

# TALOMETER ZX

## OPERATION MANUAL

### 1. GENERAL INFORMATION

The new compact "Talometer" is an electronic taala aid for use by musicians of Carnatic style. The instrument displays all the 35 principal taalās of Carnatic music by an audio visual presentation.

The Talometer has facility for the selection and presentation of taala and jathi and nadai. It is also capable of being programmed by the user for performing any combination of Nadai for any number of whole avartams to enable repeated practice of specific passages. The compact Talometer also has a digital display to indicate the aksharas as they progress as well as the pitch and tempo.

The instrument is designed using state of the art microcomputer technology. It is compact, rugged and reliable. It can be operated on any voltage between 90 and 260V AC without using a voltage selector, as well as on a set of dry batteries.

### 2. DESCRIPTION

The instrument displays the taala by means of a row of 13 lamps (LEDs). Nine of these form the Laghu and four others form two Dhrutams, the green lamps denoting the visarjitham (wave of the hand). An additional lamp indicates the last Laghu of the avartam for those taalās having more than one Laghu. A separate lamp is provided to indicate the nadai beats whenever Nadai is selected "ON".

The instrument is provided with an ON/OFF-and VOLUME control. All other selections are made on a the keyboard. Seven keys marked with the following abbreviations select the desired taalās:

RPK	Rupaka
TRP	Tripata
JMP	Jampa
EKA	Eka
ATA	Ata
MAT	Matya
DHR	Dhruva

The same keys are also marked with the numbers 3 to 9 for selection of Jaati or Nadai. Selection of any taala is made by pressing the key marked TAALA followed by the desired Taala key. Selection of any JAATI is made by pressing the key marked JAATI followed by the desired number key. When any of the number keys are pressed without being preceded by the TAALA or JAATI keys, the number is treated as a NADAI selection.

The Tempo selection is made through two keys marked SLOW and FAST. These keys select the tempo range when the taala is stopped. The same keys increase or reduce the tempo within the same range when the taala is progressing. Three tempo ranges are provided. Pressing the SLOW key causes the speed to be reduced to half of its previous setting. Pressing the FAST key causes the speed to be increased to double the previous setting. Repeated pressing of these keys would cause successive tempo ranges to be selected in the SLOW or FAST direction till the slowest or the fastest range is reached. Beyond this limit, the corresponding keys would have no effect.

The key marked NADAI is used to select nadai ON or OFF. If Nadai is OFF, pressing this key would turn it ON. If it is ON, pressing this key would turn it OFF. If Nadai is selected OFF, the Nadai lamp does not light up and the audible tones correspond to the aksharas of the taala. If Nadai is selected ON, then the audible tones correspond to the last selected Nadai number. The Nadai lamp also flashes to correspond with the selected Nadai. Nadai can be selected ON or OFF even while the taala is progressing but the change would take effect only at the next akshara count. Similarly, the Nadai selection (2,3,4,5,6,7,or 9) can also be made while the taala is progressing, but the change would occur only at the next akshara count.

The START and STOP keys are used for starting or stopping the taala. The taala would always start from the first akshara of that taala. If any DELAY had been set earlier, the taala would commence with the corresponding delay.

The key marked DELAY is useful for a delayed start of the taala after pressing the START key. Every press of the DELAY key delays the start of the taala by one akshara when the START key is pressed next. The maximum Delay that can be set is one avartam. This key is effective only when the taala is stopped.

The PGM key enables programming the instrument for a sequence of nadai or jathi changes. Once programmed by the user, the nadai changes after each avartam to the next number programmed in this manner ( this feature is useful for practising nadai changes in music and dance as well as for teaching). The programmed sequence repeats itself as an endless loop. The programme remains in memory even when the instrument is switched off and is overwritten only when a new programme is entered.

### 3. OPERATING INSTRUCTIONS

The instrument can be operated in any position. However, it is most convenient to position it upright. Place the instrument at a convenient position so that the LEDs face you.

