



**inoteska**

# ITX 32m

## PRODUCT DOCUMENTATION



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# 1. PRODUCT OVERVIEW

## Type code:

**ITX 32M**

## Product code:

**ITX 471 31.5 - Multiplexer E1 / X.21 / Ethernet - ( RJ , BNC )**

**ITX 471 31.7 - Multiplexer D E1 / D X.21 / Ethernet - ( RJ )**

**ITX 471 32.5 - Multiplexer E1 / UDI / Ethernet - ( RJ , BNC )**

**ITX 471 32.7 - Multiplexer D E1 / D UDI / Ethernet - ( RJ )**

UDI - V.35, V.36, RS 530, V.24

## Features:

- Mode E1 framed allows conversion  $n \times 64$  kbps ( $n = 1$  to 31timeslots).
- Mode E1 unframed transparently transmits 2.048 Mbps to serial interface X.21 and vice versa
- E1 framed  $n \times 64$  kbps ( $n = 1$  to 31timeslots).
- E1 120/75 Ohm.
- Interface X.21 DCE (DTE).
- Interface UDI (X.21, V.35)
- Interface Ethernet 10/100 BT.
- Interface V.24 (RJ 45) for configuration of multiplexer from PC
- Supervision via Ethernet by allocating IP address.
- Configuration and remote control via TCP/ IP, UDP, http, SNMP.
- Multiplexer synchronization from E1 G.703/G704 or synchronous interface.

**Functions:**

**Multifunctional device:**

- 1) **Converter** – *default function* – Cross-connect and conversion of synchronous interfaces X.21 to E1. Cross-connect and conversion of E1 interfaces to Ethernet interface.
  
- 2) **Cross Connect** – cross-connect of any E1-A timeslot to E1-B timeslot. Cross-connect and conversion of synchronous interfaces X.21 to E1. Cross-connect and conversion of E1 interfaces to Ethernet interface.
  
- 3) **E1 over Ethernet** - 2xE1/Ethernet - transmission of E1 interfaces via Ethernet
  - unframed 2xE1 or 1xE1
  - framed 2xE1,1xE1 or Nx64 TS in E1
  - transmission in local network RAW ETH
  - transmission over IP network
  - identification of devices according to their ID or IP address
  - jitter buffer – optional setting to 2, 5, 10 ms.
  - setting of TOS/DiffServ bits
  - VLAN and 802.1p support
  - Clock recovery /synchronization E1 over Ethernet network / IP network
  - for secure device operation – it is necessary to set QOS in the network, min. delay, min. error rate and min. packets jitter
  
- 4) **Inverse mux** – 2xE1/Ethernet - transmit of Ethernet interface through 2 x E1 – VLAN support.
  
- 5) **VLAN Router** – routing to E1 according to ID VLAN. Conversion of tagged frame to standard frame is possible.

	ITX 471 31.5	ITX 471 31.7	ITX 471 32.5	ITX 471 32.7
<b>CC Cross Connect / Converter</b>	-	A	-	A
<b>EE E1 over Eth</b>	A	A	A	A
<b>IN Inverse mux</b>	-	A*	-	A*
<b>VR VLAN ROUTER</b>	-	A*	-	A*
<b>N64 n x 64</b>	A	A	A	A

\* - interface X.21 is deactivated

**Ordering:**

**Examples:**

**ITX 471 31.7 CC/IN**

ITX32M in configuration: 2xE1, 2xX.21, Ethernet, enabled functions of Cross Connect and Inverse mux.

