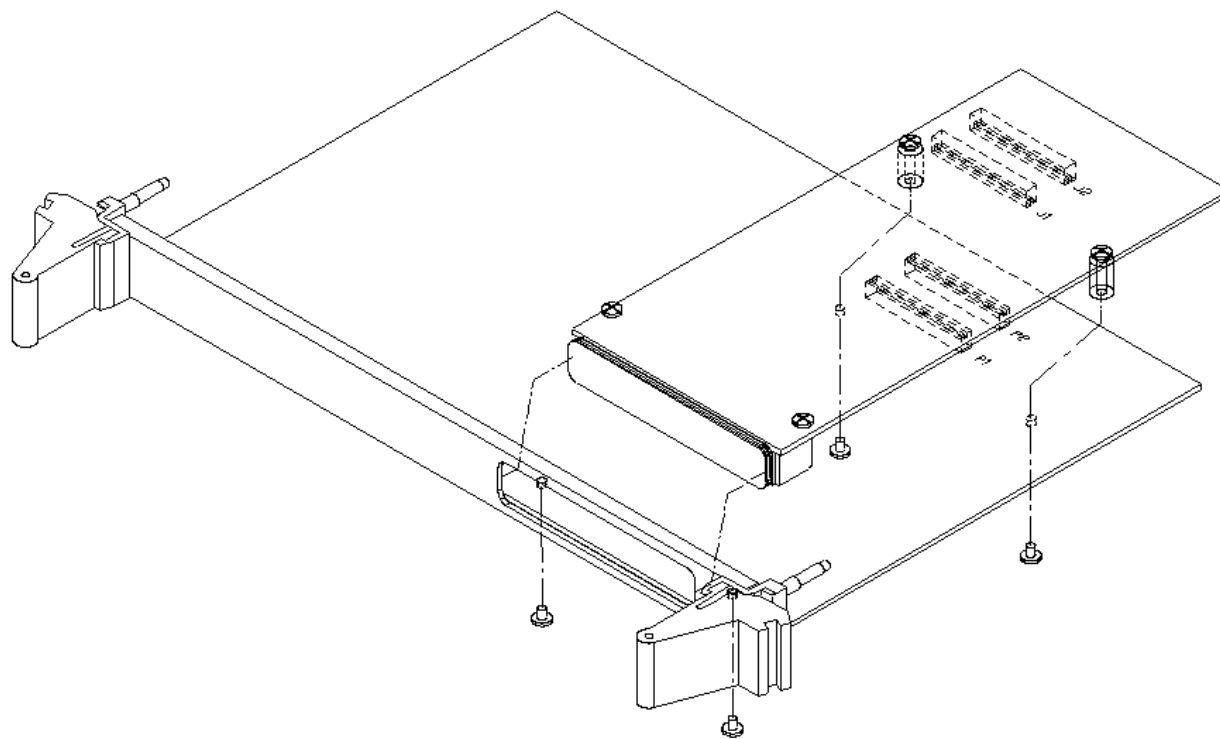
1.   Remove the four screws from bottom of the stand-offs of the PMC494.

