

### TECHNICAL GUIDE

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**TELEDAC INC.**

**Industry Canada  
compliance statement**

This equipment does not exceed Class A limits per radio noise emissions for digital apparatus, set out in the Radio Interference Regulation of Industry Canada. Operation in a residential area may cause unacceptable interference to radio and TV reception requiring the owner or operator to take whatever steps are necessary to correct the interference.

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**Avis de conformité aux  
Normes du ministère  
Industrie Canada**

Cet équipement ne dépasse pas les limites de Classe A d'émission de bruits radioélectriques pour les appareils numériques, telles que prescrites par le Règlement sur le brouillage radioélectrique établi par le ministère Industrie Canada. L'exploitation faite en milieu résidentiel peut entraîner le brouillage des réceptions radio et télé, ce qui obligerait le propriétaire ou l'opérateur à prendre les dispositions nécessaires pour en éliminer les causes.

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**Federal Communications  
Commission (USA)  
Compliance Statement**

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**TELEDAC INC.**

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## **SECURITY NOTICE CONCERNING THE LITHIUM BATTERY**

\*CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.+

\*ATTENTION: DANGER D'EXPLOSION EN CAS DE REMPLACEMENT PAR UNE PILE NON APPROPRIÉE. REMPLACER UNIQUEMENT PAR UNE PILE DU MÊME TYPE OU DU TYPE RECOMMANDÉ PAR LE FABRICANT. ÉLIMINER LES PILES USÉES CONFORMÉMENT AUX INSTRUCTIONS DU FABRICANT.+

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## **TECHNICAL DOCUMENTATION**

### **A- CALIBRATION PROCEDURE OF THE VIDEO SCREEN(S)**

The monitor screens are submitted to lighting conditions that can affect the readability. An adjustment may be required.

1. Make the color bars appear (page R0069), key sequence: [**F8**, '**R0069**', **Enter**, **F2**];
2. Adjust the brightness in order that you can barely see a difference between the (7%) black and the (0%) black around. You may have to increase slightly the contrast.
3. Adjust the contrast enough to get a good readability and white level but minimize the sparkling.
4. Adjust the tint to obtain a pure yellow (not too green nor too orange).
5. Finally, adjust the color intensity so your red is not too saturated.
6. Press on **Esc** to exit.

### **B- BEEPER**

The beeper is used to attract the attention on a typing error, a communication error or the completion of certain commands.

When starting the unit, the beeper beeps three times if a keyboard is connected to it, otherwise it beeps only once.

When the unit is started without a keyboard, a keyboard insertion will generate three beeps.

V1: Beeper volume.

6 Adjust V1 as needed

(To shut off, turn the potentiometer counter clockwise completely).

### **C- VIDEO OUTPUT ADJUSTMENTS**

The CPU board is calibrated at out plant. If changes are necessary on the video signal, adjust only the potentiometer mentioned here.

Attention: Make adjustments only with the proper equipment.

C68: Subcarrier frequency.

Required equipment: waveform monitor with an external reference connected to a reference source.

→ Adjust C68 to minimize the picture rotation.

V5: Synchro amplitude  
Required equipment: waveform monitor.

→ Adjust V5 to obtain 40 IRE amplitude or 286 mv.

V6: Chroma amplitude.  
Required equipment: waveform monitor.

→ To obtain an amplitude of 40 IRE or 286 mv on the color burst.

⇒ NOTE: the potentiometers:

V7 (R-Y modulator phase)  
 V8, V9 (residual color suppression),  
 V2, V3, V4 (RGB amplitude),

are calibrated at our plant and must not be modified without a risk of degradation performance in the video output.

#### **D- JUMPERS (I-4000 only)**

The jumpers are installed at our plant according to the system configuration. Only the J7 jumper can be modified by the user, the other ones must stay at their initial positions.

J2:	R <sup>1</sup>	EPROM 27C040 U3, U17, U40, U48
	L <sup>1</sup>	EPROM 27C040 U17, U40 Flash 29C040 U3, U48
J3	L <sup>1</sup>	Always
J4	none	
J6	L <sup>1</sup>	EPROM 27C040 U3, U17, U40, U48
	none	EPROM 27C040 U17, U40 Flash 29C040 U3, U48
J7	none	EPROM 27C040 U3, U17, U40, U48
	R <sup>1</sup>	EPROM 27C040 U17, U40 Flash 29C040 U3, U48
J8	L <sup>1</sup>	Always
J11	none	Not installed normally. When installed, allows an automatic reset whenever a failure occurs, blocking the normal operation of the unit. Generally used for a remote unit without an operator supervision. Please call our technical service to discuss your application.