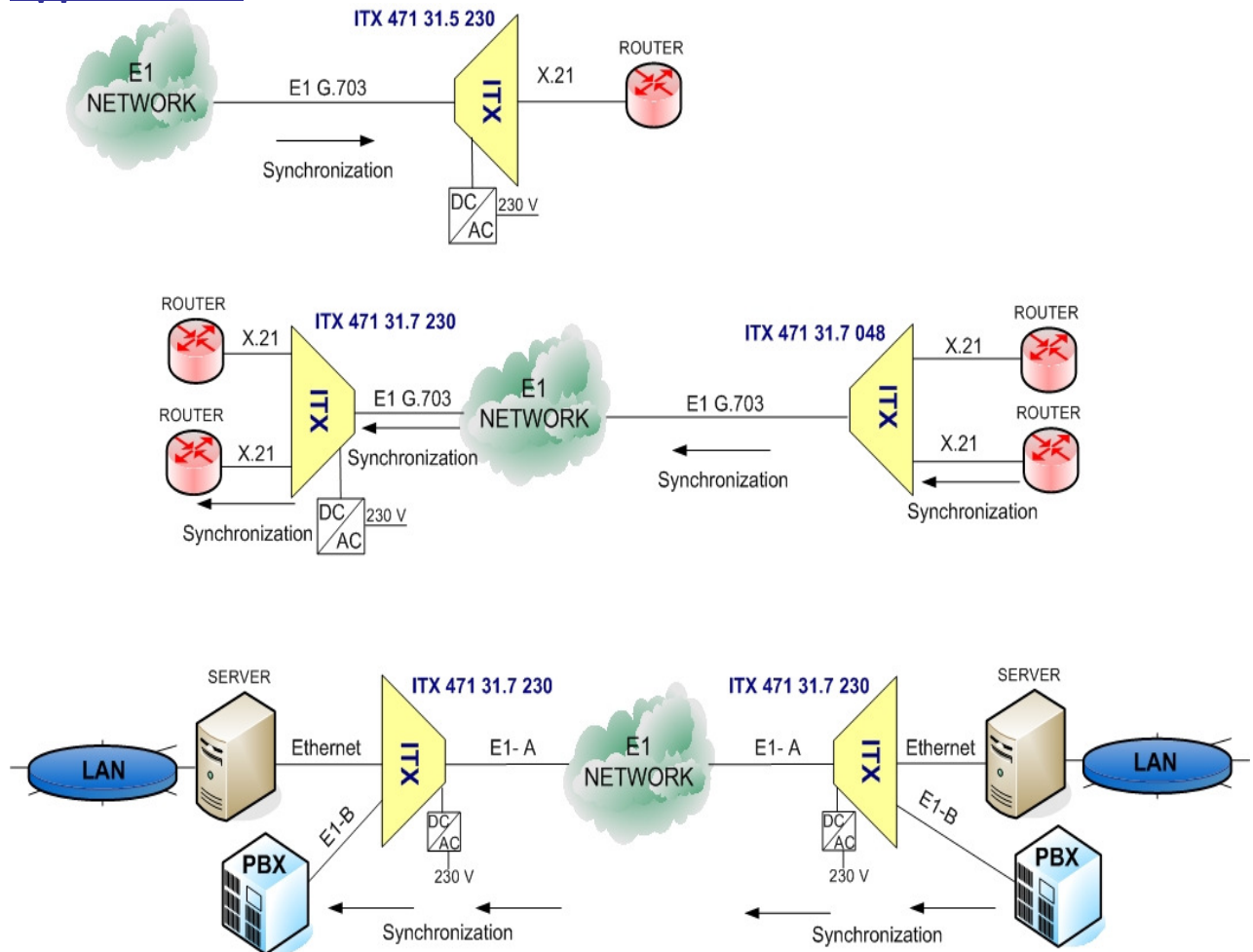
**ITX 471 31.5 CC**

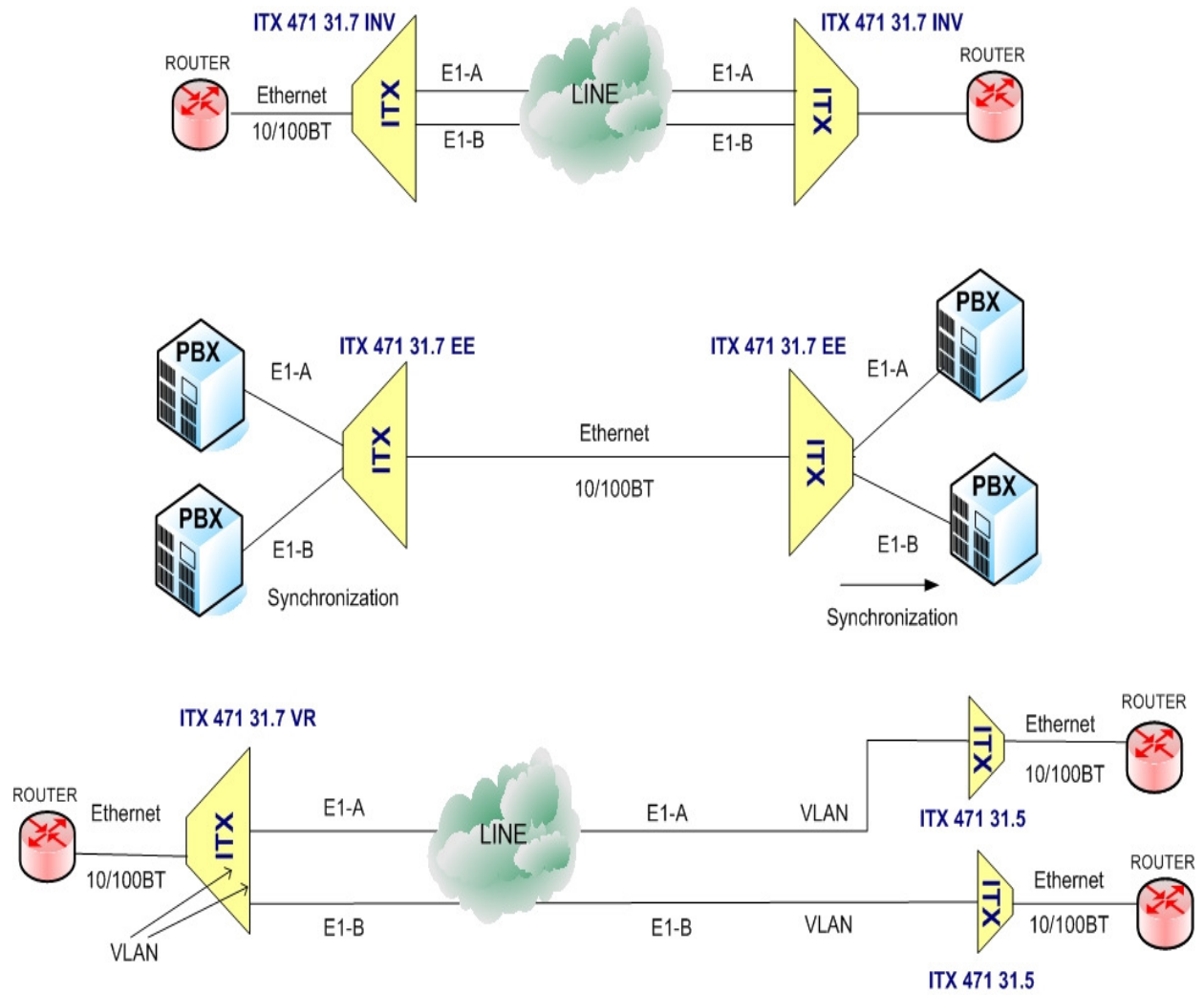
ITX32M in configuration: 1xE1, 1x X.21, Ethernet, enabled function of Cross Connect

**ITX 471 31.7 048 CC/EE/IN/VR**

ITX32M in configuration: 2xE1, 2xX.21, Ethernet , power supply DC 48V, enabled functions of Cross Connect, E1 over Ethernet, VLAN Router.

**Applications:**



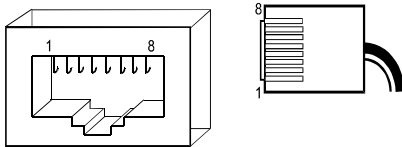


## 2.SPECIFICATIONS

### E1 INTERFACE

- E1 unframed G.703 2048 kb/s
- E1 framed G.704           PCM 30, PCM 31
- Line code   HDB 3
- Connectors: RJ 45 (120 Ohm) / BNC (75 Ohm)

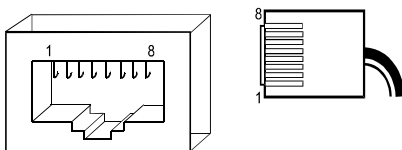
Connector RJ 45



- |                          |       |      |
|--------------------------|-------|------|
| 1 – receive to device    | ----- | RX - |
| 2 – receive device       | ----- | RX+  |
| 3 –                      |       |      |
| 4 – transmit from device | ----- | TX - |
| 5 – transmit from device | ----- | TX+  |
| 6 –                      |       |      |
| 7 –                      |       |      |
| 8 –                      |       |      |

### ETHERNET INTERFACE

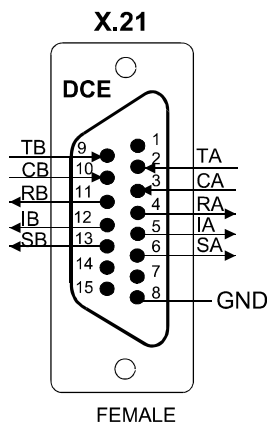
- Ethernet 10/100BT FD
- Connector RJ 45



- |                          |  |      |
|--------------------------|--|------|
| 1 – transmit from device |  | Tx + |
| 2 – transmit from device |  | Tx - |
| 3 – receive to device    |  | Rx+  |
| 4 –                      |  |      |
| 5 –                      |  |      |
| 6 – receive to device    |  | Rx-  |
| 7 –                      |  |      |
| 8 –                      |  |      |

