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TRIK T013D-8089-2
TOSHIBA
10.4" VGA TFT KIT
USER GUIDE

1. INTRODUCTION

This document describes the installation and connection details of the Trident kit TRIK-T013D-8089-2 which is the kit of parts for driving the Toshiba 10.4" VGA TFT LCD panel from an ISA slot of an IBM compatible PC.

The TRIK provides a simple and convenient means of connecting the driver card to the LCD allowing a trouble-free hardware configuration for drive from an ISA slot of an IBM compatible over a distance of 1 Metre.

The TRIK consists of the following items,

LTM10C209H	- 10.4" TFT
UV665	- PC ISA Driver Card
UV6-5595-C0P5	- Backlight Inverter
CP-A1J3G2-H	- 1m Cable (includes adaptor PCB)
TRIDM 6565	- Disks + Manual

2. CONNECTION

Refer to Page 4 for a drawing of the positions of the connections to be made.

IMPORTANT:- The LCD, UV665 card and backlight inverter contain CMOS devices and are static sensitive. Full ESD procedures must be observed when handling and connecting these items.

The UV665 card may be plugged into any PC with a 16-bit expansion slot. The previously installed VGA card must be removed (or the motherboard VGA drive disabled). The UV665 card will be supplied with its DIL switch and links set correctly for the LCD. A full description of the settings is given in the TRIDM 665 manual and a brief summary follows,

SW 1,2 - ON	LK2 1-2 MADE
SW 3,4,5,6 - OFF	

One end of the CP-A1J3G2-H cable is terminated with a 44-way D plug which plugs into the 44-way D socket (SKB) on the rear of the UV665 card.

The other end of the CP-A1J3G2-H cable is terminated with a miniature adaptor PCB containing a 31-way Hirose DF9 connector which connects to CN1 on the rear of the LCD panel. This connector is polarised so the adaptor PCB will fit in only one direction. Do not try to force it. It should plug easily into the LCD when correctly orientated.

The CP-A1J3G2-H cable also has a 2-way spur terminated in a Molex header for connection to the backlight inverter (UV6-5595-C0P5) via PW1. This is a regulated +12V supplied from the UV665 card and this header is also polarised. Ensure that it is connected the correct way round into PW1. It should plug in easily without force.

The LCD backlight connections (CN2 and CN3) should be connected to the 2-off backlight connectors on the inverter (see Page 7 for the position of these connectors). To ensure eveness of tube brightness correct polarity of these connections should be observed. The pink wires of CN2 and CN3 are the high voltage sides of the tubes and should be connected into pins 1 of CFL1 and CFL2 (the outside pins). The white wires are the low voltage sides of the tubes which will then be connected to pins 4 of CFL1 and CFL2 (the inside pins). Ensure that the connectors are fully home and not twisted which could allow a pin to miss the connector socket.

The inverter is current controlled to provide greater backlight life and includes an onboard dimming function provided by the single-turn pot next to connector PW1.

IMPORTANT:- The inverter generates high voltages and should not be handled while the power is on. It should also be positioned ensuring that no part of it could possibly touch the LCD, the housing or any other circuitry. A gap of at least 3mm is recommended between any part of the inverter and any other item.

To ease possible mounting positions for the inverter, the backlight connections may need to be slightly extended. Note that to avoid backlight dimming or strike problems the backlight connections MUST NOT be extended by more than 150mm and high-voltage Silicon sleeved cable MUST be used. Refer to Pages 7, 8 and 9 for dimensional drawings of the inverter card and LCD.

