

Unicont SPb Ltd

**Data Terminal
DT-310**

Operating Manual
(310-9-10112011)

St. Petersburg
2011

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This operating manual (OM) covers data terminals of DT-310 and DT-310-TS models (hereinafter referred as DT).

OM is intended to study design, operating principle and operation regulations for DT. Besides, OM can be applied as a source of data about DT to draw up the appropriate sections for operating documentation for apparatus, in which DT can be used as a component.

1. DEVICE DESCRIPTION

DT is intended for operation on marine and river vessels in dry service facilities of deckhouse, superstructures or lower decks. It can be used as a part of automation and radio navigation systems.

DT-310 is a panel computer made in single computer casing with LCD TFT-display. DT can be used independently and in combination with other equipment as PC, control, indication or monitoring device by the customer's request.

DT is made in two designs: DT-310 and DT-310-TS. DT-310-TS model differs from DT-310 model by availability of touch screen.

2. DELIVERY SET

1. Data terminal DT-310 (DT-310-TS)	1 pc.
2. Bracket for desktop mounting	1 pc.
3. Fixing (wing) screw for DT fastening to the bracket	2 pcs.
4. Power cable 2 m	1 pc.
5. Interface cable DB-9F/DB-9M, 1.8 m	1 pc.
6. Connector D-Sub (DB-9F)	2 pcs.
7. Operating Manual	1 pcs.
8. Disk with drivers	1 pcs.

DT-310 can be equipped with the following options by the customer's request:

- Operating system (OS): Windows XP Embedded, MS-DOS
- Software: by the customer's order
- Flash drive for OS and software restore
- Null modem cable (DB-9F/DB-9F), 1.8 m
- Cable Ethernet, 3 m
- Meteorological sensor (WXT520, PB150/PB200) with cable 10 m

ATTENTION! While working programs of data terminal DT-310 in operating system MS-DOS, images on the screen will be displayed not in full screen size (approximately by 2/3 of general screen size). This event is caused by the feature of architecture of processor board built into data terminal DT-310. Solution of this problem amounts to use of program DosBox. Please, contact with service department of the manufacturer concerning issues (service@unicont.spb.ru)

Additional options shall be determined by the customer and agreed with the supplier while executing order for device.

3. SPECIFICATIONS

Power voltage: 9..36 VDC
Consumed power: 40 W (max)

Computer Specifications:

Processor: Vortex86DX 800 MHz
RAM: 128 MB DDR2 (256 MB – option)
Hard disk, type: 1.0 GB, SSD (Compact Flash) (2.0 GB – option)

Internal Display Specifications:

	Default	Optional
Display size	10,4"	
Resolution	800 x 600 (SVGA)	640 x 480
Lighting type	light-emitting-diode (LED), “deep” dimming,	
Brightness	400 Cd/m ²	450 Cd/m ²
Contrast ratio	700:1	
Viewing angle	160°	
Response time	30 ms (Gray-to-gray)	

Screen protection: for DT-310 - organic glass 3 mm
for DT-310-TS – touch screen

Controls:

Keys: 3 pcs. (adjustment of brightness and power on/off)
Manual mouse imitator built-in resistive touch screen
installed only for model DT-310-TS

Data Terminal Ports DT-310:

Serial asynchronous interface: 1 x RS-232 (DB-9M), full-featured COM port
2 x RS-232/RS-422 (DB-9M),
1 x RS-232/RS-422 (DB-9M) with pins of
12V DC (refer to para. 4.2.4 Table C)
Parallel interface 1 x LPT (DB-25F)
USB ports 3 x USB (Type A)
LAN 1 x Ethernet (RG 45)

Indication:

DT status indicator Green LED (on/off)
Alarm indicator Red LED

Types of Alarm Detectors:

Sound: Buzzer
Light: LED (red)

Performances:

Protection class: IP 22
Operating temperature -15 .. + 55°C
Storage temperature -30 .. + 70°C
Overall dimensions 290 x 243 x 118 mm
Weight: 4150 g

4. DEVICE INSTALLATION AND CONNECTION

4.1 Device Installation

DT is installed in the following sequence of actions:

1. Select and prepare location for device installation in order to provide free access, cable input and connector attaching. DT body allows using it both for mounting on the horizontal surface and for panel installation.

ATTENTION! When choosing DT installation location it is necessary to take into account safe distance to window so that while window opening splashes don't get into the device.

ATTENTION! DT shall be installed at 2 m minimum from magnetic compass.

a) DT installation into panel:

For DT installation into the panel the location shall be prepared according to the drawing (refer to Figure 1)

DT is fastened from the inside of the panel into holes from the reverse side in the DT body corners by screws M4 x 12 mm (at panel thickness 2 mm). DT fastening reliability shall be checked by manual effort after installation.

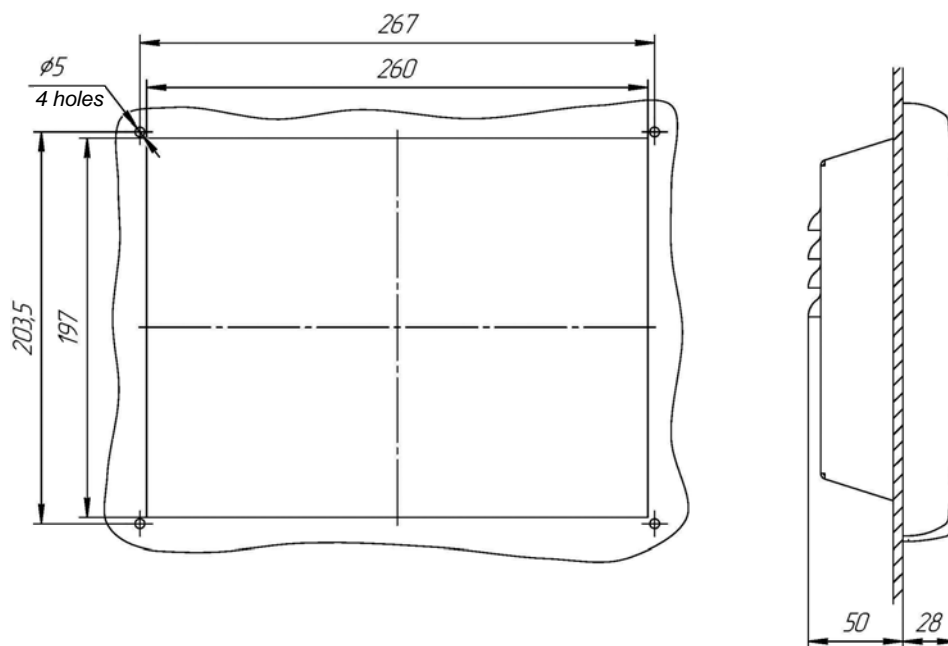


Figure 1 DT Installation into Panel. Cutout Dimensions.

b) DT Installation on the Horizontal Surface:

DT is installed on the horizontal (or inclined) surface by means of special bracket (bracket is delivered c/w DT). Installation location is prepared according to the outline drawing and arrangement of mounting holes (refer to Figure 2 and Figure 3). Prior to DT installation on the surface the bracket shall be disconnected from DT. Depending on the surface the bracket is fastened to it by screws M4 or self-tapping screws through special holes (refer to Figure 3), then DT is installed into the bracket by special drawbolts (wing type delivered c/w DT) according to the drawing (refer to Figure 4). Its fastening reliability shall be checked by manual effort after installation.