1: Facing the unit "L" = to the left "R" = to the right

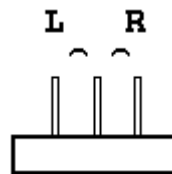
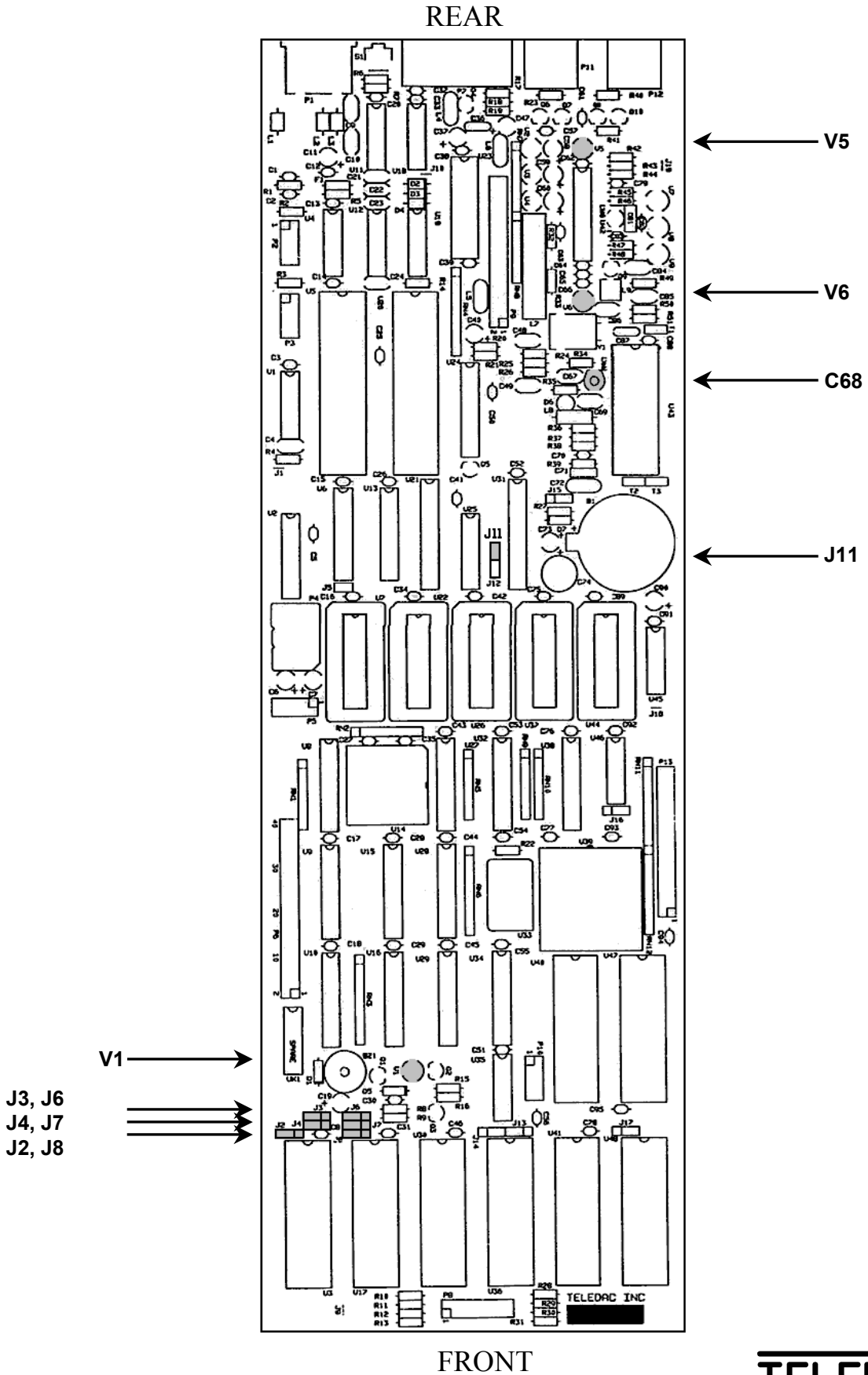


FIGURE 1: CPU CARD



J3, J6  
J4, J7  
J2, J8

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**IRISTEXT 4000 & MARK****MECHANICAL AND ELECTRICAL SPECIFICATIONS****1.0 - MAIN UNIT**

