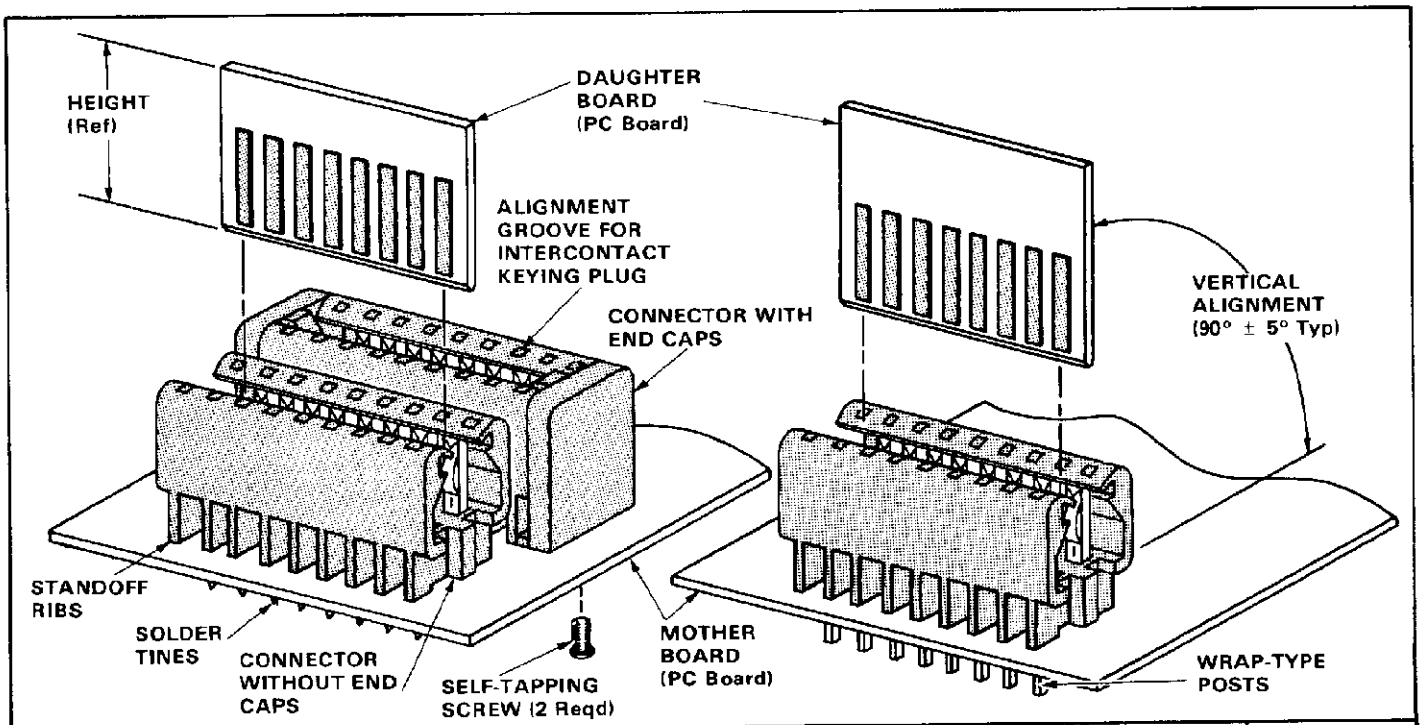
AMP INCORPORATED
HARRISBURG, PA. 17105

AMP★ TWIN LEAF MOTHER-DAUGHTER CONNECTORS

Instruction Sheet
IS 7498
RELEASED 2-20-79



IN-ROW CONTACT SPACING	TYPE OF CONTACT	CONNECTOR W/END CAPS	CONNECTOR W/O END CAPS	INTERCONTACT KEYING PLUG TYPE A	INTERCONTACT KEYING PLUG TYPE B	INTERCONTACT KEYING PLUG TYPE C	INTERCONTACT KEYING PLUG TYPE D	INSERTION/ EXTRACTION TOOL	ON-CONTACT KEYING PLUG	INSERTION/ EXTRACTION TOOL
.100	Solder Tine	583715	583485	530030-2	530286-1	- -	- -	91081-2	583714-1	91088-1
.100	Card Extender	530268	530291	530030-2	530286-1	- -	- -	91081-2		
.125	Solder Tine	583679	583533	530030-1	530286-2	530293-1	530889-1 or 530889-2	91081-1 or 91142-1		
.125	Card Extender	530265	530290							
.150	Solder Tine	583692	583407						583714-2	91088-2
	Post	583754	583752							
	Card Extender	530278	530270							
.156	Solder Tine	583660	583486		530286-1					
	Post	583755	583753							
	Card Extender	530267	530282							

Fig. 1

1. INTRODUCTION

This instruction sheet (IS) covers the installation of the AMP Twin Leaf Connectors listed in Figure 1. Read this material, and all referenced material, before starting.

2. DESCRIPTION

These connectors are designed for mother-daughter type, surface mount and edge mount printed circuit (pc) board applications. They consist of a semirigid housing (with or without end caps) and pre-assembled solder tine or posted contacts. The standard connectors have row-to-row contact spacing of .200 in. and variations of in-row spacing (see chart in Figure 1).

The housings have standoff ribs to provide stability and allow multiple insertions and extractions of the daughter board without damaging solder joints. The lead-in edges of the housings have intercontact keying plug alignment grooves that will facilitate installation of intercontact and on-contact keying plugs.

The contacts with solder tines are designed to be installed and soldered to a pc board for two-way circuits. The posted contacts are designed to be inserted and soldered to a pc board then wrapped with a 24-30 AWG wire for three-way circuits.

The contacts are supplied pre-assembled in the housings, however — if absolutely necessary — damaged contacts can be replaced as described on AMP Instruction Sheet IS 7533.

