	Technical Specification for Type Approval of Taximeters	S/N.	CNPA 21
		Rev.	2

1. This Technical Specification is developed pursuant to Paragraph 3, Articles 25 of the Weights and Measures Act.

2. The date of promulgation, document number, date of enforcement and content of amendment are listed as follows:

Rev.	Date of Promulgation	Document No. (Ching-Piao-Szu-Tsu)	Date of Enforcement	Content of Amendment
1	21.05.2003	No.09240004910	01.07.2003	
2	06.09.2006	No.09540003690	06.09.2006	

3. This technical specification is formulated with reference to the following international specifications:

CNS 12626 Method of Test for Electronic Taximeter (28.12.1992)

Date of Promulgation	Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs	Date of Enforcement
06.09.2006		**06.09.2006**

1. Scope: this specification applies to electronic taximeters (hereinafter referred to as "taximeters"), i.e., with electronic devices, a pricing meter installed in a profit seeking small bus or a taxi to calculate and display the amount payable by the passenger.

2. Definitions of Terms
   2.1 Set number of signals: the number of pulse waves received by a taximeter, a numeric value representing a distance travelled of 1 km.
   2.2 Initial charge: a minimum fixed sum to be paid by the passenger.
   2.3 Distance count: the pricing mode based on distance travelled.
   2.4 Time count: the pricing mode for calculating the charge according to the time of delay under a prescribed speed.
   2.5 Distance and time count: the pricing mode for calculating the charge according to the distance travelled and the time of delay under a prescribed speed.
   2.6 Fare: the charge calculated by the taximeter.
   2.7 Range setting: related parameters for setting tariffs.

3. Appearance
   3.1 The following items shall be marked or indicated correctly on the front panel of a taximeter: serial number, type, fare (NTD), distance (kilometer), time (minute, second), signal setup (revolutions), brand, type approval number and the space left for adherence of a verification compliance tag.
   A taximeter with an automatic control of the surcharge calculation shall indicate the real time.
   3.2 Marking and indicating: except the trademark, type, type approval number and serial number of taximeter which must be branded, inscribed, engraved or printed on the frontal panel (using a color in contrast to the frontal panel), all other characters may be indicated; the height of the characters of trademark, fare, NTD, etc. must be not less than 7 mm. The characters of distance, kilometer, time, minute, and second must not be less than 5 mm. All the markings at the front shall be correct, clearly legible and indelible.
   3.3 The display columns of time, distance and fare shall be distinctly separated and consistent with the corresponding text marking.
   3.4 The keys of a taximeter shall be installed on the body of the taximeter, and should not be loose.
   3.5 In principle, the cover of a taximeter shall be a unidirectional single cover. The cover shall be drilled with screw holes on the left and right sides; screw nuts must be used to tighten the two joining faces from inside to outside or from up to down. Holes shall be drilled on the screw stems within three screw threads for threading to seal the taximeter, and there shall be no device shielding the lead seal and screws.

When the lead seal of the taximeter is not removed but the setscrews are loosened, it must not be in contact with the components inside the cover.

3.6 The colors of electric wires used in the circuits of a taximeter are prescribed as follows:

(1) A red wire shall be connected to the anode of the battery.

(2) A black wire connected to the cathode of the battery and the cathode of the sensor plug.

(3) A green wire connected to the small light switch.

(4) A brown wire connected to the TAXI light.

(5) An orange wire connected to the anode of the sensor plug.

(6) A yellow wire connected to the signal input terminal of the sensor.

3.7 A taximeter must not be provided with the function of changing range setting from outside without removing the lead seal, unless for regulating the tariff rate, the transportation competent authority resets the tariff parameters via the IC cards.

3.8 The shell of a taximeter shall be firm and resistant to deformation.

3.9 A taximeter shall be equipped with a device for processing or converting the signals required by the car.

3.10 For a taximeter with printing function, the printing output end can be either a modular or an external type; the latter one shall be a fixed receptacle. All the receptacles for circuits shall be located on a same face. The measuring performance of the taximeter must not be changed after an output system is added.

4. Operational Functions

4.1 The functions of the keys of a taximeter are as follows:

4.1.1 Press the “Distance and Time function” key, the function of distance based or distance and time based pricing shall be activated and the initial charge shall be displayed in the fare column.

4.1.2 for a taximeter without the automatically controlled function of surcharge calculation, pressing the “Night Surcharge function” key, the night surcharge shall be added on to the distance and time based pricing. Press the “Distance and Time function” key again, and the no surcharge mode shall return it to the no-surcharge mode.

