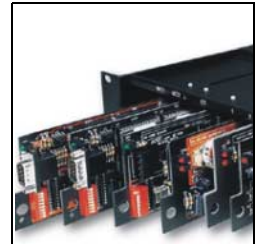# PLB-CF2
Two-Slot Mini Cardframe

Landmark Products

AMX Limited Warranty and Disclaimer

AMX Corporation warrants its products to be free of defects in material and workmanship under normal use for three (3) years from the date of purchase from AMX Corporation, with the following exceptions:

- Electroluminescent and LCD Control Panels are warranted for three (3) years, except for the display and touch overlay components that are warranted for a period of one (1) year.
- Disk drive mechanisms, pan/tilt heads, power supplies, MX Series products, and KC Series products are warranted for a period of one (1) year.
- Unless otherwise specified, OEM and custom products are warranted for a period of one (1) year.
- Software is warranted for a period of ninety (90) days.
- Batteries and incandescent lamps are not covered under the warranty.

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AMX Corporation is not liable for any damages caused by its products or for the failure of its products to perform. This includes any lost profits, lost savings, incidental damages, or consequential damages. AMX Corporation is not liable for any claim made by a third party or by an AMX Dealer for a third party.

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Table of Contents

Product Information

Overview

The PLB-CF2 Mini Cardframe can accommodate either one or two PHAST control cards. Any PHAST control card can be installed in the PLB-CF2.

If a PHAST PLC-MCU board is installed in a PLB-CF2, it can control a small Landmark system without the need for a PHAST PLB-CF10 Cardframe or a PHAST Hub Box.

More typically, the PLB-CF2 will be used in addition to an existing PLB-CF10 Cardframe to allow one or two PHAST control cards to be placed at any remote location on a PhastLink network.

A maximum of 20 devices can be attached. The 12 VDC power supply for the PLB-CF2 can also power up to two PLK-IMS or PLK-DMS keypads.

The PLB-CF2 is housed in an elegant black enclosure that is in harmony with the design of other Landmark products. Its small size allows it to be placed in convenient, unobtrusive locations.

Figure 1 and Figure 2 show the PLB-CF2.

Figure 1

PLB-CF2 (front view)

Figure 2

PLB-CF2 (rear view)

Figure 3 gives product specifications for the PLB-CF2.

Figure 3

PLB-CF2 Specifications

| PLB-CF2 Specifications	
Card Slots	2 rear-access slots on rear panel
PhastLink Ports	2 RJ-45 ports on rear panel
Cardframe ID	Set via DIP switch on rear panel
Data Indicator	Green LED on rear panel
Diagnostic Indicator	Red LED on rear panel and red LED on front panel
Power Indicator	Red LED on front panel
Power	External 12 VDC, 1-amp power supply
HWD	TBD
Weight	TBD

Safety Instructions

ATTENTION!

Read and follow all safety and operating instructions before installing or operating this device. Adhere to all warnings listed on the device and in the operating instructions.
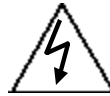
CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**
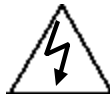
The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING!

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

1. Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the device. These openings must not be blocked or covered.

2. Operate this device only from the type of power source indicated by the product documentation or by a label on the device.

3. To avoid creating a hazardous situation, do not use attachments or accessories unless approved by the manufacturer. Use only in accordance with the manufacturer's instructions.

4. Disconnect this device from the power source before cleaning. Do not use liquid or aerosol cleaners. Use only a clean, soft, damp cloth for cleaning.

Operation Instructions

Power-Up Procedure

1. Plug the power cord into a properly grounded 110-120VAC outlet.

2. Plug the 12 VDC power supply connector into the 12 VDC receptacle on the rear panel of the PLB-CF2.

3. The Power LED should be illuminated on the front panel. If there is a problem, contact your PHAST dealer or PHAST Technical Support.

PhastLink Ports

There are two PhastLink ports on the lower part of the rear panel. These are used to connect PhastLink devices to the cardframe. If more ports are required, an additional cardframe or hub box will be necessary. It does not matter which PhastLink port you use; they are all functionally identical. See the section on PhastLink Wiring for general information about connecting PhastLink devices.

MCU-to-PC Connection

If a PHAST MCU card is installed, a 10Base-T Ethernet port on the MCU card is used to connect the to an ethernet board in the PC. See the PHAST PLC-MCU documentation for more information on connecting and using the MCU card.