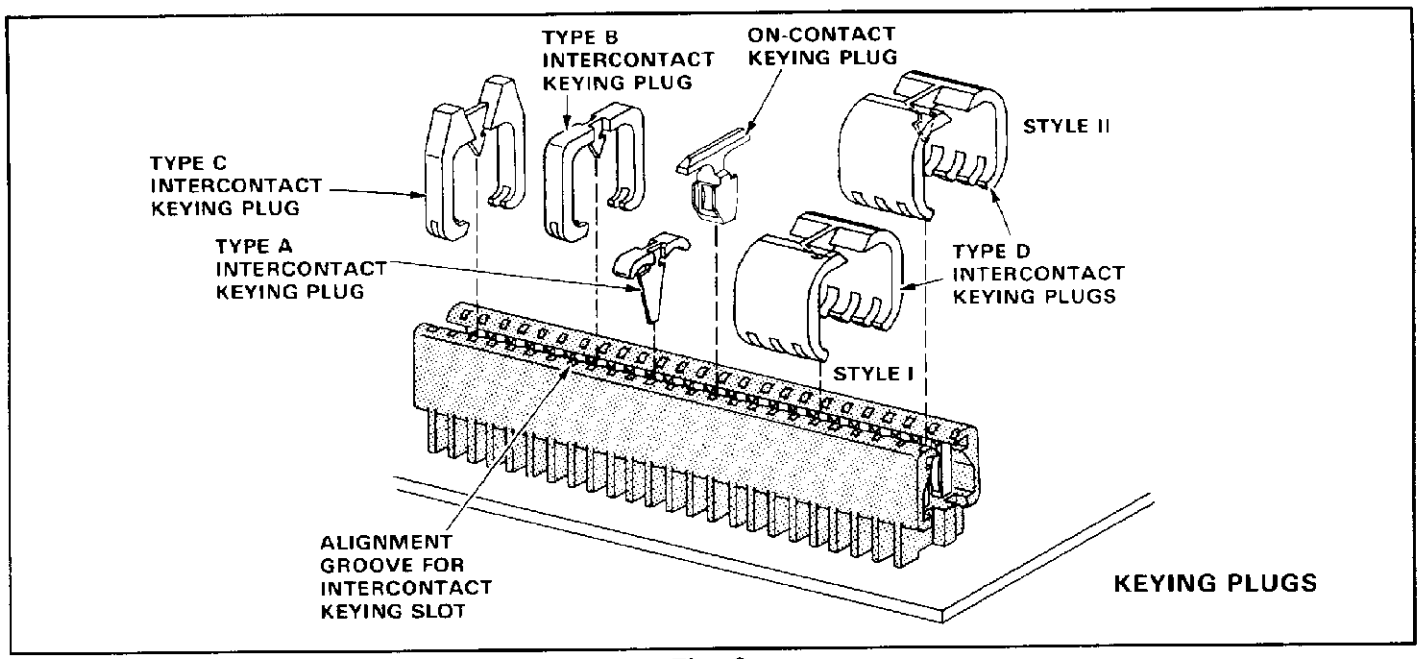


Fig. 2

3. ATTACHING HARDWARE

A. Keying Plugs (Figure 2)

One on-contact keying plug configuration and five intercontact keying plug configurations (Types A, B, C, and two styles of Type D) have been designed to provide polarization for the connectors. Note that Types B, C, and D intercontact keying plugs have wrap-around stabilizers to provide additional stability when required.

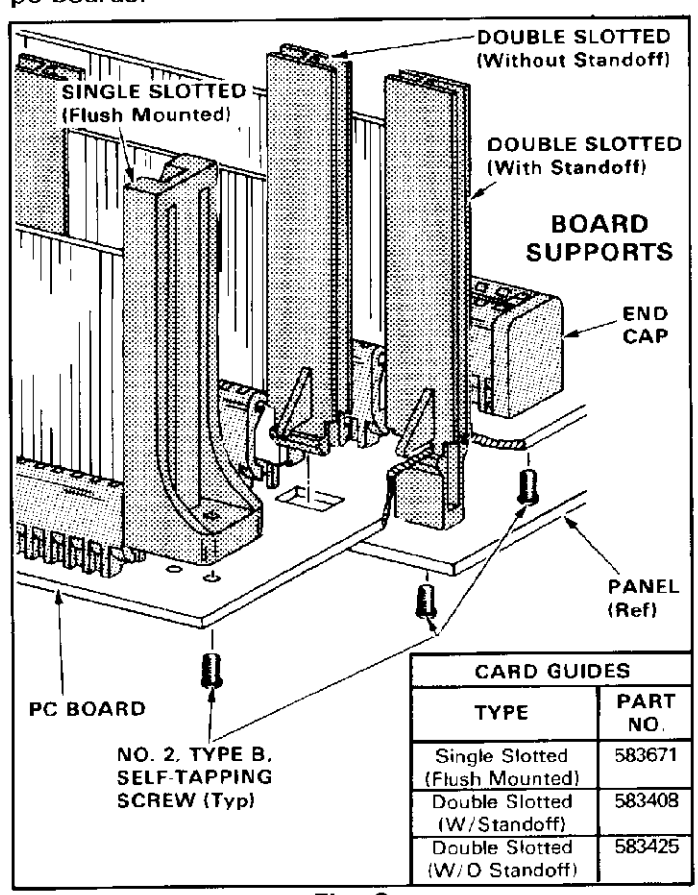
The proper keying plug, insertion/extraction tool, and connector combinations are listed in the chart in Figure 1. Read the AMP Instruction Sheet (IS 7479) packaged with the tool for the insertion and extraction procedures, and the daughter board cutout required for polarized connectors.