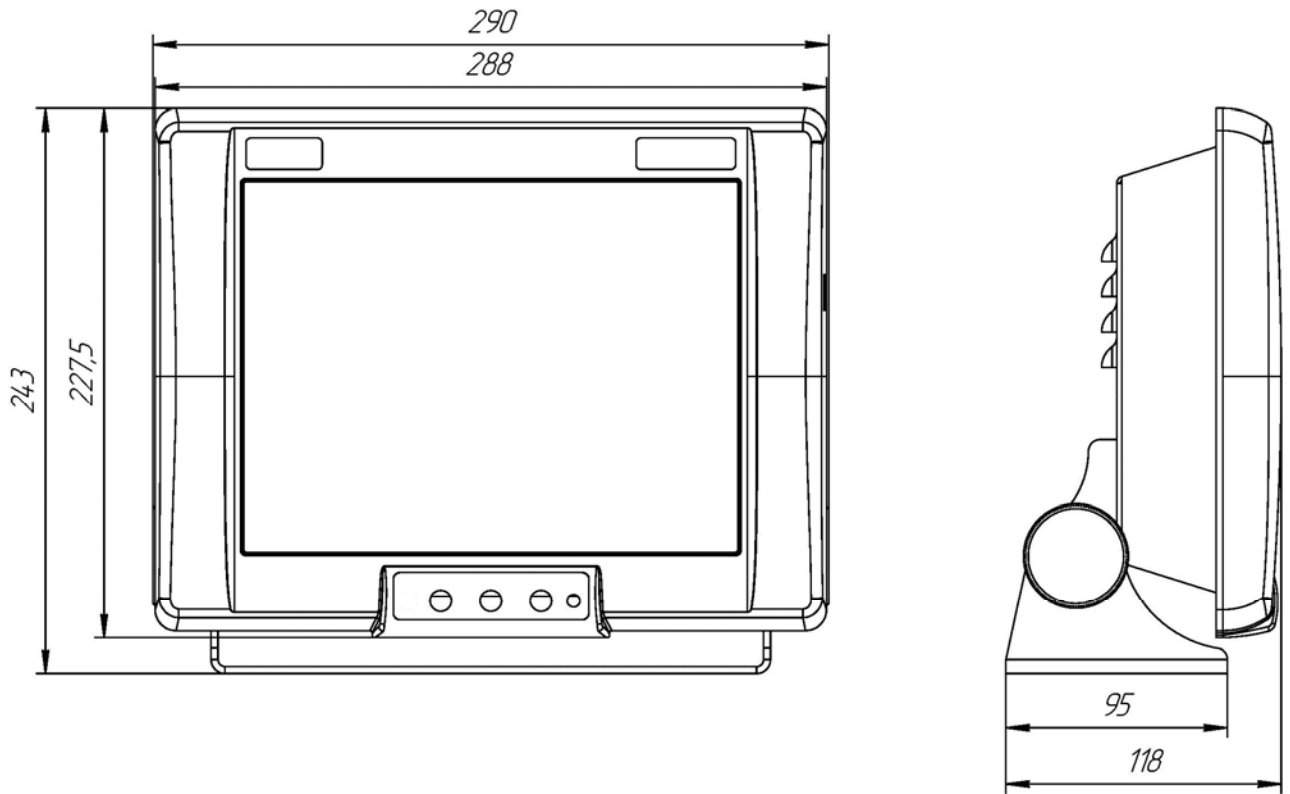


Figure 2 Outline Drawing.