- High performance graphic processor, 32 bits internal data bus and 16 bits external.
- Internal communication between video 1 and video 2 at 13 Mbits/sec (I-VIDL or I-VIDT options).(I-4000 only)
- 512K RAM (expandable to 2 Mb) protected from power failures with replaceable lithium battery with a typical life of over 300 days.
- 1024K FLASH reprogrammable ROM software allowing remote software upgrade. (SE only) 1024K EPROM for Mark II.
- 1024K EPROM for permanent fonts and boot code(SE or M II) or software (LE or Mark I).
- All the EPROMS and RAMS mounted on IC sockets for easy update.
- Real time clock with lithium battery protection.
- Reset button.(I-4000 only)
- Audible alarm.
- 3 (I-4000) or 1 (Mark) red warning light indicators: RESET(I-4000 only), WATCHDOG, KEYBOARD (I-4000 only).
- 3 green control light indicators: POWER, RXD & TXD COMMUNICATION

**1.1 - VIDEO1 AND VIDEO2 OUTPUTS (OPTIONAL, I-4000 only) each including:**

- 1 NTSC composite output non-interruptible for EDITING.
- 1 NTSC composite output for DISPLAY (I-4000 only)
- 1 Y/C (S-video) output (optional)
- synchronisation generator independent from the graphic processor in conformity to the RS-170A, NTSC.

amplitude in 75 ohms	: 1 volt (peak to peak)
coupling	: DC
pixel resolution	: 66 nS
interlace	: 2:1
total number of scan lines	: 525
number of visible lines	: 792
number of colors per line	: 16
total number of colors	: 4096
color subcarrier frequency	: 3,579,545 Hz adjustable
residual color subcarrier	: <1 IRE
black level	: 7.5 IRE +-2.5 IRE
blanking amplitude	: 40 IRE adjustable
color burst amplitude	: 40 IRE adjustable



total height	3.0" (7.6 cm)	1.7" max. (4.3 cm)
width	5.3" (13.5 cm)	3.4" max. (8.6 cm)
depth with connectors	15.5" (39.4 cm)	6.5" max. (16.5 cm)
weight without keyboard	5.5 lbs. (2.5 kg)	
shipping weight	16 lbs. (7.3 kg) max	
shipping size	22" x 10" x 10" (55 cm x 25 cm x 25 cm)	

## **2.0 - OPTIONS**

### **2.1 - I-TEMP OPTION: DISPLAY OF LOCAL TEMPERATURE**

- F type connector allowing the use RG-59 cable
- Current type probe giving an exact reading regardless of cable length
- Celsius or Fahrenheit reading: from -50EC to +50EC +1E, or -58EF to +122E F

### **2.2 - I-GNLK OPTION: KEYING**

#### 2.2.1 FUNCTIONS:

- GENLOCK (sync. and color) on a video source
- Downstream or upstream keying
- Semi-transparent text or background (downstream keying)
- Total transparency of any color of the image
- Transparency function automatically detected by IRISTEXT-4000
- Video input signal automatically detected

#### 2.2.2 VIDEO INPUT:

- 4 pin mini-DIN connector with BNC adaptor cable
- Composite or SVHS (Y/C components) auto-selected
- Termination selection: 75 ohms or hi-z
- 500KHz sync. separation filter selectable for "GENLOCK" with a VCR

#### 2.2.3 VIDEO OUTPUT:

- 4 pin mini-DIN connector with BNC adaptation cable
- Composite or S-Video (Y/C components) auto-selectable
- Differential gain < .2 db
- Differential phase < 1 degree
- Frequency response: ".3 db (.5MhZ to 4.2Mhz)
- Transparent signal sync. (ext sync.) or regenerated (int.)
- Residual subcarrier (ext. sync.) < 1 IRE
- Input-output delay (ext. sync.) < 50 nS
- Adjustable horizontal phase (int. sync.): " 4 FS
- Adjustable color phase: 360 degrees
- Adjustable semi-transparency level

- 2.2.4 KEY OUTPUT:
- With sync. without set up or color burst
  - 1 Vpp (75 ohms)
  - Polarization selection (positive or negative)
  - Adjustable video output delay: "130 nS

### 2.3 - VIDEO 2 (I-4000 only)

The electrical characteristics of this second video channel are identical to those of video 1 (see 1.1 above).

- 2.3.1 I-VIDL OPTION:  
Second video channel reserved to the display without interruption. The off-line editing is done on the first channel which cannot display.
- 2.3.2 I-VIDT OPTION:  
Second video channel with full off-line editing as I-VIDL above but able to display a second set of pages once editing is completed.

### 2.4 - I-RS-485: ADDRESSABLE COMMUNICATION PORT FOR LOCAL NETWORK (future option)

- DB9 connector
- Baud rates: 300, 1200, 2400, 9600 +/-1.7% max.
- Allows to create a network of IRISTEXT-4000 on a distance greater than a RS-232 port: > 1 km.
- Bi-directional communication on 2 wires (differential).