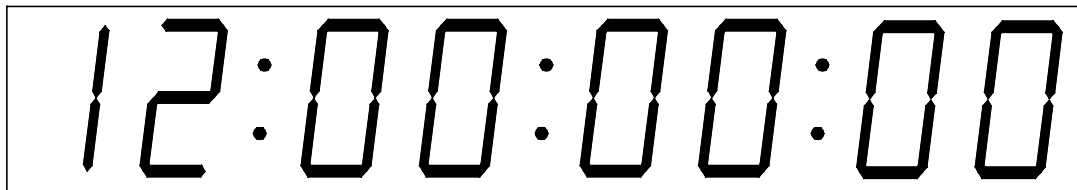


Time Code Display

TCD-25



12:00:00:00

TABLE OF CONTENTS

Page

A1 SAFETY INSTRUCTIONS

A2 COPYRIGHT

A3 CE-DECLARATION

FRONT DISPLAY

1

GPI

1

OPTION R = LTC READER, OPTION V = VITC READER

2

CONFIGURATION INTERFACE (CONFIG)

2

REAR PANEL AND SPECIFICATIONS

2

Short Operating Manual TCD-25

A1 Safety Instructions

- General rules:** Only use the device as directed in a dry atmosphere. Treat the TCD-25 with the same care as other studio devices. Please follow the advice in the following operators manual.
- Damages in transit:** If the device shows obvious damages from transit the shipper in question must be notified and the dealer must be informed.
- Positioning:** Position device only where sufficient air circulation can be maintained. Extreme temperatures, dust, humidity, shocks and strong electromagnetic fields must be avoided.
- Maintenance:** Use a moist soft textured fabric cloth when cleaning the housing. Do not use polish or any other cleaning agents.
- Repairs:** The TCD-25 does not require any extra maintenance. There are no user serviceable parts inside the device. Repairs should be sent to an authorized service partner.

A2 Copyright

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Information in this publication replaces all previously published information. Alpermann+Velte Electronic Engineering GmbH assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. Whenever it is likely that safe operation is impaired, the instrument must be made inoperative and secured against unintended operation. The appropriate service authority must then be informed.

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A3 CE declaration of conformity

We,

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Electronic Engineering GmbH
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D-42369 Wuppertal

herewith declare under our sole responsibility that the

TCD-25

meets the intent of the following directives, standards and specifications:

89/336/EEC Electromagnetic Compatibility

EN 50081-1 Emissions

- EN 55022
- EN 55103-1

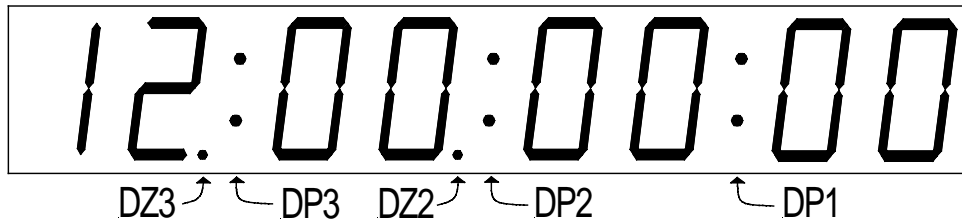
EN 50082-1 Immunity

- EN 55024
- EN 55103-2

The following preconditions have to be fulfilled:

- Only high-quality shielded cables have been used to connect data inputs/outputs.
- Housing has been connected to ground.

Front display



After power-on the display shortly indicates the revision of the firmware, then it displays the time of the time code reader. Other operating modes can be indicated by the LEDs 'DP1', 'DP2', 'DP3', 'DZ2', 'DZ3':

DZ3	DZ2	DP3,2,1	Description
		on	Display shows the time of the time code.
		off	Display shows the user of the time code.
off	off		Time code can be read.
on	off		No time code can be read, display shows the value of the last valid time code frame.
off	on		Freeze.
on	on		Error.

