

DENECKE®

In collaboration with  Timecode Systems



the next generation

Denecke TS-TCB

quick start guide



In collaboration with  **Timecode Systems**

Here we give you a quick tour of your new **Denecke TS-TCB slate**, guiding you through its key features so you can get up and running straight away.

What's covered?

The basics to getting started with:

- **Denecke TS-TCB: Slate**
- **Timecode Buddy: app**, with TS-TCB support (free to download)

The next generation starts here...

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Denecke TS-TCB

This is a guided tour of your TS-TCB. The TS-TCB includes a highly accurate timecode generator and multi-channel digital timecode transceiver, with integrated WiFi.

Control

The **Denecke TS-TCB** slate settings are viewed using the large matrix display or from the settings page within the **Timecode Buddy: app**.



1. Antenna

For the digital transceiver module operating in 870MHz (CE), 915MHz (FCC/IC) and 920MHz (ARIB) bands.

2. Large LED matrix screen

Shows unit status, settings and mirrored text from the app.

3. LED segment screen

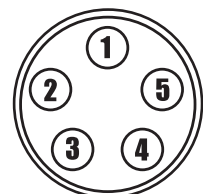
shows timecode and user bits on clap.

4. Control knob

Allows navigation through menus.

5. TC IN/OUT and Power IN socket

LEMO 5 (Pin 1 GND, Pin 2 TC IN, Pin 3 N/C, Pin 4 +6V-14V DC input, Pin 5 TC OUT).



Customise

On-screen menus allow you to easily customise the settings of the **Denecke TS-TCB** Slate to meet the exact needs of your shoot.

Turning the knob on the side panel takes you to the **information screens:**

1. Text mirrored from app
2. T/C & Signal strength
3. USER BITS
4. FPS & RF Channel number
5. BUTTON LOCK
6. Firmware version
7. Serial number
8. WIFI Network Mode
9. Wi-Fi SSID name
10. Wi-Fi IP address (type this into any browser to connect to **TS-TCB** slate: web view)

Button basics

The side button makes it easy to navigate the menu options.

From an information screen, press the knob to go directly to the menu for the corresponding feature. From the default display, press the knob to enter the menu for:

1. Timecode Mode
2. Int Generator
3. RF Settings
4. Wi-Fi
5. Brightness (alters both screens)
6. Settings
7. Exit

More on menus

Each menu allows further customisation of your **Denecke TS-TCB** Slate.

Timecode Mode. Choose from three settings:

- **Int Gen.** From here you can set your own T/C, user bits and FPS settings, as the 'master clock' on set.
- **Ext RF (cont).** Constantly jam syncs the internal generator from the received T/C via another TCB device in RF TX mode. If the slate loses signal, the T/C output continues using the internal generator until the signal is received again.
- **Ext LTC (cont).** Constantly jam syncs the internal generator from the received T/C via the LEMO 5 socket. If the External TC source is removed, the T/C output continues via internal generator immediately. Use this to 'Jam' to external timecode.

Internal Generator. Choose from:

- **Set TimeCode.** Turn to set flashing digits, press to enter, repeat for each pair.
- **Set User Bits.** Turn to set flashing digits, press to enter, repeat for each pair.
- **Set FPS.** Set to 25, 23.976, 24, 29.97, 29.97DF, 30 or 30DF.

RF Settings. From here select:

- **Channel no.** 1 to 14
- **RF TX On/Off.** When in Internal or Ext LTC mode the Denecke TS-TCB Slate can transmit its SMPTE timecode data via RF to any other TCB product listening on the same channel.
- **RX UBits On/Off.** When On the unit will display and output the UserBits received via RF. If Off the unit will display and output its own UserBits set.
- **B:Link:** For future use.

Wi-Fi Settings. Unlocks Wi-Fi enabled features including wireless streaming of timecode to Timecode Buddy: app, Adobe LiveLogger app and the MovieSlate 8 logging app:

- **Turn On/Off.** When on allows you to restart the Wi-Fi network if needed.
- **Network Type.** Select 'Soft AP' for normal iOS app connection/ TS-TCB: web view, 'Network' to connect to a known network with internet access to update firmware.
- **ID No.** Give your **Denecke TS-TCB**: Slate its own SSID name* (choose a number from 001 to 254). *Every **Denecke TS-TCB** on set needs to be given a different SSID to avoid network clashes.

Brightness:

- **Set Brightness.** Allows you to change the level of brightness from 1 through to 8. (8 being the brightest)

System Settings. Gives you access to:

- **Set country/area.** Set to Europe/UK, USA/CA/AU or Japan.
- **Restore defaults.** To remove any customisation.
- **Set passcode.** Choose a passcode to allow access to settings changes from Timecode Buddy: app or MovieSlate 8 app. Default passcode is 1111.
- **Update Check.** Checks to see if any updates are available (only visible when Wi-Fi is set to network mode and connected).