2.   Line-up the J1 and J2 on the host PCB to PMC494 J1 and J2.

3.   Push the PMC494 down (make sure the connectors J1 and J2 are positioned properly).

4.   Use the four screws to connect the PMC494 stand-offs to the host PCB.

3 Mechanical Information and Front Panel Layout
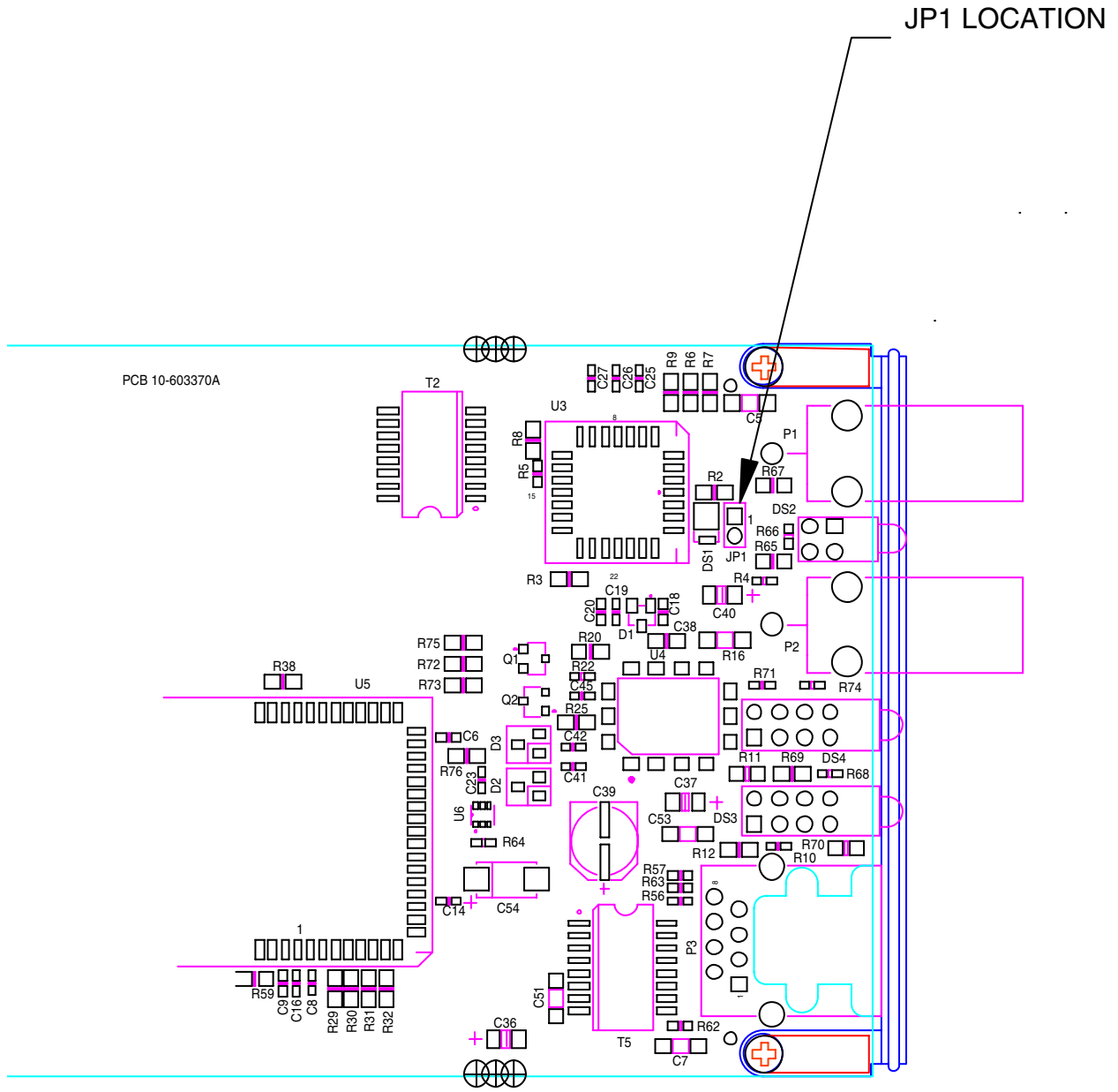
JP1 LOCATION

PCB 10-603370A

3.1 Jumpers

The PMC494 card has jumper marked JP1.

