OHMWORK 2. LCD INVERTER REPAIR

The following information is on the repair several types of inverters, you will find:

- The inverter types used and the listing of the repair kits along with panel and an example of some of the models used.
- The list of fault symptoms
- The listings of the repair kits with cct refs.
- Helpful fitting directions

Also covered is a method of s.m. Ic removal

INVERTER BOARD NUMBERS	REPAIR KIT NUMBER
Master - 6632L-0470A PNEL-T707A	**KIT63**
Slave - 6632L-0471A PNEL-T708A	**KIT63**

As used on the **LG / PHILIPS LCD PANEL TYPE: LC420WU5**

Examples of models that use this panel:

- PHILIPS 42PFL7662
- PHILIPS 42PFL9900D10
- PHILIPS 42PFL5332D
- PHILIPS 42PFL7332D37
- PHILIPS42MF337B/37

INVERTER BOARD NUMBERS	REPAIR KIT NUMBER
Master - 6632L-0448C PNEL-T702C	**KIT61**
Slave - 6632L-0449C PNEL-T703C	**KIT61**

As used on the LG / PHILIPS LCD PANEL TYPE: LC420WX7

Examples of models that use this panel:

- PHILIPS 42PFL5533D
- PHILIPS 42PFL5332/45
- PHILIPS 42PFL5332D/37

INVERTER BOARD NUMBERS	REPAIR KIT NUMBER
Master - HIU-813M	**KIT62**
Slave – HIU-813S	**KIT62**

IPS ALPHA TECHNOLOGY LCD PANEL TYPE: AX080E002B

Examples of models that use this panel:

- BEKO 32WLU530HID
- HITACHI 32LD8D20U
- TOSHIBA 32C3035D
- TOSHIBA 32AV500U

Fault Symptom:

- No picture
- No audio (backlight does not function).
- Slight fizzing noise then trips off
- Burn up of one or all of the components listed

CURE:

KIT63

For boards that use KIT63, check the following components:

MASTER	SLAVE
MU1	SU1
MQ1	SQ8
MQ2	SQ9
MQ4	SQ10
MQ5	SQ11
MZD3 *	SZD3*

*for the protection of the driver-IC, 2 zener diodes must be added to both Master and Slave inverter (if not already present). These diodes are included in KIT63

KIT61

Check the following components on the boards that use KIT61:

MASTER	SLAVE
MU1	SU1
MQ1	SQ8
MQ2	SQ9
MQ4	SQ10
MQ5	SQ11

Protection diodes MZD3 and SZD3 should be fitted to these boards

KIT62

Check the following components on the boards that use KIT62:

MASTER	SLAVE
IC2	IC202
Q3	Q203
Q4	Q204
Q5	Q205
Q6	Q206

This repair kit can also be used on the similar inverters:
Master - HIU-812M Slave – HIU-812S

Example of models that use these are:

- DIGITAL LIFESTYLES WT323
- DIGIMATE LTV-3203HT

Please note. All the models listed are examples only, it is not a definitive list.

Diagram showing the location of the parts IN KIT63 but pay special attention to MZD3 & SZD3 which can be difficult to locate if not shown

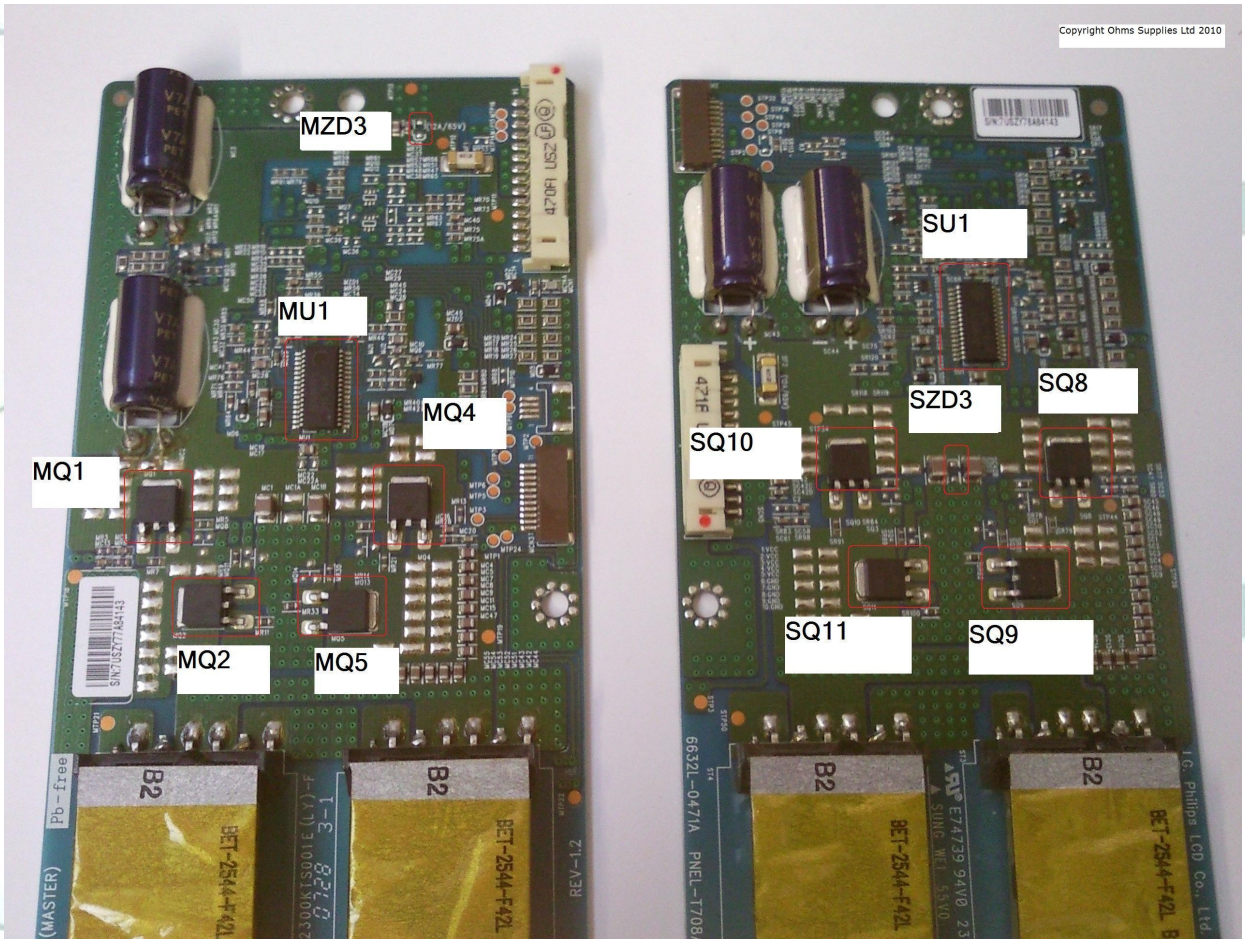
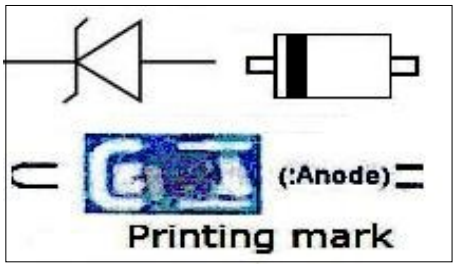


