

# STUDER A810 TC VU TAPE RECORDER

The information below was derived from my Studer A810 2-channel Time Code model with 3 tape speeds and built-in Volume Unit Meters. Some of this information may therefore not be applicable to other A810 tape recorder models, which exist in 24 different versions. For detailed information always follow the instructions of your Studer A810 Operating Manual.

Wolfgang Bleier, June 2007

Last update: 22 November 2008



It was the year 1982 when Studer Revox has first presented the Studer A810 tape recorder. In this year Studer Revox has moved to its new administration and manufacturing facility in Regensdorf nearby Zürich, and the company Willi Studer was changed into the stock corporation Studer Revox AG. The Studer A810 tape recorder was last built in the year 1989.

## IMPORTANT FEATURES & REFERENCE TO THE STUDER MANUAL

### AC Power, Voltage Selector (100, 120, 140, 200, 220 or 240 V)

Verify the setting of the voltage selector every time after transport and/or service works to match the local line voltage (240V).

### Self-Diagnosis & Data Display after Power ON

For example display of 0188 indicates the calendar week and the year (week 1 in 1988) of the Software release date, followed by display of the tape address at the last switch off.

### Spooling Speeds

10 (standard), 7, 4 and 1 m/sec. When spooling at standard speed press the key sequence TRANS ◀ or TRANS ▶ to decrease the spooling speed to 7 m/sec. Pushing again the key ◀ or ▶ will reduce the spooling speed to the next lower level. From STOP or PLAY mode start spooling immediately at the lowest speed by pressing the key sequence TRANS ▶ or TRANS ◀. Spooling at full speed can be resumed by pressing TRANS (or STOP or PLAY).

### Symptoms that you may experience with too slow standard spooling speed:

Should your recorder spool at too low standard speed in spite of correct mechanic adjustment of the tape tension sensors, a moderate (electrical) reduction of the tape tension for the rewind and forward mode, by adjusting the respective trimmer potentiometers on the tape deck controller (Studer Manual 3.4.5), can provide better spooling results. Before doing this you should verify, and if necessary mechanically re-adjust, the force on the left and right hand tape tension sensors (Studer Manual 3.3)..

### Select Tape A / B

Press STOP and Tape A/B key simultaneously to select Tape A or B.

### Select NAB/CCIR Equalization

Press STOP and NAB/CCIR key simultaneously. The code switch JS7 on the Periphery-Controller has to be in position JS7=0, otherwise (at JS7=1) the audio parameters will be the same for NAB and CCIR equalization.

### VU-Meter

VU or PPM mode can be individually selected with the jumper on the back of the VU meters (Studer Manual 4.2.9.5)

### Display of stored LOC Addresses

Press STOP and respective LOC key simultaneously (LOC1, LOC2 or LOC START,...)

### Display of Recorder's operating hours

Press TRANS and ZERO LOC simultaneously.

### Tape Dump (waste basket operation)

When starting tape dump operation, pull the tape to the right. Pressing TAPE DUMP again, or STOP, switches off the tape dump mode.

## Cleaning the Tape Path

Cleaning of the tape path can be done as usual. For cleaning of the scrape flutter roller see your Studer Manual, 2.9.

## RAM Buffer Battery (BA1)

Studer Manual 2.7 and 2.7.1 (degraded operation), 3.1.2 (MP Unit), and Section 5 (MP Unit diagrams).

Check the accumulator occasionally and refresh if necessary, or replace after a couple of years. Before replacing the accumulator be sure that you have made a backup of your recorder's audio parameters, and re-load the audio parameters to your recorder after replacement of the accumulator! The accu-pack is soldered on the MP Unit. Concerning the accumulator type refer to the MP-Unit diagrams in Section 5 of your Studer Manual.