## X.21 INTERFACE

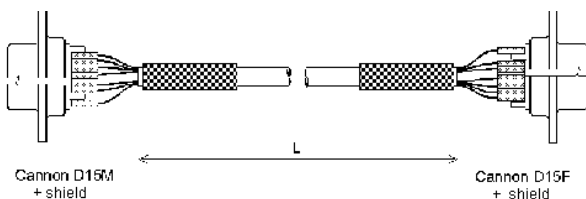
- Connector 15 pin D15 F



- IA – Indication A
- IB – Indication B
- TA – Transmit A
- TB – Transmit B
- RA – Receive A
- RB – Receive B
- CA – Control A
- CB – Control B
- SA – Signal Timing A
- SB – Signal Timing B

DTE interface is determined by cable:  
**ITK 522 07** X.21 DCE – extension cable  
**ITK 522 19** X.21 DTE – cable reduction

**Cable ITK 522 07 – extension cable for X.21 DCE**



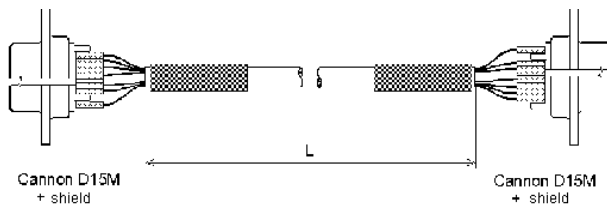
CANNON - D15 M	Signal	Pairing	Colour designation of the wires	Signal	Cannon - D15 F
1	-		-	-	1
2	TXA		W ( o )	TXA	2
3	CSA		W ( g )	CSA	3
4	RXA		W ( m )	RXA	4
5	RCA		W ( b )	RCA	5
6	TCA		W ( s )	TCA	6
7					7
8	-		-	-	8
9	TXB		O ( w )	TXB	9
10	SCB		G ( w )	SCB	10
11	RXB		M ( w )	RXB	11
12	RCB		B ( w )	RCB	12
13	TCB		S ( w )	TCB	13
14	-		-	-	-
15	-		-	-	-
shield	-	-	shielding	-	shield

↕ - Paired wires

Supplied cables have standard length of 1m. Different lengths are available upon request.



**Cable ITK 522 19 – reduction for X.21 DTE**



CANNON D15 M	Signal	Pairing	Colour designation of the wires	Signal	Cannon D15 M
1	-		-	-	1
2	TXA		W ( o )	TXA	4
3	CSA		W ( g )	CSA	5
4	RXA		W ( m )	RXA	2
5	RCA		W ( b )	RCA	3
6	TCA		W ( s )	TCA	7
7	RTCA		W ( r )	RTCA	6
8	GND		Y	GND	8
9	TXB		O	TXB	11
10	SCB		G	SCB	12
11	RXB		M	RXB	9
12	RCB		B	RCB	10
13	TCB		S	TCB	14
14	RTCB		R	RTCB	13
15	-			-	-
shield	-		shielding	-	shield

↕ - Paired wires

Supplied cables have standard length of 1m. Different lengths are available upon request.

## UDI INTERFACE

- The required interface is achieved with cable reduction.

ITK 522 08	Cable UDI / X.21 DCE
ITK 522 09	Cable UDI / X.21 DTE
ITK 522 10	Cable UDI / V.35 DCE
ITK 522 11	Cable UDI / V.35 DTE
ITK 522 12	Cable UDI / V.36 DCE
ITK 522 13	Cable UDI / V.36 DTE
ITK 522 14	Cable UDI / V.24 DCE
ITK 522 15	Cable UDI / V.24 DTE
ITK 522 16	Cable UDI / RS 530 DCE
ITK 522 17	Cable UDI / RS 530 DTE

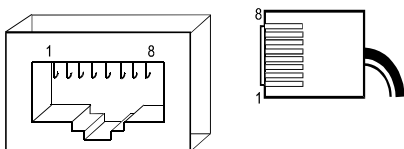
Supplied cables have standard length of 1m. Different lengths can be specified in the order.

### Warning:

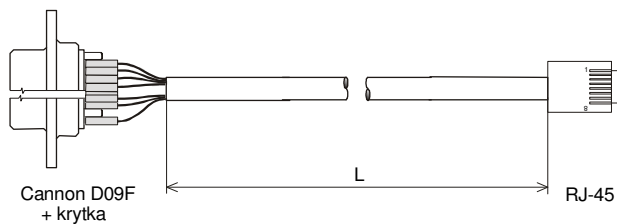
For proper functioning of the device and conformation with the warranty conditions, we recommend the use of the standard cables supplied with the device.