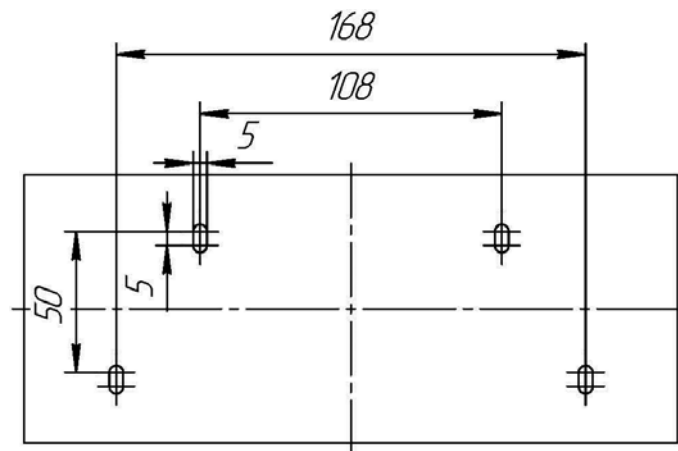


Figure 3 DT Bracket Fastening Hole Arrangement

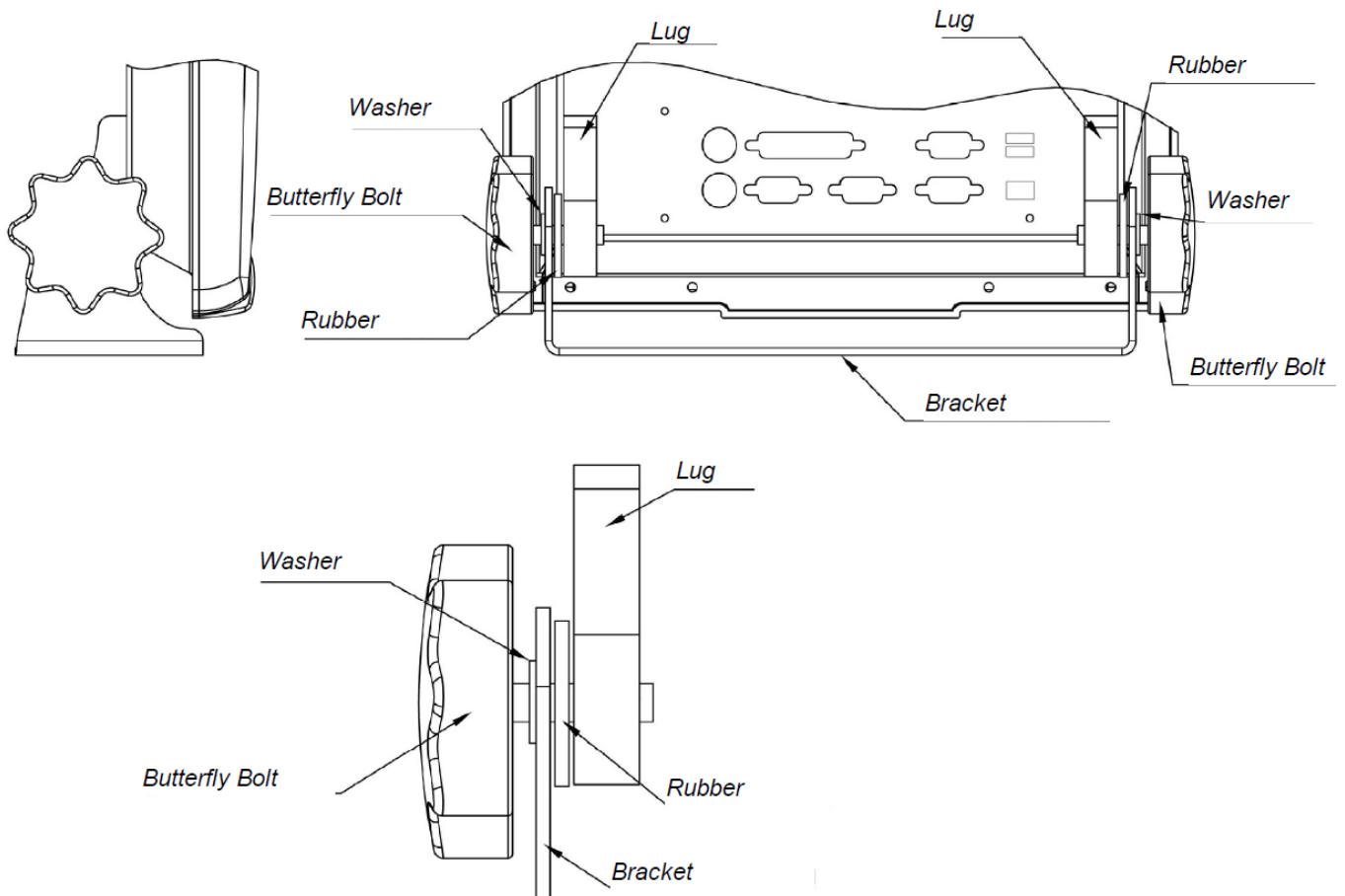


Figure 4 DT Fastening to Bracket.

2. Connecting cables shall be laid from the external devices and power and grounding wires to DT.
3. External devices, grounding and power wires shall be attached to DT according to para. 4.2 of the manual.

4.2 DT Power and External Device Connection

4.2.1. DT Power and External Device Connection Procedure

DT is connected with external devices and power system in the following order:

1. DT body shall be grounded to common grounding busbar. Grounding bolt (M5) is located from DT reverse side near USB and LAN connectors (refer to Figure 5 and Figure 6).
 2. Connection cables of the external devices shall be attached to DT connectors according to the arrangement and purpose of connectors (refer to para. 4.2.2– 4.2.4). Tighten mounting screws of connectors in order to prevent arbitrary loosening of connected cables.
 3. Attach power cable to connector “POWER” of DT (refer to para.4.2.2– 4.2.4).
- ATTENTION!** Prior to power supply to DT, it is necessary to make sure, that value of power voltage corresponds to the requirements for this device power (refer to para. 3).
4. After power supply to DT the device passes into standby mode of “Power” key pressing. Press key Power for DT connection (Power key functionality is described in para. 6 of the manual).
 5. Wait for operating system (OS) starting and software loading.

6. Check DT serviceability by performing call operations for programs and right-click menu by means of mouse and text keyboard input.

Safety Measures:

- Prevent device getting into water and water entry inside the device.
- While device surface cleaning, don't use organic solvents in order to prevent damage of signs and letterings.

Prohibited:

- Subject cables connected with DT to tension;
- Use device for other purposes;
- Use defective device.

4.2.2. DT Connector Arrangement

External devices and power system are attached to DT by means of connectors led to the back panel of DT and USB connector led to the right side panel of DT (refer to Figure 5 and Figure 6).

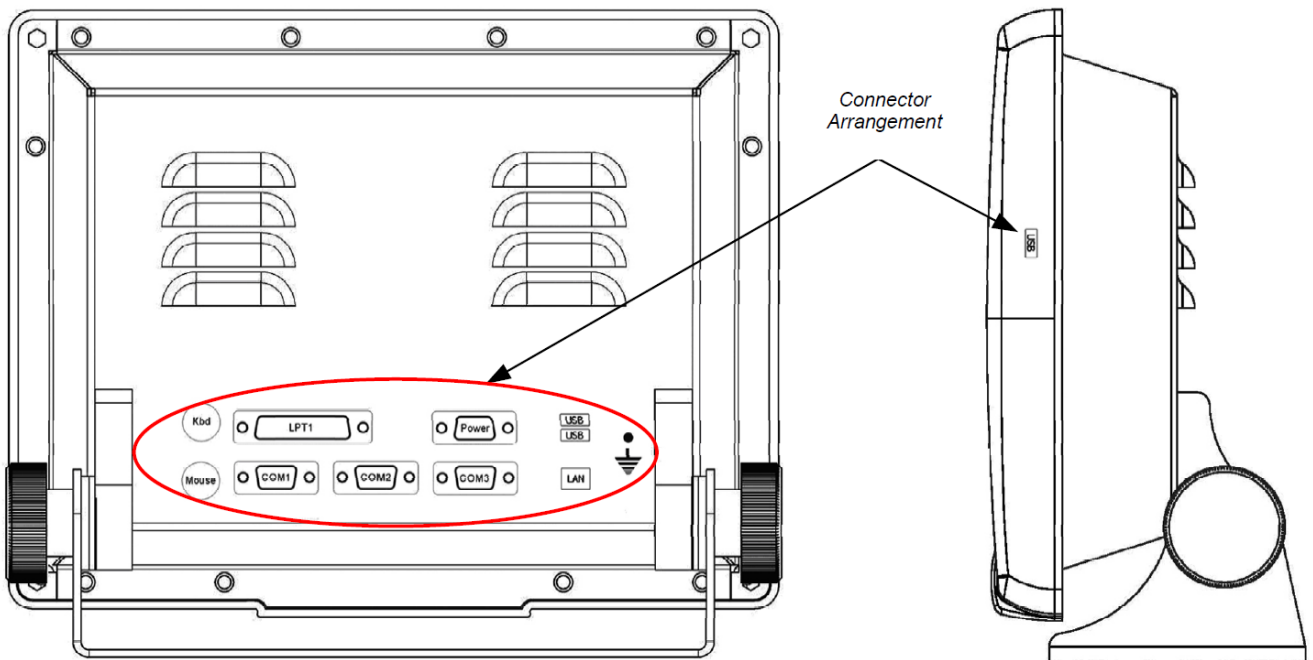


Figure 5 DT Connector Arrangement.