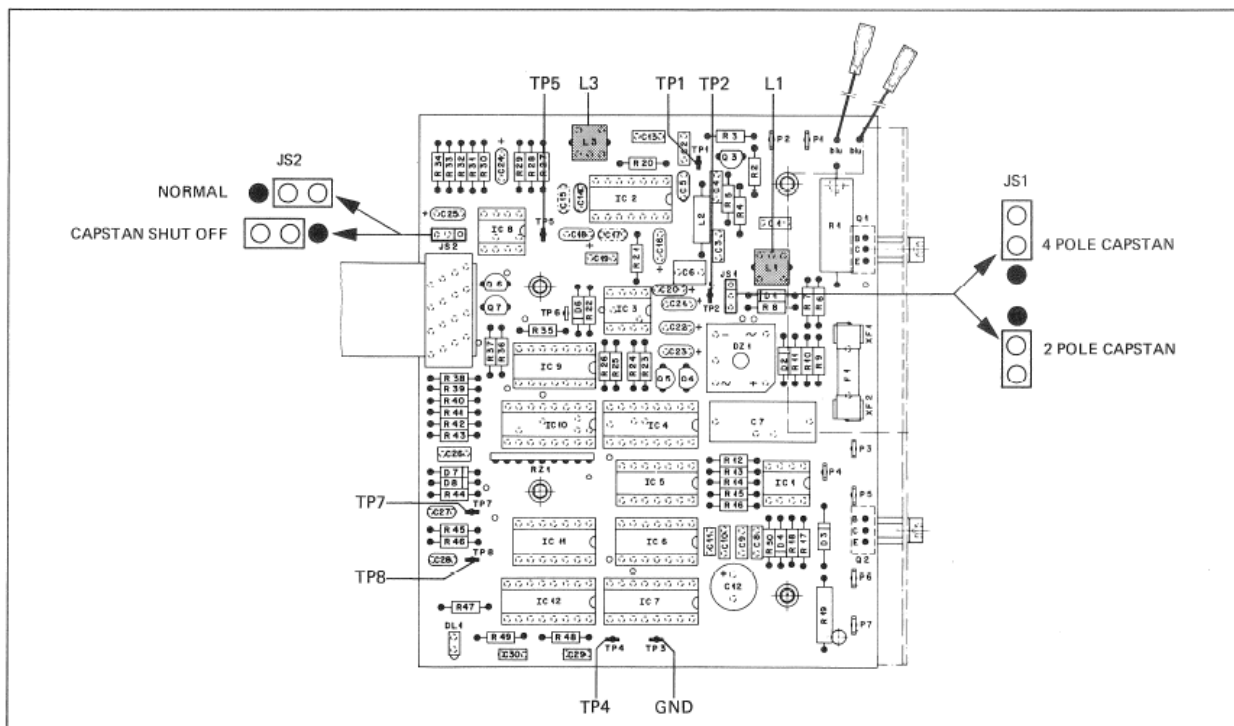
Should you play your recorder once in a while only, it may be necessary that you leave it switched on for some hours (or even over night) about once a week in order to charge the accumulator and to avoid total loss of the audio parameter to which your tape recorder was calibrated (if you do this with a Studer A810 it will be a good thing to set the jumper JS2 on the Capstan Motor Control print in the position "Capstan Shut Off" in order to protect the bearings of the capstan motor from unnecessary wear - for details see below).

My recorder has a Varta Ni-MH 3/V150H 3,6V 140mAh accu installed (3 x 1,2V cells, 140 mAh each, assembled to an accu-pack). Supply sources in central Europe: VRI GmbH, Wilhelm - Maybach - Strasse 4, D-73479 Ellwangen, or Conrad Electronic GmbH & Co KG.

## Capstan Motor

Studer Manual 2.9, 3.2.9, 3.4.6, 4.2.9.12, and Section 6 (Tape Transport Diagrams)

In order to protect the bearings of the capstan motor from unnecessary wear, the jumper JS2 on the capstan motor control print (Capstan Motor Control PCB / GR26) can be set in the position CAPSTAN SHUT OFF shown below. When JS2 is in position CAPSTAN SHUT OFF the capstan motor will switch off in case of „Tape Out“.



JS2 on the capstan motor control print is accessible from the rear of the recorder by using pincers. Handle cautiously in order not to loose the jumper.

## Cleaning the capstan shaft:

The capstan motor normally does not rotate in this position of JS2 when no tape is threaded. For cleaning of the capstan shaft the left-hand tape tension sensor is to be lifted slightly; the capstan motor will then rotate until the recorder is switched off or any of the tape command keys (except STOP) is pressed.

Various Operating Parameters of the tape recorder and the LOC Function Keys can be programmed with the code-switches JS 0 ... JS 19. The 20 code-switches are accessible on the rear of the Command Unit.