- 3.1 Insert the AC mains cord for AC mains operation into the socket at the rear of the instrument. Insert the plug into the wall socket.. For battery operation, remove the AC mains cord.
- 3.2 Switch the unit ON by pressing the POWER button. The instrument performs a self-test and the display initially lights up all the digits, followed by a scrolling display of "radel". Finally the display shows "t5.4" indicating Taala Triputa , Jaati 4.
- 3.3 Select the desired taala by pressing the TAALA key . The first digit will now flash. Now press the desired taala key. The first digit changes to the same number as on the selected taala key.eg;to select Rupaka taala, press TAALA and then press RPK. (If no selection is initially made for the taala, the Triputa taala is automatically selected by the instrument).
- 3.4 Select the desired Jaati by pressing the JAATI key. The digit after the decimal will now flash. Press the desired number key. The digit will correspondingly change.Eg; to select Khanda Jaati, press JAATI and then press 5. (If no selection is initially made for the Jaati, the chaturra Jaati is automatically selected).
- 3.5 Select the desired Nadai by pressing the number key directly (chaturra nadai is automatically selected at the time of the initial switching ON process). **For display of 2-kalai speed, select '2'.**
- 3.6 Press the START key to start the taala. The display will now start counting the aksharas as the taala progresses.
- 3.7 Press NADAI key to switch ON or OFF the Nadai presentation.
- 3.8 Press the keys marked PITCH to adjust the audio tone to the desired sruti or note. The sruthi would increase or decrease in steps of half notes. For fine tuning, press ALT followed by the desired pitch keys. The digital display would temporarily change to indicate the pitch.
- 3.9 Press the FAST or SLOW keys to increase or decrease the speed. The change would occur in small steps. For finer adjustment, press ALT key followed by the FAST or SLOW key. Whenever these keys are pressed, the digital display would temporarily change to indicate the TEMPO in AKSHARAS PER MINUTE.
- 3.10 For muting the sounds corresponding to any akshara, press the MUTE key when that particular akshara is being indicated. The MUTE selection is cancelled automatically when either taala or jaati is selected.  
Usage of Mute key : For Rupaka Taala, set the Taala to RPK and Jaati to 4. Select a slow speed and start the taala. Press the MUTE key immediately after the following aksharas - 2,4,5,6. Increase the speed to obtain the desired speed at which Rupaka Taala is played.

**See also Appendix for usage of MUTE key for Chaapu taalas.**

- 3.11 Pressing the START key while the taala is progressing causes the taala to jump to the start of the avartam.
- 3.12 Selection of Taala, Jaati and Nadai once made, are retained till these are changed by new selections or the instrument is switched OFF.

### 4. MEMORY FACILITY

- 4.1 The currently selected PITCH & TEMPO can be stored in memory for future recall. Press ALT key followed by MEM key when the taala is progressing. The display would temporarily change to "st".

### 5. DELAYED START

- 5.1 At the time of initial switching ON, the delay setting is set to zero. The taala therefore starts with the first akshara of the taala. If a delayed start is required, press the DELAY key.
- 5.2 Press START key and note that the taala now starts one akshara earlier.
- 5.3 Repeat the process in 5.1 if longer delay is required.
- 5.4 Once a DELAY is set, it remains till it is cancelled or another taala is selected. The DELAY setting achieved by the above mentioned process can be cancelled by just selecting the taala (or a change of taala) again.  
Note: This key is active only when the taala is stopped.