Timecode Buddy: app

Now your **Denecke TS-TCB**: Slate hardware is up and running, it's time to download the **Timecode Buddy: app**. Our iOS app is free to download from the Apple app store.

- Turn on the Wi-Fi of your **Denecke TS-TCB** Slate.
- When the **Denecke TS-TCB** Slate displays 'Wi-Fi Ready', open the Wi-Fi settings page on your iOS device.
- Select the WiFi network of the **Denecke TS-TCB** Slate. ie. Slate027
- Open your **Timecode Buddy: app**. This should now show the running timecode from your **Denecke TS-TCB**: Slate. The screen graphics will change to reflect connection to the slate.

If you want to remotely change any of the Device settings via the **app**, press settings, type in the four-digit passcode (set on the systems menu of your Device) then make changes directly from the app.



Using the app

Overview. By touching the Prod, Info, Dir, Cam, Date or Sound box, you are able to alter what text is shown in the box on the app and then choose how this information is displayed on the Slate. If no boxes are selected to mirror, the default mirror is the date box.

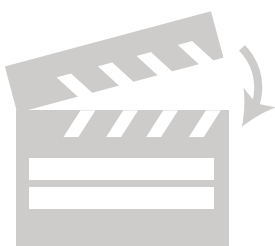


1. Clapper stick

This mimics the **TS-TCB** slate position. By clicking anywhere on the app clapper, it opens the clap log details, with the most recent clap time log at the top. This window also gives you the option to upgrade the app to the **Movie Slate 8** app, which allows you to perform shot logging automatically and more.

2. Slate control

Clicking on the small greyed out slate graphics in each text box allows you to toggle through the settings for displaying text on the Slate. The first toggle has it constantly scroll through in order, the second toggle has it scroll through when the clappers are closed and the third toggle has both constantly displayed and fast scroll through on clap.



no effect



scroll through
constantly



scroll through
on clap



scroll through
constantly &
on clap

More on Using the app

3. **Devices control**

Clicking on TCB Devices shows all **Timecode Systems** units available and allows you to select one to connect to.

4. **Settings control**

Clicking on Device Settings causes a passcode prompt to appear so that only users with the passcode can change the device settings. From this menu you have the option of choosing:

- a** The Timecode Mode (Internal, External Receiver, External Receiver (Cont.), External BNC, External BNC (Cont.))
- b** The RF setting used
- c** The text scroll speed (fastest to slowest)
- d** Web: which is a shortcut hotkey to the webview page

TS-TCB web view

The TS-TCB web view will open in any browser.

Three simple steps activate this feature:

- Turn on Slate Wi-Fi and choose Soft AP mode. Wait until display flashes 'Wi-Fi Ready.'
- Take any Wi-Fi enabled device with a browser and scan wireless networks for 'Slatexxx'.
- When connected type the IP address of your **Denecke TS-TCB**: Slate into the address bar of the browser e.g. 169.254.xxx.1 (xxx is the number of the Slate chosen).
- If you are connected to the **Timecode Buddy**: app or the **Movieslate app** then Timecode Buddy: web view is available from a quick launch button directly from app.

If you want to remotely change any of the Device settings via the app, press settings, type in the four-digit passcode (set on the systems menu of your Device) then make changes directly from the app.

Webview capability.

- **Show the Denecke TS-TCB**: Slate you're connected to.
- **Access Slate settings**: Displays status and settings of the Denecke TS-TCB: Slate.
- **Configure Wi-Fi**. Scan for available wireless networks, type in the network key, and join an infrastructure network for firmware updates to the **Denecke TS-TCB**: Slate.

Detailed specifications

Denecke: TS-TCB slate

Product features

Sliding access door to battery compartment.

Quick change battery pack using 6 "AA" batteries.

Choice of Black & White or Color clapper sticks.

Battery voltage and low battery warning readout.

Reads and displays SMPTE/EBU Time Code.

Internally mounted Time Code Generator Jams to all standard frame rates.

WiFi activated features

Accurate WiFi streaming of SMPTE timecode data to native iOS apps.

WiFi connectivity to allow menu changes via the free to download iOS app.

Built-in webpages for Timecode Buddy: web view.

WiFi connectivity to see all settings via any connected web browser.

WiFi connectivity to configure advanced WiFi settings of master.

WiFi connectivity to access product manuals directly from the Timecode Buddy.

Infrastructure WiFi connectivity to allow for multiple units to be connected to an external Access Point/Router. As well as to the internet for firmware updates to the TS-TCB.

Technical specification

Timecode generator accuracy: 0.14ppm when free running, zero ppm when RF locked.