4.1.3 Press the “Stop” key to pause time based pricing of the taximeter; press it again shall return it to its original status.

4.1.4 The “Print” key shall work only when the “Stop” key is pressed. Pressing this key shall have the function of printing normally. The “Print” key is not an obligation for a taximeter with automatical print-out function, which shall work automatically when the “Stop” key is pressed.

4.1.5 When any function key is pressed, a beep prompt shall be given and clearly display or indicate the conditions of the taximeter used.

4.1.6 When a fare calculation is based on the drive by distance and time, the distance

based charge and the time based charge shall be calculated separately.

4.2 The display of a taximeter shall conform to the following requirements:

4.2.1 Fare column

To display the total fare of the drive by distance, time and night surcharge in the unit price of "NTD." The height of the characters shall be more than 10 mm. The taximeter shall flash and beep simultaneously when the amount changes.

4.2.2 Time column

Display the fare of the drive by time. Start the counting of time while the speed of vehicle is below the specified value, and stop at the speed of vehicle over the specified value. The time is accumulated and displayed in minute and second. The height of displaying numbers shall not be less than 6 mm and the maximum display range shall be 99 minutes and 59 seconds at least.

4.2.3 Distance column:

Displays the fare of the drive by distance. The distance based pricing in km, rounded to the 1st decimal place. The height of displaying numbers shall be not less than 6 mm. The distance count shall work with obvious signals LED.

4.2.4 There should be no indication "zero" prior to a valid number displayed in a display column.

4.2.5 For the taximeter with automatically controlled surcharge function, the height of displaying numbers in hour and minute of time shall be more than 6 mm.

5. Performance Test

5.1 A taximeter shall work normally when the power voltage varies between 9V and 16V. Original values shall be displayed when the voltage declines to 6V and then return to 12V within 10 seconds.

The displayed fare shall not be changed after the power is switched 5 times continuously under an ordinary working voltage.

5.2 A power noise disturbance test shall be performed on a taximeter according to CNS 12626 Section 4.3; the taximeter must be free of functional abnormality during the test.

5.3 A voltage test shall be performed on a taximeter according to CNS 12626 Section 4.3.2; the taximeter must be free of functional abnormality after the test.

5.4 A static electricity test shall be performed on a taximeter according to CNS 12626 Section 4.4; the taximeter must be free of functional abnormality after the test.

5.5 An audio volume test shall be performed on a taximeter according to CNS 12626 Section 4.5 in a testing room with background noise of less than 12dB (A). The test result, i.e. the indicated value on the audio volume meter, shall be between 60 to 90 dB (A). The taximeter shall sound once at change of fee in the mileage/time pricing mode, or sound twice at change of fare in the night surcharge-pricing mode. The

duration of each prompt sound shall be between 0.2 to 0.5 seconds.

5.6 After an electromagnetic wave disturbance test is performed on a taximeter according to CNS 12626 Section 4.6.1, the radiation of electromagnetic waves from a distance of 1 meter to the taximeter must not exceed the limits prescribed in Table 1.

Table 1

Radiation Frequency	Intensity
30 MHz~48 MHz	$207.36\times10^4 / f^2 \mu V/m$
48 MHz~1 GHz	900 μV/m

Note: "f" must be in MHz

5.7 An electromagnetic wave radiation endurance test shall be performed on a taximeter according to CNS 12626 Section 4.6.2; the taximeter must be free of functional abnormality during the test.

5.8 A temperature property test, low temperature test, high temperature test, temperature circulation test and temperature/humidity test shall be performed on a taximeter according to CNS 12626 Section 4.7 and Section 4.8. The taximeter must be free of deformation or damage in appearance and mechanical structure or any functional abnormality after the test.

5.9 After a resonance frequency test, vibration characterization test, vibration fatigue test and scanning vibration fatigue test are performed on a taximeter according to CNS 12626 Section 4.9, the appearance and mechanical structure of the taximeter must be free of damage and the electric properties must not deviate from the rated values.

5.10 An impact test shall be performed on a taximeter according to CNS 12626 Section 4.10. Errors must not occur during the test, the appearance and mechanical structure of the taximeter must be free of damage, and the electrical properties must not deviate from the rated values.

5.11 The indication errors of a taximeter shall be verified by using the stationary verification after a performance test is performed on a taximeter according to CNS 12626. The errors shall conform to the requirements of Technical Specification for Verification and Inspection of Taximeters.