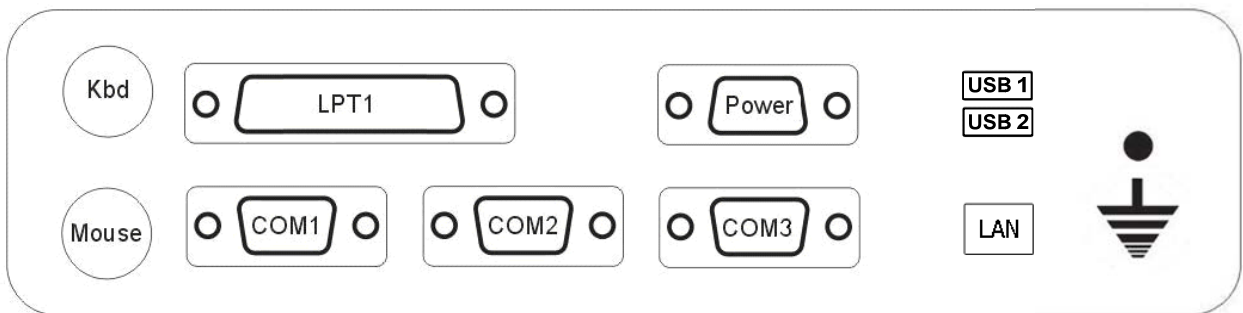


Figure 6 Purpose of Connectors for DT-310.

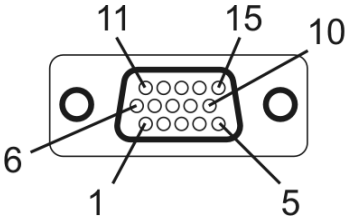
4.2.3. Purpose of Connectors for DT-310

Table 1 - Purpose of Connectors for DT-310.

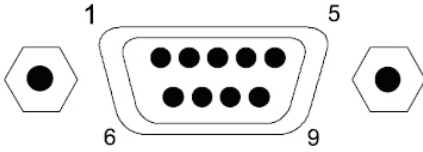
Designation	Type	Connector Purpose
Mouse (PS/2)	DIN-6	Connector for “mouse” or “trackball” attaching
Kbd (PS/2)	DIN-6	Connector for keyboard attaching
COM1	DB-9M	Connector of serial interface RS-232 full-featured
COM2	DB-9M	Connector of serial interface RS-232\422 with pins of 12 V (refer to para. 4.2.4 subpara. c))
COM3	DB-9M	Connector of serial interface RS-232\422 (refer to para. 4.2.4 subpara. d))
POWER	DB-15F	Connector for power supply 9..36 V DC
LPT	DB-25F	Connector for printer attaching
USB1, USB2	USB, Type A	Connector for USB device attaching
USB3 (side)	USB, Type A	Connector for USB device attaching
LAN	RJ-45	Connector for Ethernet network attaching

4.2.4. Purpose of Pins for DT-310 Data Terminal Connectors

a) Description of Pins for POWER Connector:

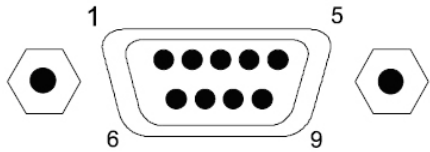
	Pin No.	Purpose
	1 – 5	0 VDC
	6 – 10	GND
	11 – 15	+ 24 VDC

b) Description of Pins for COM1 Connector (RS-232 Full-Featured):

	Pin No.	Purpose
	1	DCD
	2	RxD
	3	TxD
	4	DTR
	5	GND
	6	DSR
	7	RTS
	8	CTS
	9	RI

c) Description of Pins for COM2 Connector (RS-232\422 + 12 V):

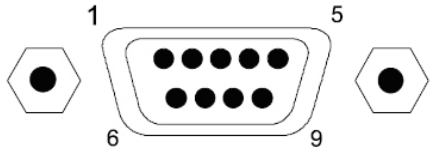
Pin No.	Purpose	
	RS232	RS422
1	NC	Tx -
2	Rx	Tx +
3	Tx	Rx +
4	NC	Rx -
5	GND	
6 - 7	+ 12 V DC (1 A max)	
8 - 9	GND	



ATTENTION! Type of interface RS232 or RS422 shall be determined by user in BIOS of data terminal (refer to Attachment C).

d) Description of Pins for COM3 Connector (RS-232\422):

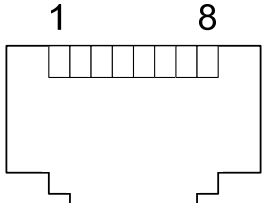
Pin No.	Purpose	
	RS232	RS422
1	NC	
2	RxD	NC
3	TxD	NC
4	NC	
5	GND	
6	NC	TxA
7	NC	TxB
8	NC	RxA
9	NC	RxB



ATTENTION! Type of interface RS232 or RS422 shall be determined by connection. Simultaneous use of two interfaces is possible only for data transfer, for receiving two interfaces will not work simultaneously!

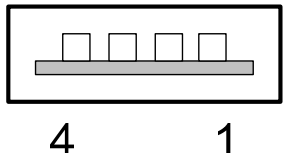
e) Description of Pins for LAN Connector:

Pin No.	Purpose
1	TX +
2	TX -
3	RX +
4	NC
5	NC
6	RX -
7	NC
8	NC

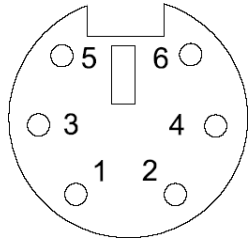


f) Description of Pins for USB1, USB2 and USB3 Connectors:

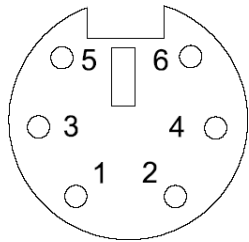
Pin No.	Purpose
1	VCC
2	UV0-
3	UV0+
4	GND



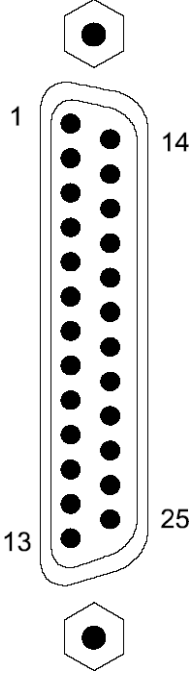
g) Description of Pins for K Connector:

	Pin No.	Purpose
	1	Keyboard signal
	2	NC
	3	GND
	4	5 VDC
	5	Keyboard sync signal
	6	NC

h) Description of Pins for M Connector:

	Pin No.	Purpose
	1	NC
	2	Mouse signal
	3	GND
	4	5 VDC
	5	NC
	6	Mouse sync signal

i) Description of Pins for LPT Connector:

	Pin No.	Purpose
	1	-STROBE
	2	DATA0
	3	DATA1
	4	DATA2
	5	DATA3
	6	DATA4
	7	DATA5
	8	DATA6
	9	DATA7
	10	-ACKN
	11	BUSY
	12	PE
	13	SELECT
	14	-AUTOFD
	15	-ERROR
	16	-INIT
	17	-SLCTIN
18-25	GND	

Examples of External Peripheral Device Attaching to DT Ports

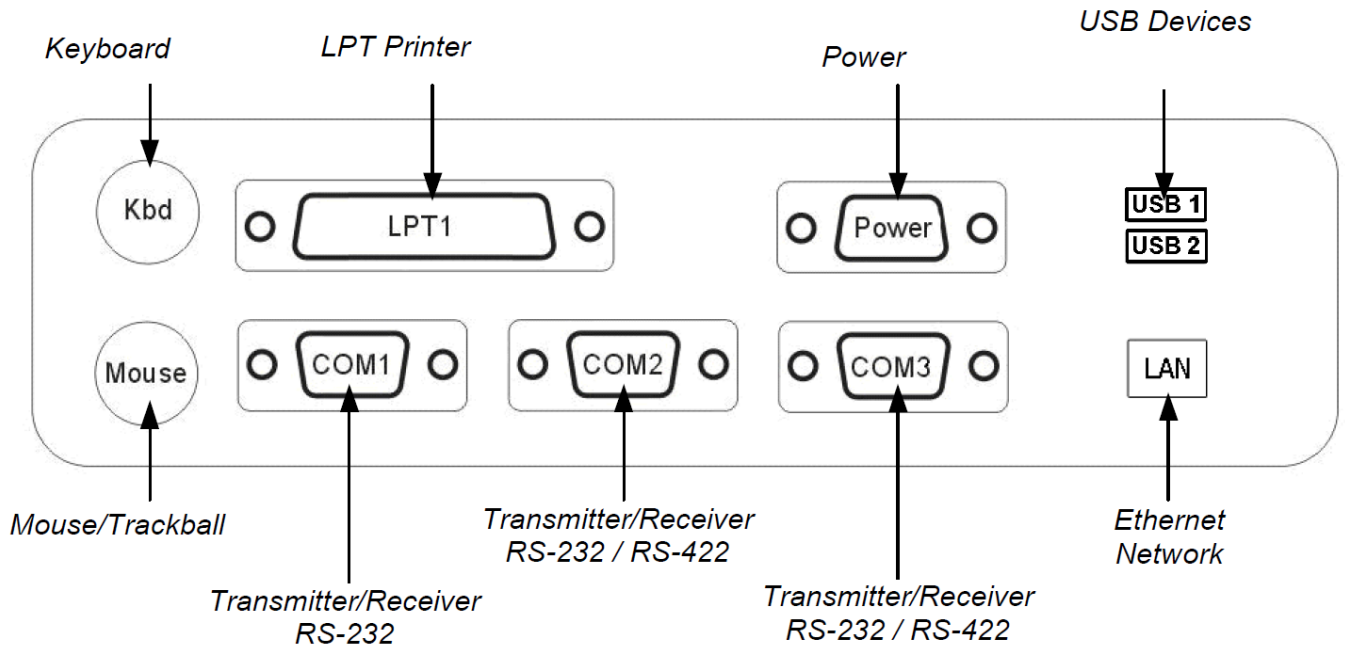


Figure 7 Example of Device Attaching to DT

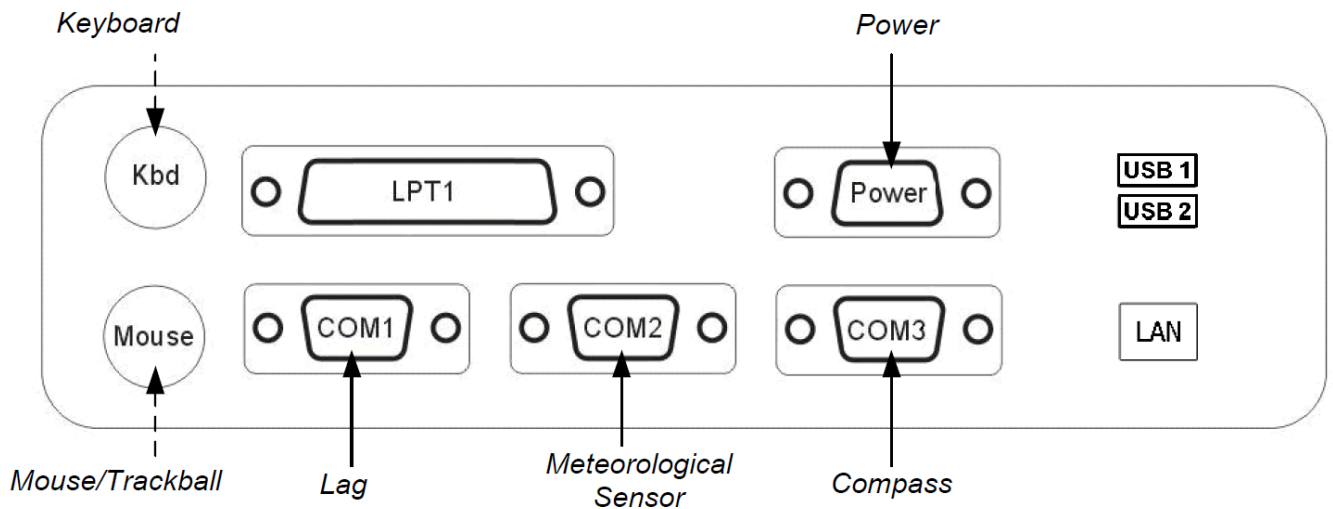


Figure 8 Example of DT Use in “Periskop” Meteorological Station.

