CLASSÉ Classé Audio Inc.	Date:	March, 2006
	Model Number:	CP-500, CP-700
	Subject:	Service Manual

CP-500 – PreAmplifier



CP-700 – Power Supply



CP-700 – PreAmplifier



Table of Contents

Introduction 3

Service Assistance 3

Important notes on servicing 4

Ordering Replacement Parts 4

PCBA List 5

PCBA Identification 6

Mechanical Assembly 11

Block Diagrams 11

Troubleshooting Guide 12

ECN (Engineering Change Notice) 14

Fuses 14

Voltage Change 14

Software Updates 15

Delta Series IR Interface Information 15

Phono Module 15

Unpacking / Packing Instructions 15

Amendment Record 16

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Introduction

Please read this manual carefully before commencing servicing!
Only qualified and authorized personnel should attempt to service this product.



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.

Delta Series products contain NO USER SERVICABLE PARTS. We strongly recommend that the service technician troubleshoot to board level (not component level) and replace the defective module or printed circuit board assembly (PCBA).

The preferred method of servicing Delta Series products is as follows:

1. Identify the source of the problem using the block diagram, troubleshooting guide and/or Engineering Change Notices (ECN).
2. Replace the defective module or PCBA.
3. Fill out aTrouble Tag Trouble Tag.xls or Trouble Tag.pdf with a detailed description of the problem.
4. Return defective modules and PCBAs for failure analysis.

This method of servicing offers:

1. Quickest turnaround for the customer.
2. Ease of repair and shortest 'touch time' for the service technician.
3. Continuous quality improvement for Classé through analyses of failures and implementation of corrective actions.

Please report any omissions or inaccuracies in this Service Manual by e-mail to cservice@classeaudio.com

Service Assistance

Classé has a global product support network. For product assistance or to order replacement parts please contact your nearest service center always quoting the unit serial number and software version.

North America
Phone: (978) 664-2870 E-mail: classe@bwgroupusa.com

Europe
Phone: 44 (0) 1903 221 700 E-mail: classe@bwgroup.com

Asia
Phone: (852) 2790 8903 E-mail: classe@bwgroup.hk

Rest of the World
Phone: (514) 636-6384 E-mail: cservice@classeaudio.com

Important notes on servicing

1. ALWAYS observe ESD precautions when handling all electronic modules or PCBAs
   Refer to IPC excerpt _ Handling Electronics Assemblies and ANSI_ESD_S20_20_1999
2. NEVER exchange boards between two units. All Delta Series PCBAs are bar-coded. Each unique bar code ties important trace-ability information to the unit serial number.
3. ALWAYS watch for RoHS compliant ('lead free' or 'Pb free') PCBAs. Although we have already determined that PCBAs should not be modified in the field, it is important to note that Classé will start shipping RoHS compliant PCBAs in 2006 and contaminating a lead free PCBA with leaded solder may result in reliability issues.
   Indications that a PCBA was built using lead free solder (Sn96.5 Ag3.0 Cu0.5) include:

   a. The board number starts with ***R*** instead of the usual ***B.*** e.g. ***R591X***. (With the exception of OEM PCBAs)

   b.  and  logos appear in the corner of the PCB.

   c. A RoHS Service Notice sticker appears inside the unit.



4. ALWAYS use Classé original replacement parts. The use of generic parts may void the warranty of the unit.

Ordering Replacement Parts

Use the order form Classé Parts Request Form.xls or Classé Parts Request Form.pdf and replacement part list Service parts list.xls or Service parts list.pdf on this CD to order replacement parts.

There may be a delay in processing incomplete requests. Please be sure to include all required information. Remember to quote the serial number of the unit on all replacement part orders and the Classé order number when returning defective parts for credit**.**

PCBA List

For CP-500

PCBA NAME	PCB NUMBER
AC Control	B3B3X
IR / Trigger PCB	B403X
Mother PCB	B401X
Left Input	B404X
Right Input	B405x
Front Panel	B42AX or B42BX
IR PCB	B42CX

