

Manual

Serial interface for TUNING SET CTS-7-PE (Rel. 1.00)

1. Protocoll

Baudrate: 19200,
Databits: 7,
Parity: Ungerade,
Stopbit: 1,
Protocol: XON/XOFF.

Each message to CTS-7 have to be closed with <CR> (13).

CTS-7 will close each message with < CR(13) + LF(10) >.

CTS-7 will answer with "Q" when a message is received successfully, if you can find no other statement in this manual.

If there is an error CTS-7 will send „E“ + <CR + LF>.

2. Dialog

2.1. Status call

Call modell of the device: **?D**

Answer:
CTS-7

Getting general state of device: **?P**

Answer:

TUNE_PROG__ =	4	<i>number of instrument program</i>
NAME_____ =	HARPSICORD	<i>name of instrument program</i>
TEMP_HIST__ =	5	<i>number of historical temperament</i>
NAME_____ =	BRUDER/P.VIER_____	<i>name of historical temperament</i>
CENTRELAT__ =	0	<i>cent relation note 0 = A, 1 = B, etc.</i>
TRANSPOSER_ =	0	<i>transposer 0 = off, 1 = a->b, etc.</i>
CELSI/CENT__ =	0	<i>cent per °C (thermosensor connected only.)</i>
CELSI/OFFS_ =	200	<i>thermosensor offset (thermosensor connected only)</i>

Getting synthesizer state: **?S**

Answer:

SN	57	<i>note number (1...116)</i>
SP	44000	<i>concert pitch (22000 ... 88000 *0.01 Hz)</i>
SC	0	<i>cent adjustment (-999 ... +999 * 0.1 Cent)</i>
ST	1	<i>partial adjustment (1 ... 8)</i>
SI	0	<i>interval adjustment (0 ... 4)</i>
SS	167	<i>thermosensor temperature * 0.1/ °C thermosensor connected only)</i>
SR	0	<i>thermosensor cents for correction</i>

2.2. Getting Data from the Tuning Set

Send all data

DA

Answer:

```
=====
NV_DATA_____
TUNE_PROGR_ =      1          curent instrument program
CELSI_OFFS_ =      0          calibration of thermosensor
END_SECTION
=====
Data of the historical temperaments 2 ... 80
=====
TEMP_NUMBER =      2          number of temperament
NAME_____ = BACH/BARNES_____ name of temperament
CENTS_____      cents of the temperament (* 0.1 cent)
;  _A_  Bb_  _B_  _C_  C#_  _D_  D#_  _E_  _F_  F#_  _G_  G#_
   0,  60,  0,  60,  0,  20,  40, -20,  80, -20,  40,  20,
END_SECTION
=====
Daten der Instrumentenprogramme 2...60
=====
TUNE_PROG__ =      2          number of instrument program
NAME_____ = PIANO_STRETCH 1  name of instrument program
PITCH_____ =  44000         concert pitch
TEMP_HIST__ =      0          number of historical temperament
CENTRELAT__ =      0          cent relation for historical temperament
TRANSPOSER_ =      0          transposer for historical temperament
CELSI/CENT__ =      0          cents per °C for thermosensor
CELSI/OFFS_ =     200         offset for thermosensor (* 0.1 °C)
=====
CENTS_____      cents for the stretching (* 0,1 Cent)
;  _C_  C#_  _D_  D#_  _E_  _F_  F#_  _G_  G#_  _A_  Bb_  _B_
-500, -500, -500, -500, -500, -500, -500, -500, -500, -440, -340, -280,
-240, -200, -170, -150, -135, -120, -105, -95, -80, -110, -100, -90,
-80, -75, -65, -55, -50, -45, -35, -30, -25, -60, -50, -45,
-40, -36, -28, -25, -22, -20, -18, -16, -14, -12, -11, -10,
-9, -8, -7, -6, -5, -4, -3, -2, -1, 0, 0, 0,
0, 0, 0, 0, 0, 1, 2, 3, 4, 5, 6, 7,
8, 9, 10, 12, 15, 18, 22, 26, 30, 35, 40, 45,
55, 65, 75, 90, 105, 120, 140, 170, 200, 235, 295, 345,
500, 630, 680, 710, 740, 770, 800, 830, 860, 900, 999, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
=====
PARTIALS_____      partial adjustment („0“ = note Stepp over, „-1“ jump to next, „-1“)
;  _C_  C#_  _D_  D#_  _E_  _F_  F#_  _G_  G#_  _A_  Bb_  _B_
  4,  4,  4,  4,  4,  4,  4,  4,  4,  4,  4,  4,  4,
  4,  4,  4,  4,  4,  4,  4,  4,  4,  2,  2,  2,
  2,  2,  2,  2,  2,  2,  2,  2,  2,  1,  1,  1,
  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,
  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,
  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,
  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,
  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,  1,
=====
END_SECTION
=====
Closing the file.
=====
END_____
```

2.3. Selective data access.

Send data of all instrument programs:	DI
Send NV-data:	DD
Send data of current instrument program:	DS
Send data of all historical temperaments:	DT

2.4. Storing of data into the Tuning Set

Start data receive:	DE
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Afterwards send the text-file with your stored data to the set. You may send data of single instruments. The data for transmission should be closed like this:

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;=====
END_____
```

2.5. Statements for synthesizer control

Set current note number (XXX = 1...116):	CN XXX
Set current concert pitch (XXX = 38000 ...+88000 *0.01 Hz):	CP XXXXX
Set current cent adjustment (XXX = -999 ...+999 *0.1 Cent):	CC XXX
Current partial adjustment (1...8):	CT X
Current interval adjustment (0...4):	CN X

2.6. Other statements to adjust the device

Enter in tune mode:	FE
Leave tune mode:	FX
Set number of instrument program:	P XX (XX = 1...60)
Factory reset:	DU
Audible tone volume 1:	S1
Audible tone volume 2:	S2
Audible tone off:	S0