## 6. PROGRAMMING

To program the instrument to perform a sequence of Nadais, proceed as follows:

- 6.1 Press PGM key to enter the programming mode. The display indicates "Pr".
- 6.2 Press any sequence of the number keys as required. The display shows the number of avartams programmed.
- 6.3 At the end of the sequence, press START key. This completes the programming mode and the programme is stored in memory. The display confirms this with "st". The programmed sequence of nadai can be executed as follows:
- 6.3 Press PGM and then press START key. The taala would now start with the first nadai number and after each avartam, would change to the next number in the sequence.  
Eg; For a sequence of one avartam of thisra nadai, two avartams of khanda nadai and three avartams of misra nadai, press PGM, 3, 5, 5, 7, 7, 7, START. For executing this programme, press PGM, START.
- 6.4 Press STOP key whenever you wish to stop the taala sequence.
- 6.5 The same programme can be re-commenced by pressing PGM and START.
- 6.6 For a normal taala operating mode, press START without pressing PGM. The taala cycle would now proceed without any reference to the programmed sequence.

## 7. BATTERY OPERATION

- 7.1 The "Talometer" can be operated on four 1.5v 'C' size dry cell batteries. Insert the batteries into the battery compartment at the rear of the instrument. On power failure, the Talometer automatically switches over to battery operation. You can also remove the mains cord from the instrument and operate on batteries. Operate as indicated in para 3.
- 7.2 Check the condition of the batteries once in 15 days to prevent leakage and damage to the instrument by corrosion.
- 7.3 Weak batteries are indicated by irregular and sudden stoppage of the taala.

## 8. SERVICING AND REPAIRS

Normally, no periodic servicing is required. Should any problems arise, it is advisable to contact the dealer or manufacturer for advice and repairs. Servicing by untrained technicians may cause permanent damage to sensitive components in the instrument.

## 9. HELPFUL HINTS

If on pressing the START key, the instrument does not operate correctly, switch OFF the instrument, wait for 20 seconds, and restart.

- 9.1 Any reduction or sudden fluctuation in the Mains Voltage or Battery voltage may cause may cause the instrument to stop or behave erratically. In such a case, switch OFF and restart once again.
- 9.2 The "Talometer" is a very reliable and rugged instrument. Failure of components is very rare. No damage can be caused to it by pressing the wrong keys or operating the controls in the wrong order.

*Note: Due to continuous efforts at improvement and further innovation, the manufacturers reserve the right to make changes in design and performance of the instrument at their discretion.*

## APPENDIX

A 1 . The description and operating instructions in this manual have dealt with the conventional taalas of Carnatic music only. However, the "Talometer" can also be used for the unconventional taalas such as the Chapu (Khanda, Misra & Sankeerna) taalas .

A.1.1. The Chapu taalas of Carnatic music can be obtained as follows:

- |  |                                |
|--|--------------------------------|
| (i) Khanda Chapu : Select Taala RPK and Jaati 3;     | Mute the aksharas 2 & 5        |
| (ii) Misra Chapu : Select Taala TRP and Jaati 3;     | Mute the aksharas 2, 3, 5 & 7. |
| (iii) Sankeerna Chapu: Select Taala TRP and Jaati 5; | Mute the aksharas 2,5,7 & 9.   |

### **CAUTION : While operating the Talometer Dx:**

- Provide a gap of at least 15 seconds between switching OFF the instrument and switching it ON again to ensure

reliable operation.

- Avoid using the instrument close to other electronic equipment such as mobile or cordless phones, pagers, etc.

**VIDEO DEMONSTRATION:** [http://www.youtube.com/view\\_play\\_list?p=70C14EEC51461FF2](http://www.youtube.com/view_play_list?p=70C14EEC51461FF2)

#### **WARRANTY**

Like all Radel products, the Talometer Dx carries a warranty of 3 years from the date of sale. This warranty is subject to the standard terms and conditions of the manufacturer. All users are advised to ensure that the warranty counterfoils attached to this manual are returned to Radel Electronics Pvt. Ltd. within 15 days of purchase. In case of any problems, users are advised to contact the manufacturers without any delay giving details of the problem, date of purchase, dealer's name and purchase document reference.

The manufacturers invite users to feel free to send any feedback, suggestions and special requirements regarding the product to them.

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