4.3 Data Terminal Setting

Data terminal is delivered from the manufacturing plant completely set and ready to use. During operation or long-term storage of the data terminal the event, during which DT controls (mouse, trackball or touch panel) will work incorrect or be inoperative completely, can occur. In order to recover correct operation the following setting shall be performed:

The procedure, which shall be performed for data terminal setting:

1. Turn on (re-boot) data terminal and during start press keyboard key DELETE.

2. Window with BIOS Settings opens (Navigation by items and tabs of BIOS is provided by keyboard arrow keys, tabs and items are selected by Enter key).
3. Select tab "Boot".
4. Select section "Boot Setting Configuration" in this tab.
5. Select field "PS/2 Mouse Support" in the section.
6. Select item "Enabled" in emerged window "Options".
7. Press key F10 of keyboard after setting in order to save made changes.
8. Select "Yes" in displayed message and wait for data terminal restart.

IMPORTANT! To perform operations specified in this provision, availability of any standard keyboard with PS/2 or USB connector is required.

5. DT-310 PROTECTIONS

DT has a number of electronic circuits and elements providing device protection:

1. DT protection against overvoltage in power network is provided by means of electromechanical DT disconnection from the power network. Protection activates at power voltage level exceeding 36 V. When power network voltage returns into standard state, DT remains in off state. For DT activation key "Power" shall be pressed (refer to para. 6.2).
2. DT protection against transient processes in the power circuit is provided by inductance-capacitance filter built in DT. Filter suppress interferences occurred in the power circuit without DT operation process interrupt.
3. DT protection against powering on with reverse polarity is provided by means of electromechanical DT disconnection from the power network. When powering on with correct polarity DT remains in off state. For DT activation key "Power" shall be pressed (refer to para. 6.2).
4. DT software and hardware tools are resistant to accidental loss of power supply. After loss and restoration of power supply DT remains in off state. For DT activation key "Power" shall be pressed (refer to para. 6.2).

RECOMMENDATIONS! If the user applies OS and/or software being sensitive to incorrect DT deactivation (accidental power loss) and not provided in the delivery set, then in this case in order to prevent failures or faults of OS and/or software, it is recommended to protect disk with OS against writing and/or provide DT power supply using uninterruptable power supply (UPS). Besides, it is recommended to provide special section for OS recovery on hard disk or use external USB disk with OS recovery system.

6. CONTROLS AND INDICATORS

6.1 Arrangement of Keys and Indication LED

In DT design the provision is made for the following controls and indicators: 3 control keys and 2 indication LEDs. For convenience of usage controls and indicators are integrated and located on the front side of DT (refer to Figure 9 and Figure 10)

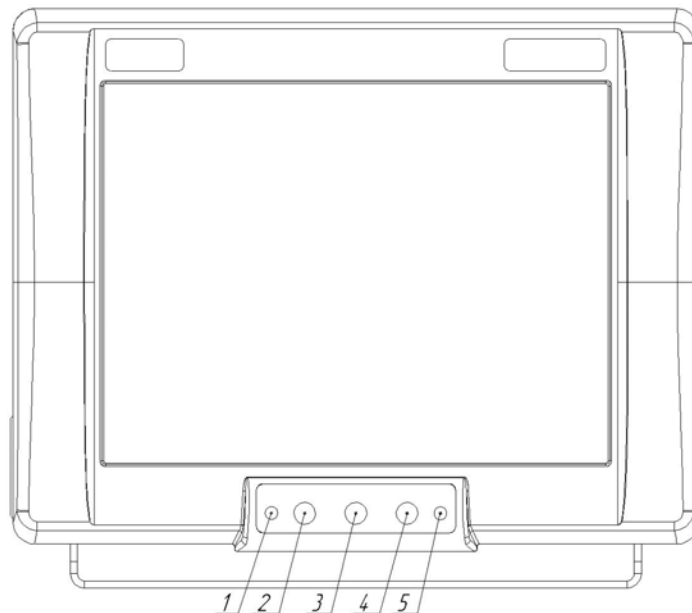


Figure 9 Arrangement of Control and Indication Keys.
(1 – alarm indicator, 2 – power on/off key, 3, 4 – high lighting brightness control keys, 5 – DT status indicator).

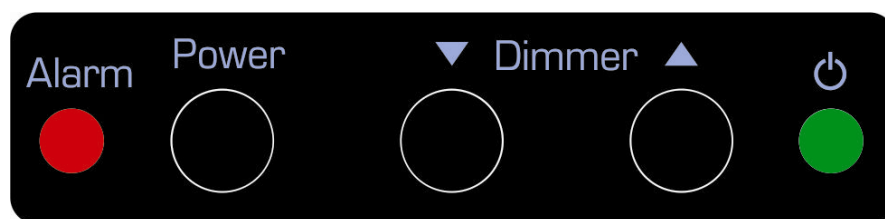


Figure 10 Marking of Control and Indication Keys.

Purpose of front panel keys is described in table of key purpose (Table 2).

Table 2 - Purpose of Front Panel Keys.

Key	Purpose
2	POWER DT on / off (refer to para. 6.2)
3	DIMMER ▼ Reduce display high lighting brightness (refer to para. 6.3)
4	DIMMER ▲ Increase display high lighting brightness (refer to para. 6.3)

Purpose of front panel LEDs is described in para.7 of the manual.

6.2 Description of Power Key Operating Modes.

DT “Power” key is multifunction and allows DT turning on and off depending on DT state, as well as correctly complete OS operation:

1. DT Turning on.

For DT-310 turning on it is necessary to press “Power” key (key No. 2, refer to Figure 9). Thereafter, short sound signal is issued and DT is turned on (OS is started and software is loaded).

2. OS Operation Completion and DT Deactivation.

For DT deactivation by OS tools Power key shall be pressed and held within 3 seconds till short sound signal, thereafter, OS correctly completes its operation within one minute and deactivate DT.

3. Forced DT Deactivation (without Correct OS Operation Completion).

For forced DT deactivation (without use of OS tools) “Power” key shall be pressed and held within 8 seconds, until the first and the second sound signals are issued. Thereafter, DT will be deenergized.

6.3 Description of Operation for DIMMER Group of Keys.

TFT LCD panel (refer to Attachment A) is built into DT with LED highlighting. Any level of brightness for this panel can be set by keys “▼” and “▲” of DT front panel (refer to Figure 10) within the range from maximum to minimum.

1. DT Display Highlighting Brightness Decreasing

Key “▼” shall be pressed in order to reduce DT display highlighting brightness by one level. The specified key shall be pressed and held or key “▼” shall be sequentially pressed in order to reduce highlighting brightness by several levels (or up to minimum).

2. DT Display Highlighting Brightness Increasing

Key “▲” shall be pressed in order to increase DT display highlighting brightness by one level. The specified key shall be pressed and held or key “▲” shall be sequentially pressed in order to increase highlighting brightness by several levels (or up to maximum).

3. DT Display Brightness Quick Increasing

Keys “▼” and “▲” shall be simultaneously pressed in order to quickly set maximum brightness of highlighting.