B. Board Supports (Figure 3)

The daughter board must be stabilized with board supports to ensure alignment between the printed circuit pads and contacts. This can be accomplished with end cap connector assemblies and/or with card guides. Normally, end cap connector assemblies are recommended for daughter boards with a maximum height of 3 in. and card guides are recommended for daughter boards exceeding 3 in. in height. However, the location, weight, and number of components attached to the daughter board will be determining factors.

To attach end cap connector assemblies, determine the location of the mounting holes using the layout shown in Figure 4. Secure the end caps with two No. 2, Type B, self-tapping screws.

There are three types of card guides which are listed in the chart in Figure 3. The method of installing each type is indicated in Figure 3. Read the card guide instruction sheet (IS 7506) for the mounting dimensions, and overall dimensional requirements for the pc boards.



CARD GUIDES	
TYPE	PART NO.
Single Slotted (Flush Mounted)	583671
Double Slotted (W/Standoff)	583408
Double Slotted (W/O Standoff)	583425

Fig. 3

C. Hold-down Device

Hold-down devices should be used to hold the daughter board in position. The specific size and type will depend on your application requirements. AMP does NOT manufacture or market these devices.

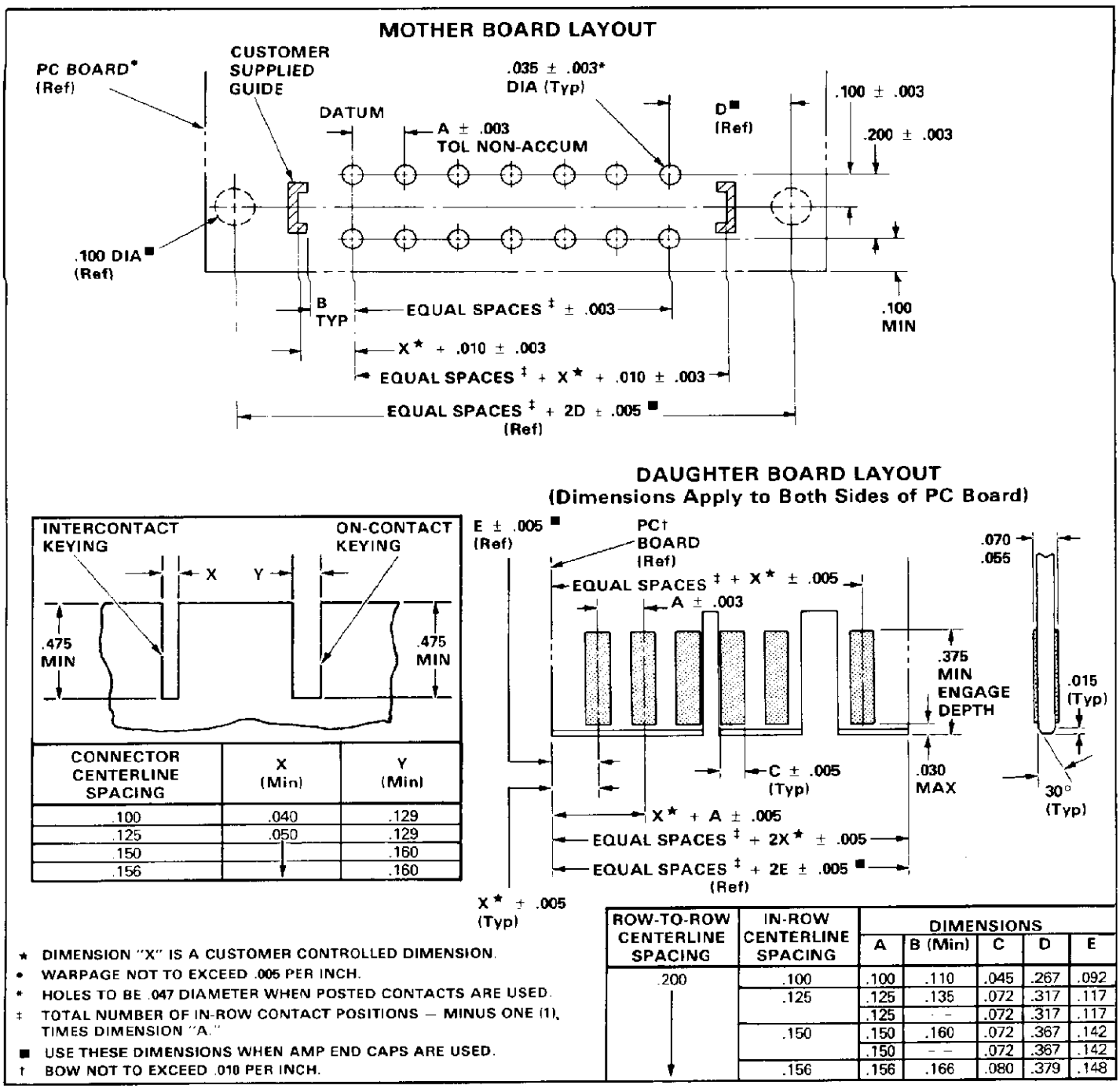
NOTE