For CP-700

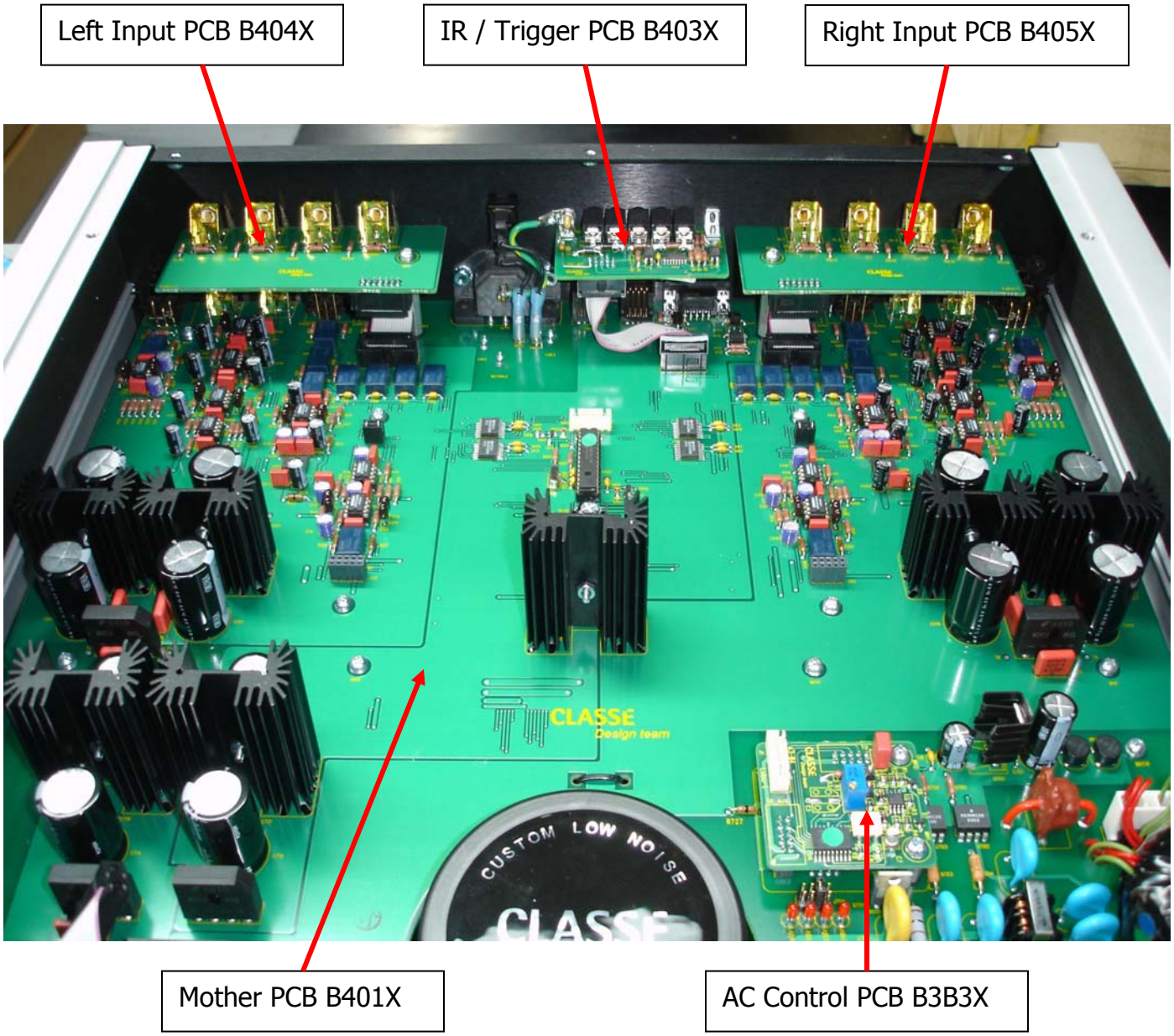
PCBA NAME	PCB NUMBER
Left Input	B412X
Right Input	B414X
Amp PCB	B416X
Mother PCB	B411X
IR / Trigger PCB	B403X
Front Panel	B42AX or B42BX
IR PCB	B42CX

For CP-700 Power Supply

PCBA NAME	PCB NUMBER
Power Supply	B551X
Power Supply LED	B552X
Power Supply DC	B553X
AC Control	B554X