Supported FPS: 23.976, 24, 25, 29.97, 30, 29.97DF, 30DF.

WiFi: 2.4 GHz IEEE std. 802.11b/g, SoftAP and Infrastructure modes, DHCP Server, Web server.

Denecke: TS-TCB slate

Power and timecode sources

- External power: 5 pin LEMO (pin 4 + 6/14V DC, pin 1 GND).
- Internal power: 6 x 'AA' batteries.
- T/C input/output : LEMO5 0.1 to 5V pp.
- Multi-channel digital transceiver in 865.050-865.550 MHz (CE Approved) 915.050-918.650 MHz (FCC/IC Approved) and 920.600-923.200MHz (Japan ARIB Approved).

Frequencies

Denecke: TS-TCB slate RF Frequencies

Our CE approved products are for use in UK/EU and CEPT* countries.

*Albania, Andorra, Austria, Azerbaijan, Belarus, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, The Former Yugoslav Republic of Macedonia (FYROM), Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, Vatican.

- | | |
|----|-------------------|
| 1 | UK/EU 865.050 MHz |
| 2 | UK/EU 865.150 MHz |
| 3 | UK/EU 865.250 MHz |
| 4 | UK/EU 865.350 MHz |
| 5 | UK/EU 865.450 MHz |
| 6 | UK/EU 865.550 MHz |
| 7 | UK/EU 865.650 MHz |
| 8 | UK/EU 867.950 MHz |
| 9 | UK/EU 868.050 MHz |
| 10 | UK/EU 868.150 MHz |
| 11 | UK/EU 868.250 MHz |
| 12 | UK/EU 868.350 MHz |
| 13 | UK/EU 868.450 MHz |
| 14 | UK/EU 868.550 MHz |

Denecke: TS-TCB slate RF Frequencies

Our FCC frequencies are for use in the USA, Australia and New Zealand.

- 1 USA/AU/NZ 915.050 MHz
- 2 USA/AU/NZ 915.150 MHz
- 3 USA/AU/NZ 915.250 MHz
- 4 USA/AU/NZ 915.350 MHz
- 5 USA/AU/NZ 915.450 MHz
- 6 USA/AU/NZ 915.550 MHz
- 7 USA/AU/NZ 915.650 MHz
- 8 USA/AU/NZ 918.050 MHz
- 9 USA/AU/NZ 918.150 MHz
- 10 USA/AU/NZ 918.250 MHz
- 11 USA/AU/NZ 918.350 MHz
- 12 USA/AU/NZ 918.450 MHz
- 13 USA/AU/NZ 918.550 MHz
- 14 USA/AU/NZ 918.650 MHz

Denecke: TS-TCB slate RF Frequencies

Our ARIB frequencies are for use in Japan.

- | | |
|----|----------------|
| 1 | JP 920.600 MHz |
| 2 | JP 920.800 MHz |
| 3 | JP 921.000 MHz |
| 4 | JP 921.200 MHz |
| 5 | JP 921.400 MHz |
| 6 | JP 921.600 MHz |
| 7 | JP 921.800 MHz |
| 8 | JP 922.000 MHz |
| 9 | JP 922.200 MHz |
| 10 | JP 922.400 MHz |
| 11 | JP 922.600 MHz |
| 12 | JP 922.800 MHz |
| 13 | JP 923.000 MHz |
| 14 | JP 923.200 MHz |

Quality declarations

FCC Warning Statement:

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada Statements

This product contains radio transmitter 10427A-TCB11 and AYV-TCB11. It has been approved by Industry Canada & FCC to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Name: Taoglas TG.09.0113, 2.0dBi, 50 ohm

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

CE Conformity Statement:

Declaration of Conformity

According to ISO/IEC Guide 22, is in conformity with:

- EN 60950-1:2006 + A11:2009+A1:2010+A12:2011+AC:2011
- EN 300 440-1 V1.6.1
- EN 300 440-2 V1.4.1
- EN 301 489-1 V1.9.2
- EN 301 489-3 V1.4.1

Warranty and technical support

All products sold by **Denecke, Inc.** are warranted to the original purchaser against defects in materials and workmanship for (1) year from the date of original purchase.

However, this warranty excludes accessories, batteries and cables. Also, this warranty does not apply to any instrument determined by **Denecke, Inc.** to have been subjected to customer alteration, modification, negligence or misuse.

In the event of any defects determined by **Denecke, Inc.** to be covered by this warranty, **Denecke, Inc.** will, at its sole option, repair or replace the defective instrument without charge. To obtain warranty service the defective instrument must be returned within one (1) year from purchase to:

Denecke, Inc.
ATTN: Repair Department
25209 Avenue Tibbitts
Valencia, CA 91355

Telephone (661) 607-0206

All transportation and shipping costs are the responsibility of the purchaser.

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