The tolerance for horizontal alignment is included in the layout dimensions shown in Figure 4. The tolerance for vertical alignment between the daughter board and connector is shown in Figure 1.

These connectors are designed to be soldered to mother boards 0.062 to 0.104 in. thick (0.062 in. for double slotted card guides and 0.104 in. maximum for all other applications). The width of the pc board will depend on the applicable board supports. Refer to Figure 4 for the recommended board layout.

NOTE

The pc board layouts in Figure 4 include dimensions for customer supplied card guides and AMP end cap connector assemblies. If using only card guides, disregard end cap dimensions; if using only end caps, disregard card guide dimensions; if using both, refer to the paragraph preceding this note.



CONNECTOR CENTERLINE SPACING	X (Min)	Y (Min)
.100	.040	.129
.125	.050	.129
.150	↓	.160
.156	↓	.160

ROW-TO-ROW CENTERLINE SPACING	IN-ROW CENTERLINE SPACING	DIMENSIONS A	B (Min)	C	D	E
.200	.100	.100	.110	.045	.267	.092
↓	.125	.125	.135	.072	.317	.117
		.125	- -	.072	.317	.117
	.150	.150	.160	.072	.367	.142
		.150	- -	.072	.367	.142
	.156	.156	.166	.080	.379	.148

★ DIMENSION "X" IS A CUSTOMER CONTROLLED DIMENSION.
• WARPAGE NOT TO EXCEED .005 PER INCH.
* HOLES TO BE .047 DIAMETER WHEN POSTED CONTACTS ARE USED.
‡ TOTAL NUMBER OF IN-ROW CONTACT POSITIONS — MINUS ONE (1), TIMES DIMENSION "A."
■ USE THESE DIMENSIONS WHEN AMP END CAPS ARE USED.
† BOW NOT TO EXCEED .010 PER INCH.