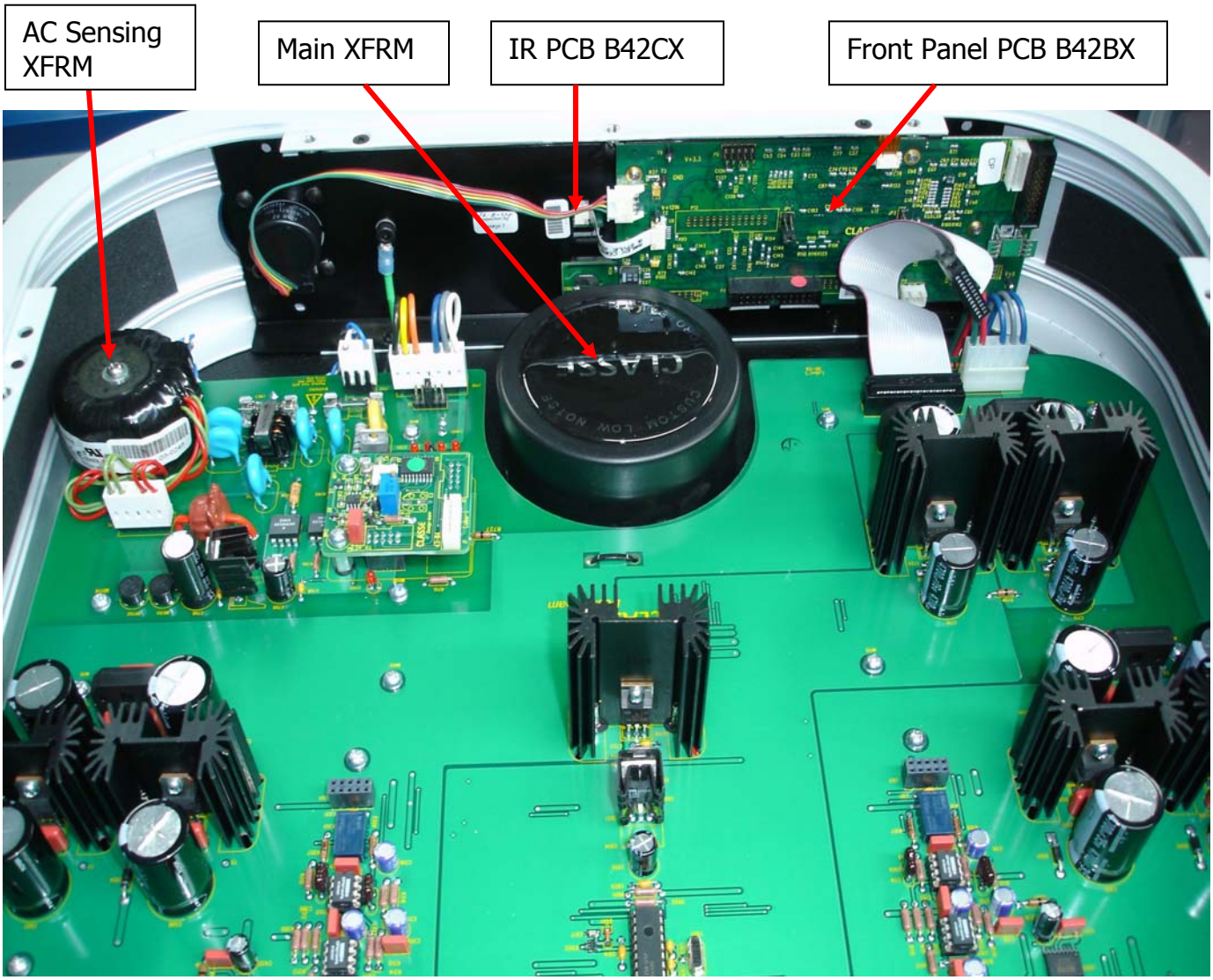
PCBA Identification

CP-500



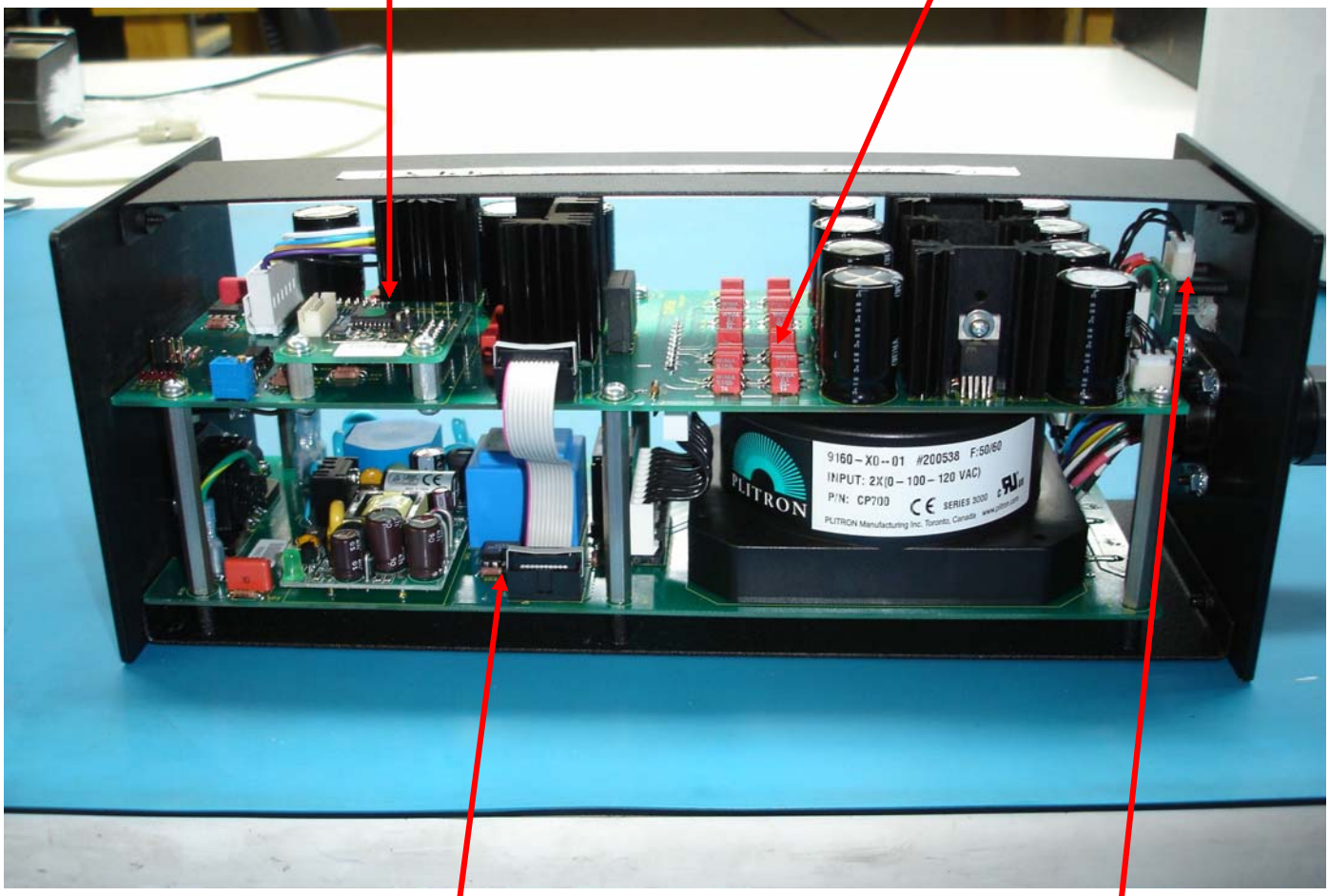
PCBA Identification

CP-500



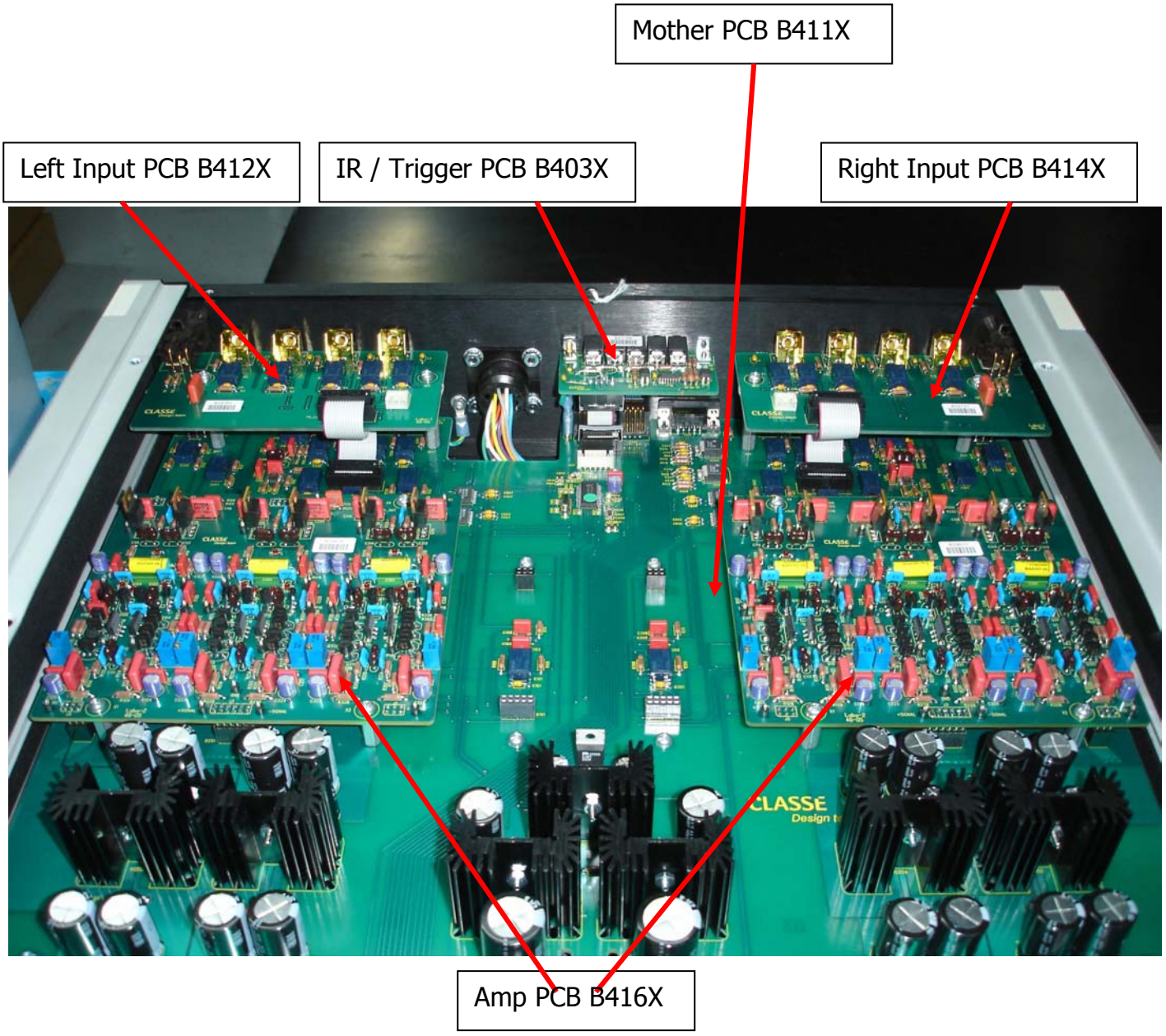
PCBA Identification

CP-700 Power Supply



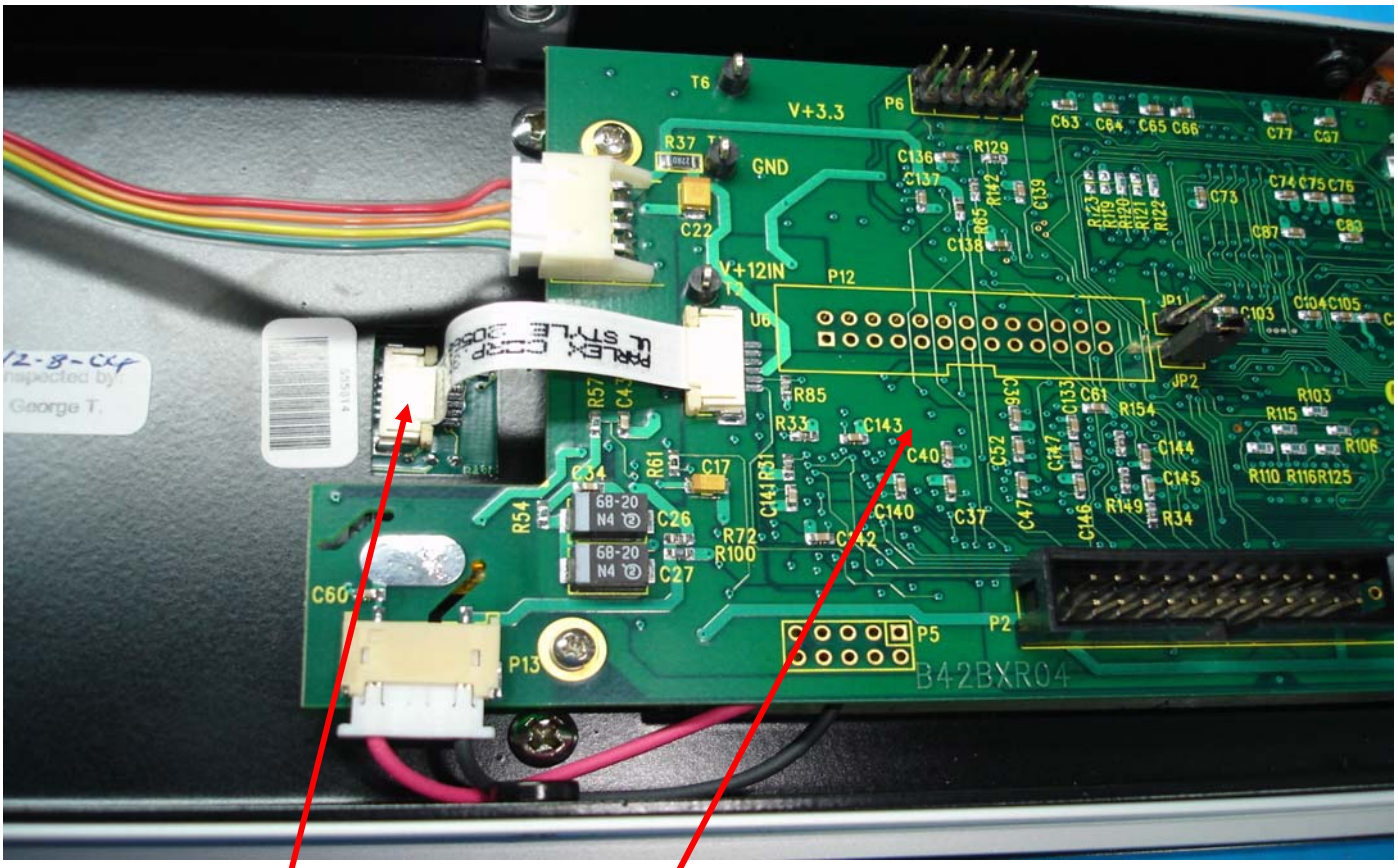
PCBA Identification

CP-700



PCB Identification

CP-700



IR PCB B42CX

Front Panel PCB B42BX

Mechanical Assembly

For CP-500: CP-500 Mechanical Assembly

For CP-700: CP-700 Mechanical Assembly

For CP-700 Power Supply: CP-700PS Mechanical Assembly

Block Diagrams

For CP-500: CP-500 BLOCK DIAGRAM

For CP-700: CP-700 BLOCK DIAGRAM

Troubleshooting Guide

For CP-500

Symptom	What to Check
Unit goes into AC protection (Standby LED flash and display protection message on the screen)	1. Verify input voltage – mains voltage should be within 10% of the input voltage.
Unit will not power up (Standby Led does not flash or light up)	1. Verify Led D703 (Bad power Led) on Mother PCB B401X, it should not be on but Voltage LED (near J704) should be on and should indicate the mains voltage selected. If LED D703 is lit then check AC Sensing XFMR and F702. 2. Verify if any fuses are blown on the Mother PCB B401X.