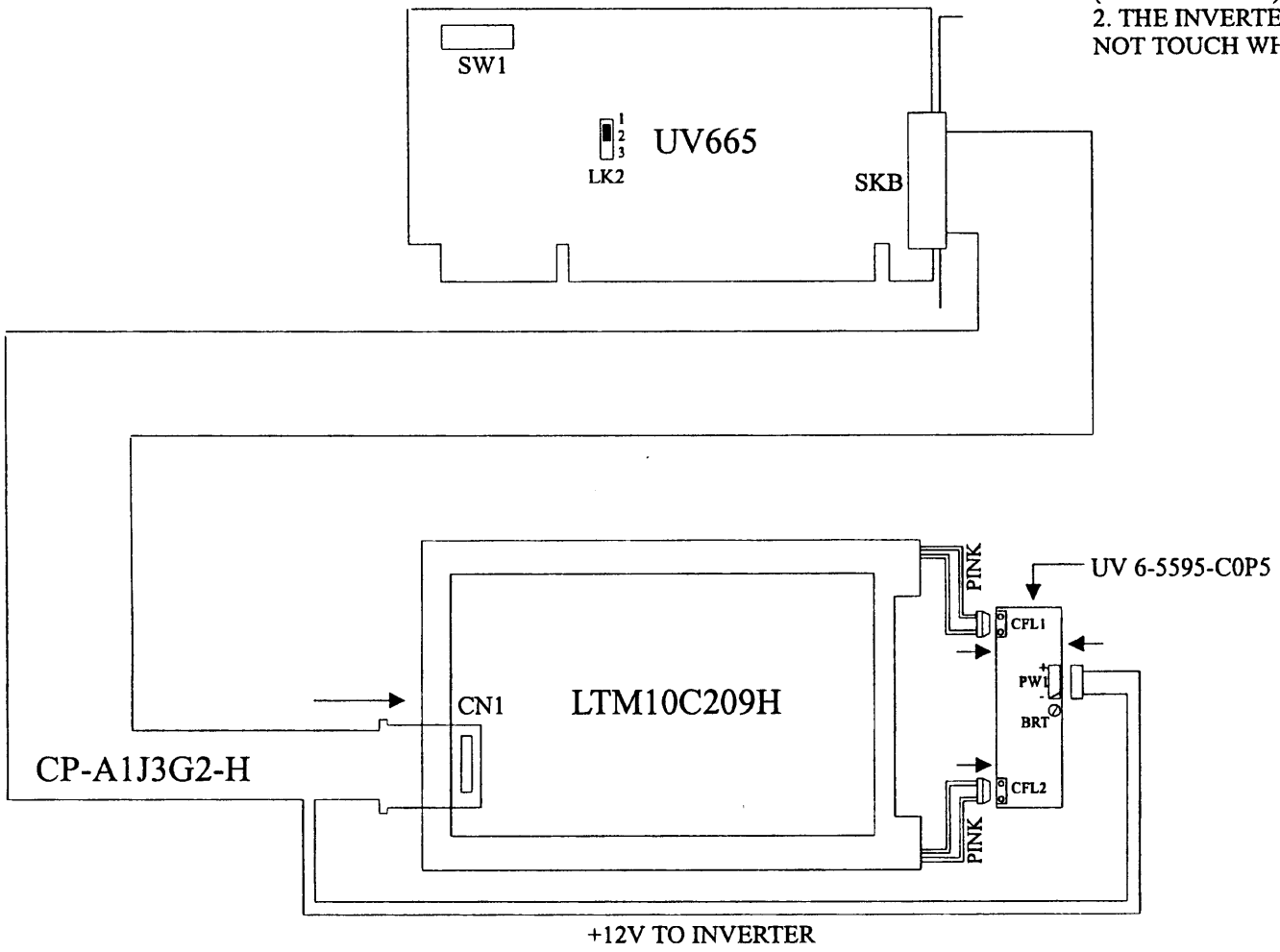
Once all the interconnections have been made the PC may be powered ON. After a few seconds the LCD backlight should come on and the standard PC Boot messages should be displayed on the LCD.

There is no contrast adjustment or tempereature compensation available or required for the TFT LCD. Note that it may take a couple of minutes for the backlight to reach maximum brightness.

Refer to the manual TRIDM 665 for loading of specific software drivers.