Fig. 4

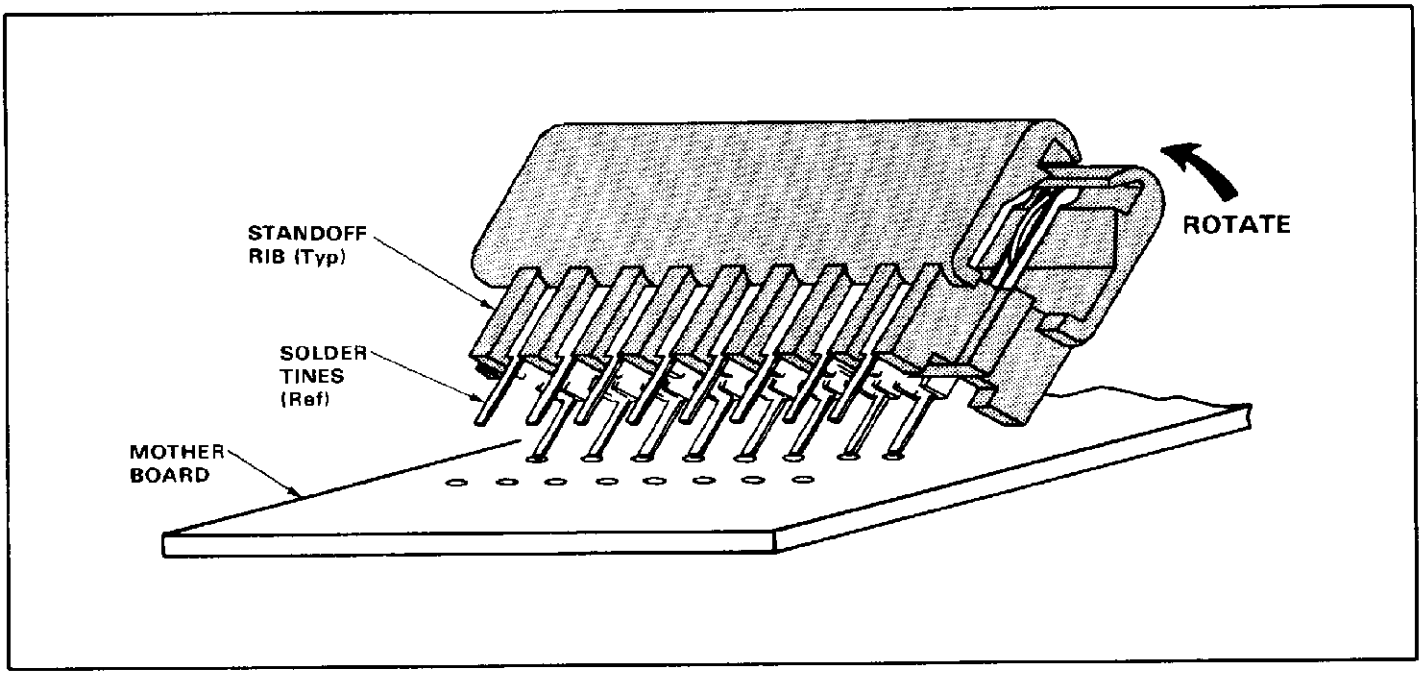


Fig. 5

4. INSTALLING CONNECTORS

A. Post and Solder Tine Contacts

Care must be used when installing these connectors, otherwise the contact tines (or posts) may be damaged. We recommend the following procedure:

1. Hold the connector at a slight angle to the mother board and start one row of contacts into the contact holes as shown in Figure 5.
2. Rotate the connector until the solder tines (or posts) are aligned with the opposite row of holes in the mother board.
3. Make sure the solder tines (or posts) have started entrance into the holes, then push the connector straight down until the standoff ribs bottom on the mother board.
4. Solder the contact tines (or posts) to the mother board using a wave or a reflow soldering technique. If wave soldering proceed as follows:
    1. Clean the solder tines (posts) with a mild flux that will NOT affect nylon materials.
    2. If required, install keying plug(s) using the appropriate insertion tool. See AMP Instruction Sheet IS 7479.
    3. Make sure the standoff ribs of the connector are bottomed on the mother board, then place a hold-down device on the connector to make sure it stays in place during soldering.
    4. Solder the tines (or posts) by passing the bottom of the mother board through the solder wave.
    5. Clean the assembly with a good commercial solvent that will NOT affect nylon materials.

B. Edge Mounting (Card Extender Solder Contacts)

1. Select a pc board and connector of the size specified for the application.
2. Using the number of contact positions and the centerline spacing of the contacts, align the pc board into the connector and push the board until it bottoms in the connector.

NOTE

Hold-down devices should be used to hold the daughter board in position. See Paragraph 3,C, "Hold-down Device."

3. Solder the contacts to the pc board using either reflow soldering or hand soldering.