When jumper JP1 is inserted, it provides 50Ohm termination. With JP1 inserted the PMC494 should be used to create the end of a coax segment. The PMC494 card is shipped with JP1 jumper installed.
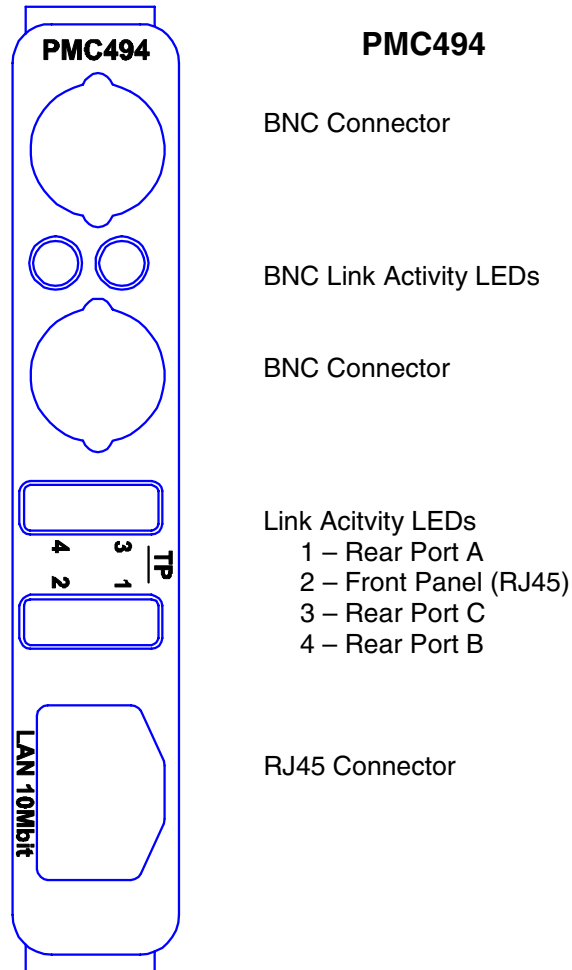
When jumper JP1 is removed there is NO termination. With JP1 removed the PMC494 should be used to connect in the middle of a thin coax cable. The PMC494 with removed JP1 can also be used to create the end of a coax segment provided the external 50Ohm terminator is connected to second BNC port.

3.2 Factory Setting

The PMC494 is shipped with jumper JP1 installed.

4 Front Panel Connections & Indicators

The three additional 10Base-T ports are connected to the connector J4 (the rear of the module).

PMC494

BNC Connector

BNC Link Activity LEDs

BNC Connector

Link Acitvity LEDs
1 – Rear Port A
2 – Front Panel (RJ45)
3 – Rear Port C
4 – Rear Port B

RJ45 Connector

- The two BNC connectors of the PMC494 facilitate connection in the middle of the coax segment without need of using a BNC "T."

4.1 I/O Signal Pin-Outs

4.1.1 PMC494

Each Ethernet port has two pairs of signal

- TX - Transmitted Data
- RX - Received Data

In addition there are "center tap" signals. This is not required for operation, it is provided for configurations that desire additional termination option.

PMC494 J4 (Rear) Pinout						
Port	TX+	TX-	Rx+	Rx-	CTR	CTT
A	22	20	19	17	18	21
B	14	12	11	9	10	13
C	6	4	3	1	2	5

Front Panel (RJ45) Pinout						
	TX+	TX-	Rx+	Rx-	Shield	CTR	CTT
Pin	3	6	1	2	9 & 10	7 & 8	4 & 5

Note: Standard cabling uses pairs 1 & 2 and 3 & 6 only.

4.1.2 PIM610J4 PIM Transition Module (Optional)

The table identifies (by pin number) the location for the signals of each port on the J4 connector.

Port	TX+	TX-	Rx+	Rx-	CTR	CTT
0	6	4	3	1	2	5
1	14	12	11	9	10	13
2	22	20	19	17	18	21
3	30	28	27	25	26	29

In general, only the TX/RX pairs will be required (these are what comprise a standard 10/100BaseT cable or RJ45 connector).

5 Functional Specifications

5.1 PMC494 10Base-T to 10Base2 PMC Media Converter, with three additional 10Base-T Ports

Power	2 Watts
@ 3.3 V	0.3 Amp
@ 5 V	0.2 Amp
Form Factor	
PMC	Single Slot
MTBF	
MIL 217-F Nav Shel 25 Deg. C	267000 Hours
Temperature	
Operating	0 to +60° C
Storage	-40 to +85° C
Humidity	
Operating	5% to 95% Non-Condensing
Storage	5% to 95% Non-Condensing

Conformal Coating	Yes, additional charge

PCI Bus Characteristics	
Signaling	3 & 5V
Specification	2.1
Speed	33MHz
Width	32

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