SW1
1,2 - ON
3,4,5,6, - OFF

NOTES
1. CONNECT HIGH VOLTAGE SIDE OF CCFL TUBES (PINK WIRES) TO PINS 1 OF CFL1+2 ON INVERTER (OUTSIDE PINS)
2. THE INVERTER GENERATES HIGH VOLTAGE, DO NOT TOUCH WHEN POWER IS ON



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TRIK T013D-8089-2
TOSHIBA 10.4" VGA
ISA TFT KIT

TRIK T013D-8089-2-UG
ISSUE 1.0
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MICROVERSAL

ULTRAVIEW

UV6-5495/UV6-5595 Inverters for TFT Panels

Description

The UV6-5495 and UV6-5595 are inverters designed to fulfil the needs of most 8", 9", 10" and 12" TFT panels providing a current controlled output to the tubes for maximum tube life. The UV6-5495 is designed for single tube panels while the UV6-5595 provides two outputs for high brightness, twin-tube panels. Backlight dimming may be provided by means of an onboard preset or external fascia mounted brightness control, using a 5KΩ linear potentiometer. Each CFL tube is connected by a four pin connector or two, two pin connectors.

Part Numbers

UV6-5x95-(x)(x)(x)(x)

Build Version
- A – 4 pin connector for each tube (middle two removed) to suit BHR-03VS-1 (JST) or M63M83-04 (Mitsumi)
- B – Two 2 pin connectors for each tube
- C – For Toshiba 209A/275A panels etc.

Connector Orientation
- 0 – Vertical connectors
- 1 – Horizontal connectors

Onboard Brightness Pot
- P – Brightness preset pot on board
- H – Header for connection to external pot

Max Tube Current

Current supplied at full brightness (in mA)

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Specifications

Input voltage	12V +/- 10% @ 900mA (typical)
Output voltage (Open circuit)	1200V RMS
Frequency of operation	60KHz (Nominal)
Tube current (Full brightness)	5mA (May be customer specified 5-7mA)
Brightness dimming ratio	25% to 100% (May be customer specified)

ULTRAVIEW

MICROVERSAL

Connectors

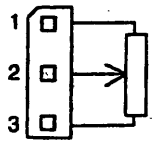
PW1 Power

Pin	Signal
1	GND
2	GND
3	+12V
4	+12V

Connector : Molex KK series 0.1" SIL
Mating part :

EC1 External Brightness Control (-xxHx versions only)

Connect a 5K 0.25W Linear Potentiometer for brightness control.



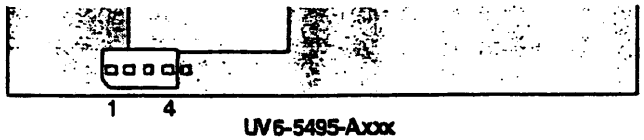
Connector : Molex KK series 0.1" SIL
Mating part :

WARNING
THIS MODULE GENERATES HIGHVOLTAGES
DO NOT TOUCH WHEN POWER IS ON

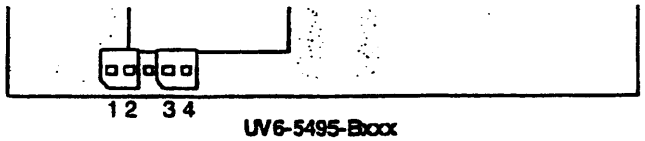
CFL Outputs

Pin	Signal (-Axxx)	Signal (-Bxxx)
1	High Voltage	High Voltage
2	No Pin	High Voltage
3	No Pin	Ground
4	Ground	Ground

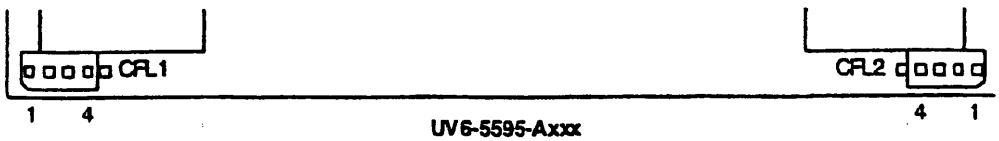
Connector : Modified Molex KK series 0.1" SIL
Mating part : JST BHR-03VS-1 or Mitsumi M63M83