Standby LED flashes continuously	1. Verify supply voltage (1.8v, 3.3V, 5V, 12V) on Front Panel B42BX.
Stuck in initializing mode	1. Verify software version and download latest version. 2. Verify Front Panel B42BX and supply voltage (1.8V, 3.3V, 5V, 12V) on Front Panel B42BX.
Unit is stuck in an update mode. Updating software message will appear on the screen.	1. Download latest version of software. 2. Change Front Panel to B42BX.
Touch screen is not working	1. Verify LCD/TFT, orange flat flex cable may be cracked. 2. Verify Front Panel B42BX.
Remote control is not working	1. Verify IR PCB B42CX. 2. Verify flat cable between IR PCB B42C and Front Panel B42BX for intermittent contacts or open wires. 3. Verify Front Panel B42BX.
Unit turns on or selects inputs by itself	1. Check for broken touch screen flat flex cable.
LCD is black (seems off)	1. If touchscreen responds normally then LCD backlight driver is defective – replace Front Panel PCB B42BX.
Volume goes to maximum by itself	1. If the Front Panel PCB is B42AX then replace it with B42BX.

Troubleshooting Guide

For CP-700

Symptom	What to Check
Unit goes into AC protection (Standby LED flash and display protection message on the screen)	1. Verify input voltage – mains voltage should be within 10% of the input voltage.
Standby LED flashes continuously	1. Verify supply voltage (1.8v, 3.3V, 5V, 12V) on Front Panel B42BX.
Stuck in initializing mode	1. Verify software version and download latest version. 2. Verify Front Panel B42BX and supply voltage (1.8V, 3.3V, 5V, 12V0 on Front Panel B42BX.
Touch screen is not working	1. Verify LCD/TFT, orange flat flex cable may be cracked. 2. Verify Front Panel B42BX.
Remote control is not working	1. Verify IR PCB B42C. 2. Verify flat cable between IR PCB B42C and Front Panel B42BX for intermittent contacts or open wires. 3. Verify Front Panel B42BX.
Unit turns on or selects inputs by itself	1. Check for broken touch screen flat flex cable.