Note! While every starting (activation) DT sets maximum brightness of highlighting regardless of what highlighting level has been set prior to its deactivation.

7. INDICATION AND ALARM


7.1 Indicators and Alarm Units

In DT the provision is made for the following indicators and alarm units: two buzzers (alarm and auxiliary) and two LEDs (DT and alarm state)

Purpose of Built in DT Buzzers:

- Auxiliary buzzer is a low power piezoelectric radiator with built in generator. Buzzer is used to simplify “Power” key operating mode accepting (refer to para. 6.2).
- Alarm buzzer is also a piezoelectric radiator with built in generator, but it has higher level of sound. Buzzer is used as alarm signalling device as a part of DT hardware tools controlling its normal operation (refer to para. 8) and can be additionally used as sound signalling device in user's programs to synchronize special events (warnings, alarms, hints). Buzzer is controlled by software method (refer to para. 7.2 of the manual).

LED Purpose:

- Indicator “

7.2 Control of Alarm Indicator and Alarm Buzzer

For user’s needs and fulfilment of maritime law, in DT the possibility to control built in alarm buzzer and “Alarm” LED, which is implemented by standard API function of the operating system of window messages (SendMessage) using internal COM4 port, is laid.

Initial code of the program to control alarm buzzer and Alarm LED is given in Attachment A of the manual.

IMPORTANT! First of all, DT alarm signalling devices are intended to notify user concerning occurrence of alarm situations, which are provided by DT manufacturer (refer to para. 8), secondarily, to synchronize special events, which are recorded or generated by the DT user’s software. Therefore, regardless of the possibility to use alarm buzzer and “Alarm” indicator by user, their initial laid functional purpose (alarm synchronization and visualization) can’t be deactivated (refer to para. 8).

8. DT ALARMS AND SIGNALLING

DT is equipped with alarm signalling devices in the form of “Alarm” LED and sound buzzer, which activates in the following situations:

- If while DT starting or during its operation, special response signal is not received to the controller of DT host board (refer to DT structural diagram, Attachment B) from computer board within 30 seconds, then DT automatically activates alarm mode (repeating short sound and light signal with interval 5 seconds) performed by alarm buzzer and “Alarm” LED.
- Besides, described alarm DT can be equipped with additional alarms and signalings, which can be laid by the user while installing and setting software of the proper design (refer to para. 7.2).

9. RECOVERY OF OPERATING SYSTEM (OS) AND PROGRAMS (SOFTWARE)

If DT-310 is delivered with OS and software previously installed at the manufacturing plant, then in case of failure or fault of installed OS or software they can be recovered from the special section of fallback recovery (variant A), or from flash disk of fallback recovery (variant B).

Variant A. – OS recovery from the section of fallback system recovery

1. Turn on computer and wait while BIOS loader displays frame with selection of actions. Frame is displayed within 5 seconds and then OS is loaded. During frame displaying it is necessary to press down arrow key and select section **“Restore”**.
2. Then hello message window of the recovery system opens. Press key **“OK”** in order to close window.
3. Subsequently select menu items **“Local”** → **“Partition”** → **“From image”**
4. Select file **“RESTORE.GHO”**.
5. Press key **“OK”** in new window, then press key **“OK”** again in the next window.
6. Select the 1st section (under No. **1** in column **“Part”**). Press key **“OK”**.
7. Confirm system recovery pressing key **“Yes”**.
8. Wait for system recovery completion.
9. Re-boot computer.

Variant B. – OS recovery from flash disk of fallback recovery

1. Insert flash disk of fallback recovery into USB connector (located on device frame).
2. Press key **F8** while computer starting (**BIOS** loading).
3. Select item **“USB HDD-FDD”** in displayed window.
4. After recovery program loading, sequentially select the following menu items: **“Local”** → **“Disc”** → **“From image”**. In menu navigation is performed by **“up”** and **“down”** keys, selection is performed by **“Enter** key”.
5. Select file **“EASYMAIL.GHO”**, press **“Enter”**. Select button **“OK”** pressing key **“Tab”**, press **“Enter”**. Press **“Yes”** button in displayed dialog window.
6. Wait for system image development on hard disk of computer.
7. Remove flash disk upon completion of image development and reboot computer.

10. WARRANTY

The manufacturer guarantees the unit DT-310 complies with this manual provided that the operation, transportation and storage conditions are adhered to during the warranty period.

The unit's warranty period expires 24 months from the date of its shipping from the manufacturer's storehouse.

Within the warranty period, the owner is entitled for a free repair, or a replacement of a separate part, provided that the malfunction occurred through the manufacturer's fault.

Warranty repair is provided if the unit is submitted with the manufacturer's label and a legible serial number available on it, as well as this operating manual.

The manufacturer is not responsible and cannot guarantee the unit's operation:

1. After the warranty period is over;
2. In case of the failure to observe the unit's operation, transportation, storage and installation rules and conditions;
3. If the unit is in an unmarketable condition, or has a damaged body, and other causes beyond the manufacturer's control;
4. If self-made electrical devices were used.
5. If there was an attempt to repair the unit by a person who is not an authorized representative of the manufacturer.

If the owner loses this operating manual or the manufacturer's label with a serial number, the manufacturer shall not provide their copies, and the owner shall be divested of the right for a free repair during the warranty period.

Upon the warranty expiry, the manufacturer shall facilitate the repair of the unit at the owner's expense.

Note: in case of warranty repair, the unit's disassembling from the installation site and its delivery to the manufacturer's service center are done at the owner's expense.

Visit the manufacturer's website www.unicont.spb.ru (section "support/warranty") to find:

- forms to fill in claims,
- full warranty description;
- full description of the warranty service rendering procedure.

The manufacturer service center's address and contact details:

Unicont SPb, Ltd.

Bld. 26E Kibalchich Str., Saint Petersburg, 192174, Russia

tel.: + 7 (812) 622 23 10, +7 (812) 622 23 11

fax: +7 (812) 362 76 36

e-mail: service@unicont.spb.ru

11. DATA ABOUT PRODUCT AND COMPLETENESS

DT-310 (computer made in body integrated with LCD-display).

Designation _____

Installed Software:

1. Operating system	<input type="checkbox"/>	Windows Embedded
	<input type="checkbox"/>	MS-DOS.
	<input type="checkbox"/>	No
	<input type="checkbox"/>	Misc. _____

2. Programs	<input type="checkbox"/>	EasyMail
	<input type="checkbox"/>	CapSat
	<input type="checkbox"/>	Periscope ____
	<input type="checkbox"/>	No
	<input type="checkbox"/>	Misc. _____

3. Touch screen	<input type="checkbox"/>	Yes
	<input type="checkbox"/>	No

4. Flash disk of OS and software recovery	<input type="checkbox"/>	Yes
	<input type="checkbox"/>	No

Product Serial Number _____

Manufacturing Date _____

Manufacturer: _____ Unicont SPb LLC, Russia _____

12. ACCEPTANCE DETAILS

Data Terminal
name of article

DT-310
designation

№
serial number

was manufactured and accepted in accordance with the regulatory requirements of the state standards and applicable technical documentation, and is suitable for operation.