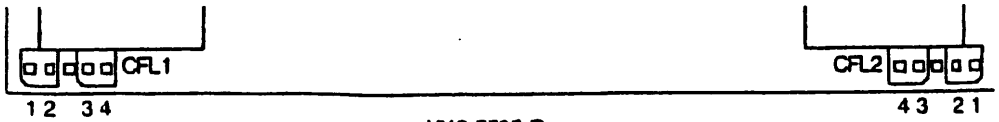
UV6-5495-Axxx



UV6-5495-Bxxx



UV6-5595-Axxx



UV6-5595-Bxxx

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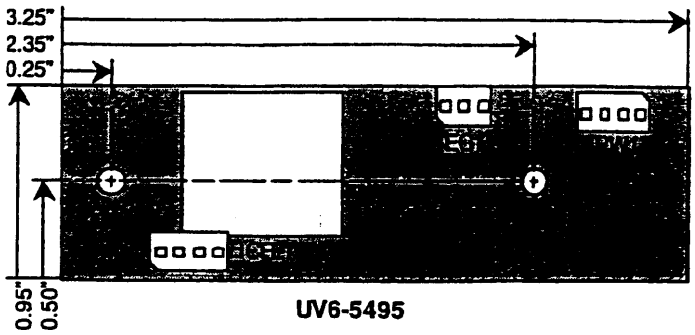
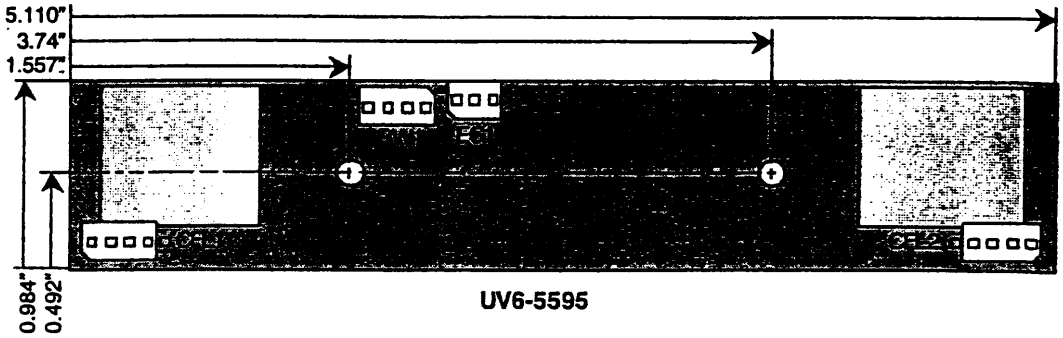
ULTRAVIEW

MICROVERSAL

Dimensions



UV6-5495



UV6-5595

Max height from underside of PCB = 0.55"
Recommended clearance below PCB = 0.25"
Mounting holes M3 clearance

Notes

(1) On Toshiba LTM10C209A, LTM12C275A and LTM15C151A panels connect High Voltage (pins 1/2) to CCFL High Voltage (Pink) and Low Voltage Return (3/4) to CCFL Gnd (White).
(2) The inverter generates high voltages. Do not touch when power is on.
(3) Ensure panel CCFL's are connected correctly and not misaligned.
(4) If panel CCFL'sneed to be extended Max. length is 150mm. High voltage Silicon sleeved wire must be used (e.g., Farnell 267-909).
(5) Do not cut or alter panel CCFL connectors or cable as this will invalidate panel warranty. Refer to Trident for possible CCFL extensions.