Device Address

A DIP switch on the rear panel allows you to set the cardframe address to match its address in the Landmark software. The following illustration shows the address settings (factory default is 0):

Figure 4

DIP Switch settings

■ = Switch Position
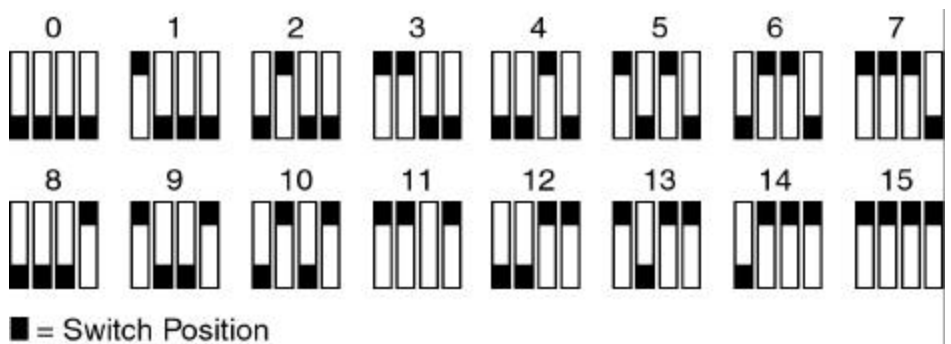
> **Warning! Dangerous Voltage!**
>
> TO AVOID SERIOUS INJURY OR DEATH, DO NOT OPEN UP THE
> CARDFRAME.

PhastLink Cable Information

This section contains information that you will need to make PhastLink cables,
plus general information on connecting PhastLink devices.

PhastLink cables are used to connect all PhastLink-compatible devices, including
keypads, dimmers, amplifiers, audio switches, etc. PhastLink uses a standard
10Base-T connection (i.e. Category 5 wire and RJ-45 connectors). The wire should
be connected in the standard manner, as shown in the following figure. If a
consistent color code is used, wiring problems will be minimized.

Figure 5 shows the RJ-45 Socket and Connector, and Figure 6 gives pinout
information.

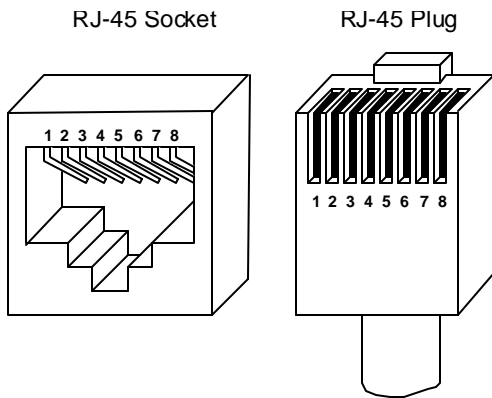**Figure 5**

RJ-45 Socket and Connector

RJ-45 Socket   RJ-45 Plug

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8

Figure 6

RJ-45 Pinout Information

RJ-45 Pinout Information			
Pin #	**Wire Color**	**Polarity**	**Function**
1	White/Green	+	Transmit
2	Green	–	Transmit
3	White/Orange	–	Mic
4	Blue	–	Ground
5	White/Blue	+	12VDC
6	Orange	+	Mic
7	White/Brown	+	Receive
8	Brown	–	Receive

PhastLink uses a standard 10Base-T connection (i.e. Category 5 wire and RJ-45 connectors). The wire should be connected in the standard manner, as shown in the following figure. If a consistent color code is used, wiring problems will be minimized.

It is important that the correct pairing is observed. Transmit, Receive, and Mic need to be on twisted pairs. Splitting pairs (e.g., using a white/green wire with a blue/white wire for transmit) will result in increased crosstalk, and may result in bus failure or noise on the intercom.

Connecting to a Cardframe or Hub

If a PLB-CF10 cardframe is used, a 15-port hub is built into the cardframe. The maximum length of wire per port is 1,000 feet. Each PhastLink device has two RJ-45 connectors to allow multiple devices to be daisy-chained on one PhastLink port. Refer to the PLB-CF10 documentation for more detailed connection information.

The limit for each home run is 10 PhastLink devices. Extra hubs can be added to provide additional ports.

Figure 7

Connecting to a PLB-CLF cardframe.

To Other PHASTLink Devices
(up to 10 devices per home run)

Up to 15 PHASTLink Connections
to a PHAST PLB-CF10 Cardframe
(add PHAST Hubs for more connections)