Quality control representative

Stamp
here signature

clarification of signature

year, month, day

13. DATE OF COMMISSIONING

Data Terminal
name of article

DT-310
designation

№
serial number

The unit has been put into operation.

Date of installation: _____

Place of installation: _____

Person in charge of installation: _____

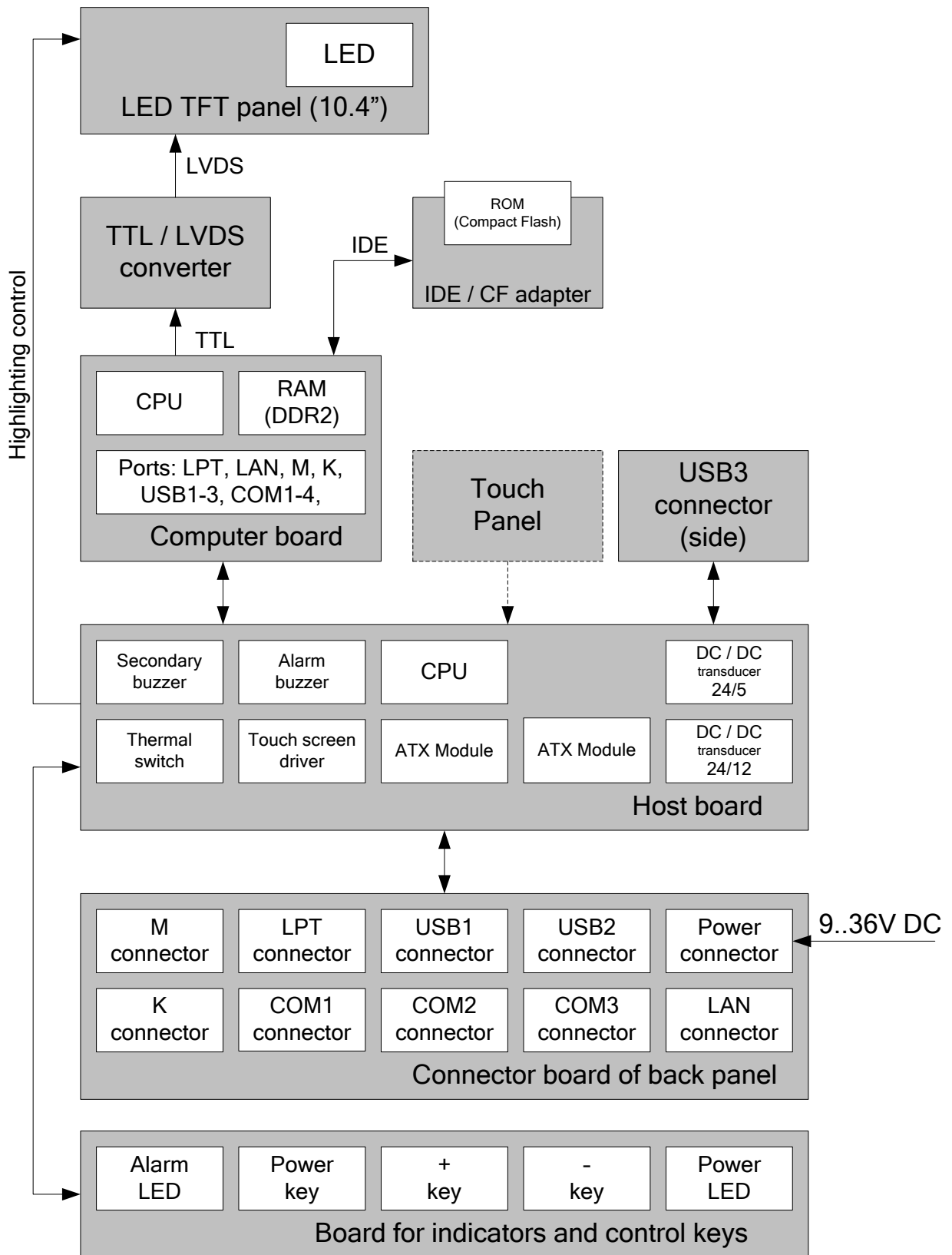
ATTACHMENT A.

CONTROL OF ALARM INDICATOR AND ALARM BUZZER

Initial code of control program for alarm buzzer and Alarm indicator is given in the Attachment in Delphi programming language.

```
procedure TForm1.CheckBox1Click(Sender: TObject);
var receiverHandle : THandle; cd : TCopyDataStruct; st: string;
begin
  receiverHandle := FindWindow(PChar('TForm1'),PChar('UnicontSpb Touch
Tool')) ;
  if receiverHandle = 0 then ShowMessage('Application UnicontSpb Touch Tool
is not started!')
  else begin
    if CheckBox1.Checked then st:='AlarmOn' else st:='BeepOff'; //Command
on/off for speaker and LED.
    cd.cbData := Length(st)+1;
    cd.lpData := PChar(st);
    SendMessage (receiverHandle,WM_COPYDATA,0,LParam(@cd));
  end;
end;
```

ATTACHMENT B. STRUCTURAL DIAGRAM OF DT-310 DATA TERMINAL



ATTACHMENT C.

SETTINGS FOR TYPE OF COM2 INTERFACE OF DT-310 DATA TERMINAL

In data terminal there is a built-in function of setting for COM2 interface type. If during operation of the data terminal it is necessary to change type of interface for COM2 port attaching, then the task can be quickly solved by means of this function.

The procedure, which shall be performed for COM2 port interface type setting:

9. Turn on (re-boot) data terminal and during start press keyboard button DELETE.
10. Window with BIOS Settings opens (Navigation by items and tabs of BIOS is provided by keyboard “arrow” keys, tabs and items are selected by Enter key).
11. Select tab Chipset.
12. Select section “SouthBridge Configuration” in this tab.
13. Select subsection “Serial/Parallel Port Configuration” in the section.
14. Select “Serial Port Type” of item “SB Serial Port2” in the subsection.
15. Select the required type of interface RS232 or RS422 in emerged window “Options”.
16. Press key F10 of keyboard after setting COM2 port interface in order to save made changes.
17. Select “Yes” in displayed message and wait for data terminal restart.

IMPORTANT! To perform operations specified in this provision, availability of any standard keyboard with PS/2 or USB connector is required.