GPI

GPI is an input to connect four external keys. The keys switches against GND (= pin 9). The function, which is executed by the external key, can be individually programmed using the configuration interface. The factory setting is:

Key	GPI pin	Function	Description
F1	6 - 9	Freeze on/off	Display freezes the last value. The LED 'DZ2' indicates this operating mode. Switch freeze off by pressing this key again.
F2	3 - 9	Time/User	Display switches between time and user indication. Time: with colons, LEDs 'DP1', 'DP2', 'DP3' light up. User: without colons, LEDs 'DP1', 'DP2', 'DP3' switched off.
F3	4 - 9	Frames on/off	Switches the frames of the time display on/off.
F4	5 - 9	Brightness	Adjust the brightness of the LEDs with 7 steps. Brightness increases, at the highest possible brightness the LEDs 'DZ2' and 'DZ3' shortly light up. Next key press selects the lowest possible brightness.

Short Operating Manual TCD-25

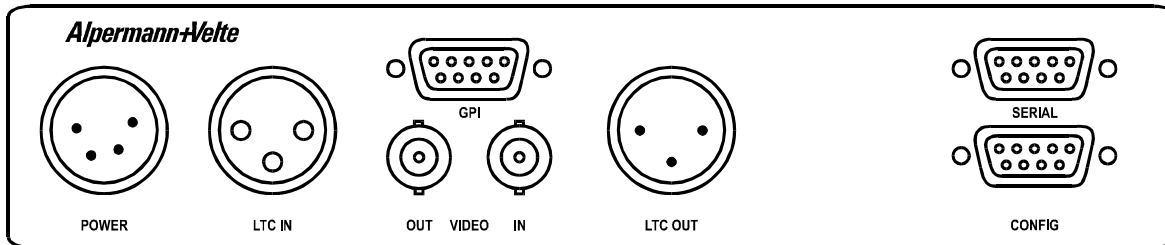
Option R = LTC reader, option V = VITC reader

TCD-25 can read time code as LTC (input XLR) and/or VITC (input BNC 'Video In'). With both options the factory setting gives VITC the higher priority, i.e. as long as VITC can be read this time code will be displayed.

Configuration interface (CONFIG)

CONFIG is a RS232 serial interface at the rear. Using a Windows PC and the Alpermann+Velte application software "TCI70" it is possible to change the operating mode of the unit. For more information please contact Alpermann+Velte.

Rear panel and specifications



Housing	Aluminium
Dimensions	214 x 43 x 140 mm (W x H x D)
Weight	1000 g approx.
Power supply	15 - 30 V DC
Power consumption	8 W (typical)
Operating temperature	5 - 40°C
Relative humidity	35 - 85 %, non-condensing

Inputs/Outputs	Connector	Signal description
Power	4-pins XLR male	1 = V- (GND), 4 = V+
LTC In	3-pins XLR female	1 = GND 2 / 3 = Signal balanced 400 mV _{pp} - 5 V _{pp} Reading range 1,5 - 600 frames/sec
LTC Out (Option)	3-pins XLR male	1 = GND 2 / 3 = Signal balanced Level: -24 dB to +3 dB
Video In (Option)	BNC	Composite video input, no 75Ω termination
Video Out (Option)	BNC	Composite video output (loop)

Interfaces	Connector	Signal description	
CONFIG	9-pins D-Sub female	RS232 interface to change the unit's configuration. Connect to PC via straight cable.	
		2	TxD (output)
		3	RxD (input)
		5	GND
		6	DTR (output)
		7	CTS (input)
		8	RTS (output)
SERIAL (Option)	9-pins D-Sub female	RS232 or RS422 interface to transmit time code values.	
		RS232	
		2	TxD (output)
		3	RxD (input)
		5	GND
		7	CTS (input)
		8	RTS (output)
		RS422	
		2	T- out
		3	R+ in
		4	RxC
		5	GND
		6	TxC
		7	T+ out
		8	R- in
GPI	9-pins D-Sub female	Inputs for external keys	
		3	Time / User
		4	Frames on / off
		5	Brightness of LEDs
		6	Freeze
		9	GND