PHAST CARDFRAME

Note

Only one PHAST keypad can be used per port, so home-run each keypad.
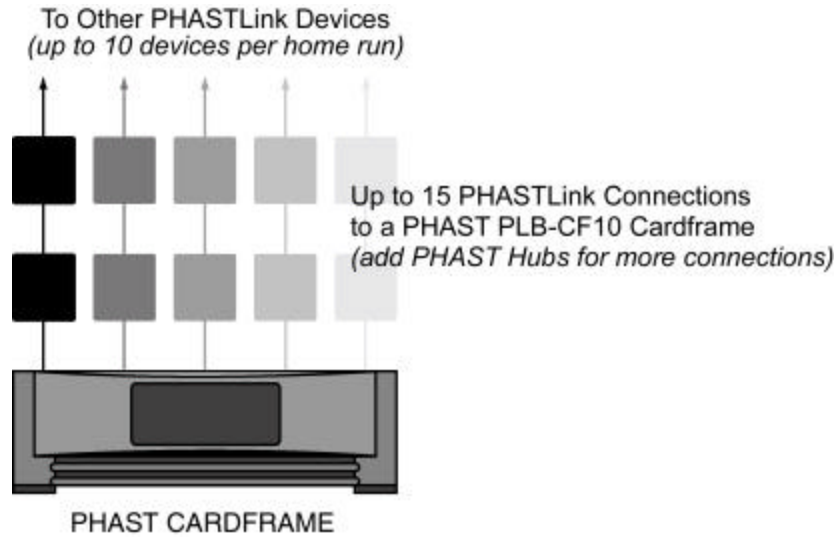
For optimum performance, PHAST recommends the installation of a double 120-ohm terminator in one of the RJ-45 jacks of the last device (or the only device) in a chain of PhastLink devices.

Building a double 120-ohm terminator:

1. Install a 120-ohm resistor (1/4-watt or larger) between pins 1 and 2 of an RJ-45 connector.

2. Install a 120-ohm resistor (1/4-watt or larger) between pins 7 and 8 of the same RJ-45 connector.

PHAST LCD keypads must connect directly to a PHAST Hub (or PHAST Microphone Hub). Due to power requirements and/or the need for a separate microphone line for each keypad, they cannot be daisy-chained to other LCD keypads; they can, however be daisy chained with other PhastLink devices.

TO OTHER PHASTLINK DEVICES
(up to 10 devices per home run)

PHAST CARDFRAME OR HUB

NO

PHAST CARDFRAME OR HUB
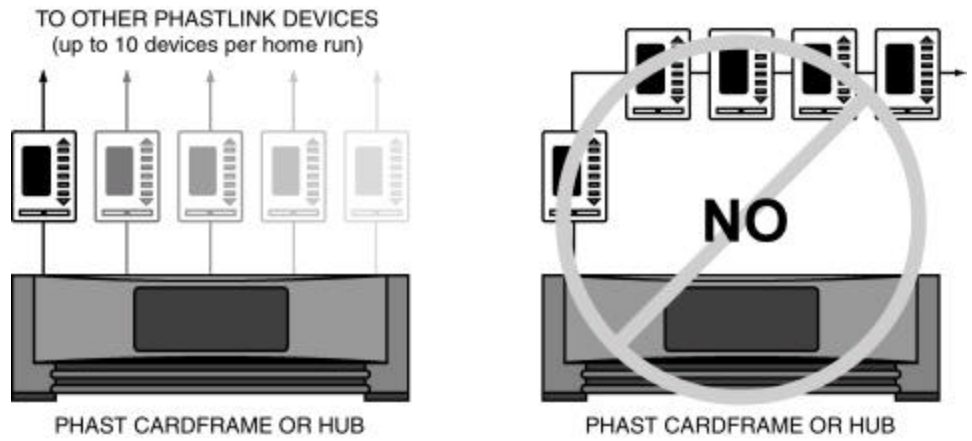
When connecting PHAST keypads that will be used as intercoms, the Microphone Hub taps off the intercom audio signal carried on the PhastLink cable from that keypad.

PhastLink devices cannot be wired in a star configuration.

Troubleshooting

- **Power LED** – If the power LED is not on, check the power cord and power switch (PLB-CF10) or check the external power supply (PLB-CF2).

- **Diag LED** – This LED indicates the state of all cards in the PLB-CF2 or PLB-CF10. The Diag light will flash on briefly when a card is first plugged in or powered up. If a card causes an error, the Diag LED will either flash on and off continually or it will remain on continually. Remove the cards one by one until you locate the faulty card.

- **Data LED** – This LED is a 'window' into the network, flashing on briefly whenever a packet is sent over the network by the MCU card or by any device on the PhastLink network.
  In normal operation, the Data LED should be off for a larger percentage of time than it is on.

  If the Data LED is on continually, there may be a problem with a hub-to-hub connection (e.g., Hub In connected to Hub In, or a bad cable). A looped cable connecting two PhastLink ports or a faulty cable can also cause the Data LED to remain on continually. Remove each cable one by one, then each card one by one until the faulty cable or card is located. If all PhastLink cables, hub-to-hub cables, and cards are removed and the Data LED remains on, the PLB-CF2 or PLB-CF10 may be at fault – contact PHAST Tech Support.

  If the Data LED is not on continually but is on for a larger percentage of time than it is off, it may indicate a faulty device or card, and the condition may slow down network response.

- **Link LED** – The Link LED on each card indicates when it sends a message over the network. If a card's Link LED is on continually, that card may be causing the problem. For example, this could be caused by a contact card with an intermittent short or by a faulty contact sensor. If no cards are at fault, unplug each PhastLink cable run until the suspect cable is located.

AMX™

AMX reserves the right to alter specifications without notice at any time.

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