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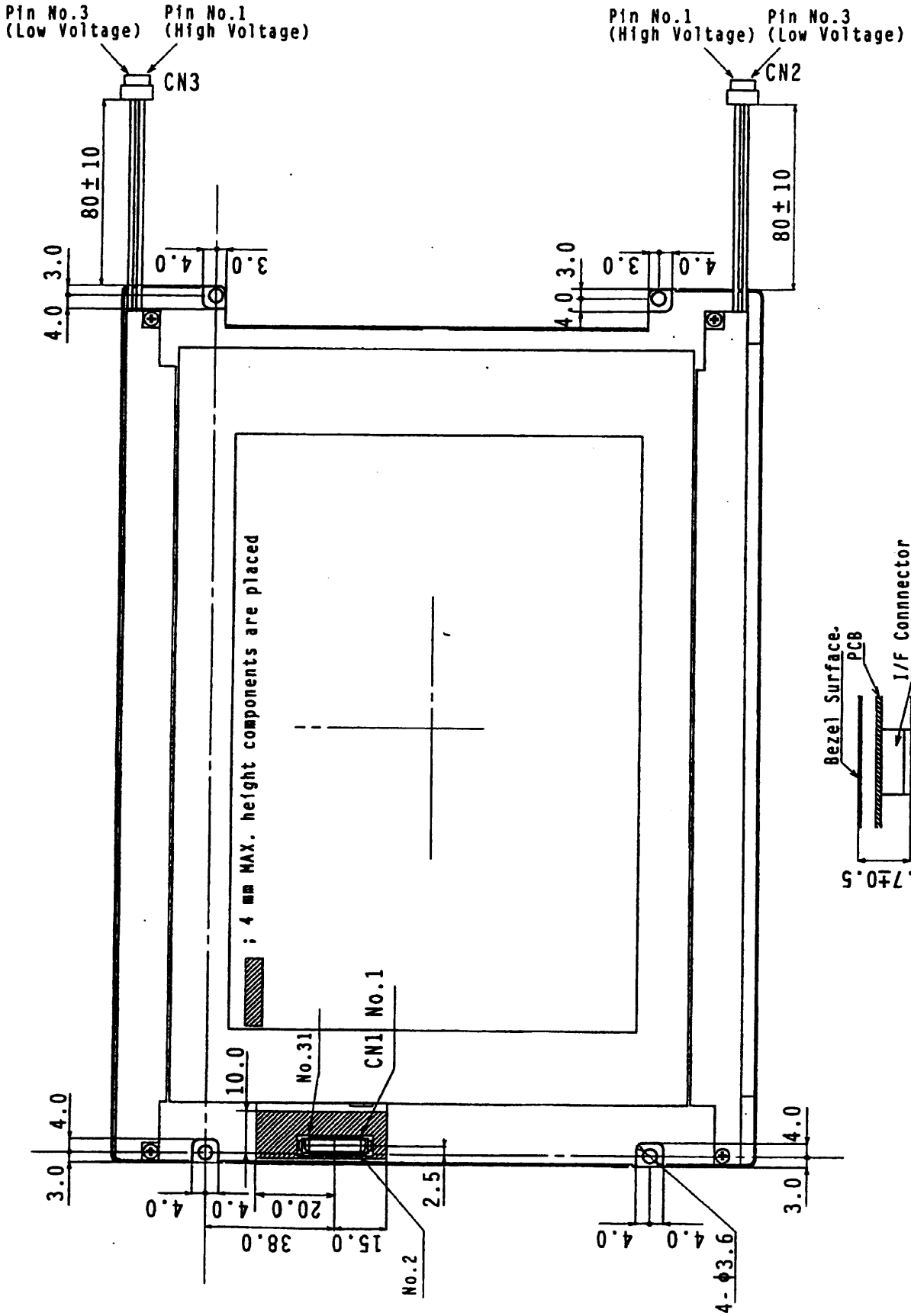
DIMENSIONAL OUTLINE

Unit : mm
Standard tolerance : 0.5



Sectional figure of I/F Connector

DIMENSIONAL OUTLINE

Unit : mm
Standard tolerance : 0.5