LCD is black (seems off)	1. If touchscreen responds normally then LCD backlight driver is defective – replace Front Panel PCB B42BX.
No reading for ground, temperature, AC line and line phase on Sensor Status display	1. Replace AC Control PCB B554X.
Unit is stuck in an update mode. Updating software message will appear on the screen.	1. Replace AC Control PCB B554X.

ECN (Engineering Change Notice)

The following ECNs should be applied to all units returned for service

For CP-500: There are no applicable ECNs for this model

For CP-700: There are no applicable ECNs for this model

Fuses



Always replace fuses with same type and rating.

For CP-500

Input Voltage	FUSE LOCATION	Function	Fuse P/N and Value
100/120 Vac	F701 on B401X	Main fuse	Littlefuse 218.500 500mA
230/240 Vac	F701 on B401X	Main fuse	Littlefuse 218.300 300mA
100/120/230/240 Vac	F702 on B401X	Voltage sense circuit	Littlefuse 218.063 63mA

For CP-700

Input Voltage	FUSE LOCATION	Function	Fuse P/N and Value
100/120 Vac	PS rear panel	Main fuse	Bel GSA500 500mA
230/240 Vac	PS rear panel	Main fuse	Bel GSA300 300mA

Voltage Change



Always double check your work before connecting the AC mains as a mistake can cause damage to the unit. Remember to replace the fuse.



Beware of hazardous voltages while working on the power supply.

For CP-500: CP-500 Voltage Change

For CP-700: CP-700PS Voltage Change

Software Updates

LINK to Delta Series Software Updates on Classé web site

Delta Series IR Interface Information

Delta Series IR Interface

Phono Module



Always unplug the AC mains supply and ensure that the power supply is fully discharged before plugging or unplugging PCBAs.

For CP-500 (with unit Serial number 1640001 to 1640520): Serial Number 1640001 to 1640520

For CP-500 (with unit Serial number 1640521 and above): Serial Number 1640521 and above

For CP-700: CP700 all S/N

Unpacking / Packing Instructions

For CP-500: CP500 instructions

For CP-700: CP700 instructions

Amendment Record

DATE	DETAILS OF CHANGES	ISSUE STATUS	APPROVAL
March 2006	Initial release	V 2.0	GU, ER

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