Note: After the operating parameters of the Command Unit have been changed a microprocessor reset must be initiated. Press the re-set push button on the MP-Unit, or switch off the recorder and switch on again after 5 seconds.

**Locator Function Keys**

Programming of the key functions is done with JS13-19 (see table in Studer Manual, or backside of foldable operating panel). The following programming of the LOC function keys I've found quite useful:

- LOC 1 = Saves a tape address. Press key sequence TRANS & LOC1 to save a tape address (press the key LOC1 only to spool the tape to the address saved)
- LOC 2 = LOCSTART spools the tape to the address of the last Play or Record start position
- LOC 3 = LIFTER to lift the tape lift pins
- LOC 4 = TAPE DUMP for waste basket operation

To program the above functions the settings are: JS13 – JS19 = 1 1 0 0 0 1 0. Of course all 4 LOC function keys can be programmed for saving tape addresses, same as LOC1. In this case the settings are: JS13 – JS19 =0.

**Drop-In / Drop-Out (Start Record / Start Play Mode)**

Drop-In (from Play mode): current settings require pressing of the REC+PLAY keys (JS12=1).  
 JS12=0 direct drop-in with REC key only.  
 JS12=1 drop-in with REC+PLAY

Drop-In / Drop-Out: the machine can be set that Erase- and Record heads are switched simultaneously, or with time offset in consideration of the tape speed to compensate the tape movement. With time offset: JS4=0 JS5=0. Simultaneously: JS4=1 JS5=1. (see also your Studer Manual 3.1.6, 3.5.7, 4.2.9) The settings on my recorder are for time offset.

**Lifter**

Lifter key mode can be set with JS3: JS3=0 Momentary-key, JS3=1 Flip-Flop key

**Tape Type Selector - Tape A/B**

Settings are made with JS6, JS7 and JS8 (refer to tables in Studer Manual 4.2.9, or to the backside of the foldable operating panel). The key on the Master Panel of my recorder is programmed for selecting the Tape Type (JS6=0, JS7 and JS8 therefore have no effect)

**Currently programmed Operating Parameters**

Setting of all code switches (JS0 .... JS19)

|   |         |     |   |
|---|---------|-----|---|
| 0 | (JS 00) | ON  | Time Code Mode  |
| 1 | (JS 01) | OFF | Time Code Mode  |
| 2 | (JS 02) | ON  | Time Code Mode  |
| 3 | (JS 03) | OFF | Lifter Key (set for momentary mode)                       |
| 4 | (JS 04) | OFF | Drop Out - Rec. & Play head w. time offset (enabled)      |
| 5 | (JS 05) | OFF | Drop In - Rec. & Play head w. time offset (enabled)       |
| 6 | (JS 06) | OFF | Tape Type Selection (by push buttons on the master panel) |
| 7 | (JS 07) | OFF | Tape Type Selection (no effect)                           |
| 8 | (JS 08) | OFF | Tape Type Selection (no effect)                           |
| 9 | (JS 09) | OFF | Tape Speed (set for 3-speed LS version)                   |
| 0 | (JS 10) | OFF | Tape Speed (set for 3-speed LS version)                   |
| 1 | (JS 11) | OFF | Tape Speed (set for 3-speed LS version)                   |
| 2 | (JS 12) | ON  | Drop-In (from play to record mode with REC+PLAY keys)     |
| 3 | (JS 13) | ON  | Programmable Keys (LOC/Function Keys - see above)         |
| 4 | (JS 14) | ON  | Programmable Keys (LOC/Function Keys - see above)         |
| 5 | (JS 15) | OFF | Programmable Keys (LOC/Function Keys - see above)         |
| 6 | (JS 16) | OFF | Programmable Keys (LOC/Function Keys - see above)         |
| 7 | (JS 17) | OFF | Programmable Keys (LOC/Function Keys - see above)         |
| 8 | (JS 18) | ON  | Programmable Keys (LOC/Function Keys - see above)         |
| 9 | (JS 19) | OFF | Programmable Keys (LOC/Function Keys - see above)         |

**Important:**

After changing the operating parameters of the Command Unit a microprocessor reset must be initiated. Press the re-set push button on the MP-Unit, or switch off the recorder and switch on again after 5 seconds.