Diagram showing the orientation of MZD3 & SZD3 to be fitted if missing from the board. This diagram is included on the backer of KIT63



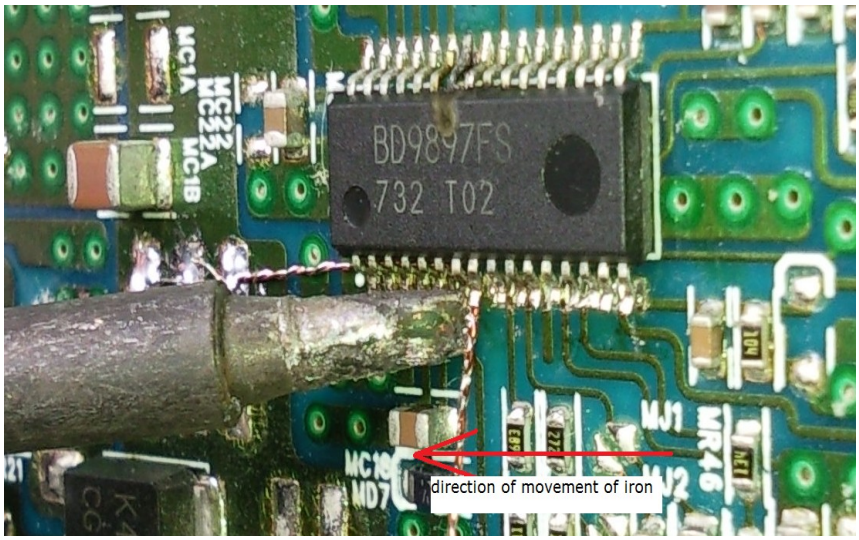
TIP
We have had reports on the 470uf/35V giving problems, it might be wise to check them as a matter of course

Remember, as with all inverter repair faults, if Audio is still present but you have no picture, its always wise to look through the vents to see if you can see the backlight is working, if not, shine a torch into the front of the screen and look at a slight angle into the screen. Quite often the picture is present, just not illuminated.
If the lamps are lit then you must have another fault.
It is important that all parts are fitted by suitably qualified engineers. We cannot be held responsible for any loss or damage made by incorrectly fitted parts.

Removal of surface mounted ic's

Although there are several methods of removing surface mount components, from lifting each leg to reflowing the ic and lifting off with a vacuum, here's a simple method that is favoured by many engineers.
You'll need solder braid, your iron and some thin wire.

- First, remove the excess solder on the legs of the ic as normal.
- Slide your wire under each leg then "anchor" it by soldering it to a suitable position on the board
- Place your iron tip on the first leg of the ic you want to remove then pull the wire.



Here you can see the the direction of the iron and how close the wire is behind it not allowing the legs and solder to cool. The trick is to get the correct angle and speed of the iron and wire

You can also see the typical damage when the ic fails.

As you move your iron along the ic pull the wire CAREFULLY just behind it, the legs should then lift easily off the board.

Once all the legs have been lifted, repeat on the other side of the ic. If the ic does not lift, check all the legs have been removed from the track. If they have it could be the ic has a small amount of glue used to keep it in place when originally soldered.

If this is the case, place the iron tip on the top of the ic then, again CARFULLY lift the edge of the ic to remove it to the board. Then remove any excess glue from the board.

You can also see where the wire has been soldered to the board to anchor it.

If the wire snaps then it's probably to thin. Either try slightly thicker wire or twist 2 lengths together.

This method is not only quick and inexpensive but also has the advantage of not heating up other components and surrounding print. Obviously, its best to practise any new technique on an old scrap board until you're comfortable with it.