## CONTROL V.24

- Connector RJ 45



- 1 –
- 2 –
- 3 –
- 4 – transmit from device Tx +
- 5 – receive to device Rx+
- 6 –
- 7 –
- 8 – GND



CANNON - Female for D09F cable	RJ - 45
-	1
-	2
-	3
2	4
3	5
-	6
-	7
5	8
-	-

L – cable length – standard 1 m

## INDICATORS

- **Front panel LEDs:**

**E1 line** - Orange - E1 interface is not connected  
 - Green – SLIP alarm  
 - Green and orange – AIS alarm

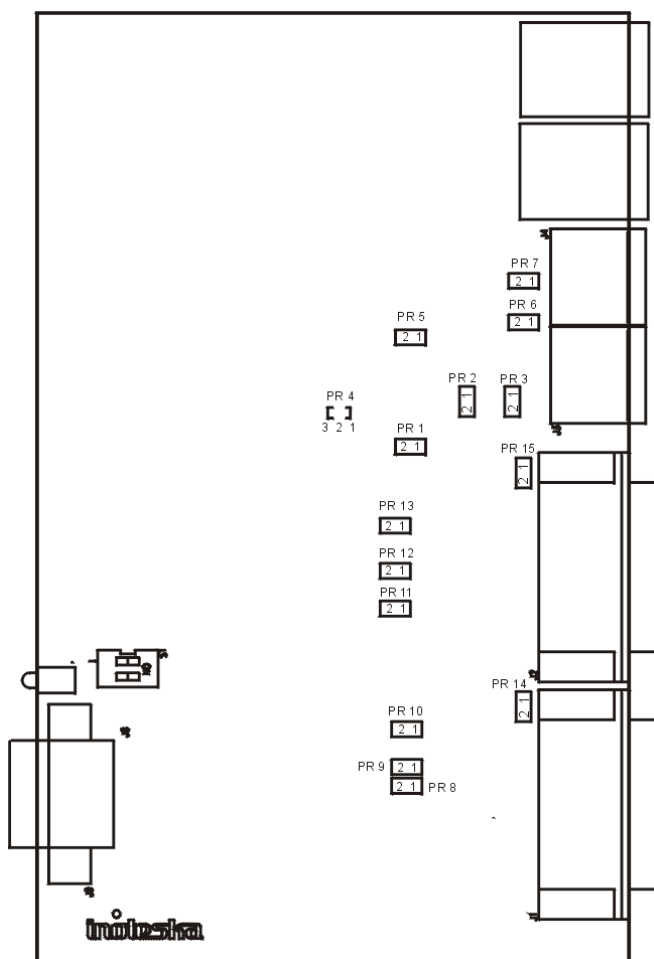
**Ethernet** - yellow – flashes during receive and transmit  
 green – ON – Ethernet line is active

- green and yellow - OFF – Ethernet line is not connected

- **Back panel LED:**

**PWR** - Power is ON

**HW JUMPERS**



PR 4, PR14, PR 15 – HW jumpers – always Off  
 SW 1 – HW switch – always Off

E1-A	120 Ohm	75 Ohm	E1-B	120 Ohm	75 Ohm
PR 1	Off	On	PR 5	Off	On
PR 2	Off	On	PR 6	Off	On
PR 3	Off	On	PR 7	Off	On

	TI 150 Ohm	TI > 6 k Ohm		TI 150 Ohm	TI > 6 k Ohm	
<b>X.21-A</b>			<b>X.21-B</b>			
PR 8	1-2	rozp.	PR 11	1-2	rozp.	<b>R</b>
PR 9	1-2.	rozp.	PR 12	1-2	rozp.	<b>I</b>
PR 10	1-2	rozp.	PR 13	1-2	rozp.	<b>S</b>

**R** – Data Receive  
**S** – Synchronisation Receive  
**I** – Control signal

**TI** – Termination Impedance

## SYNCHRONIZATION

- User defined:
  - from G.703
  - from X.21
  - internal clock

## POWER

- adapter 230 V / 50Hz ,  $\pm 10\%$ , max. 5VA
- DC 48 V, -40V to -65 V, max. 0,2 A, fuse 1,5 A  
**Device must use only adapter supplied by manufacturer.**

## INPUT

- Max. 5VA

## DIMENSIONS

- 39 x 165 x 100 mm ( h x w x d )

## WEIGHT

- 0,8 kg

## OPERATING ENVIRONMENT

- Operating temperature: 0° C to 55° C
- Storage temperature: -10° C to 60° C
- Humidity: up 75%, non-condensing

### 3. MANAGEMENT SW

There are several type show to access ITX 32M:

- **Uniman**
- **Web** - device IP address must be set
- **SNMP** – not available yet

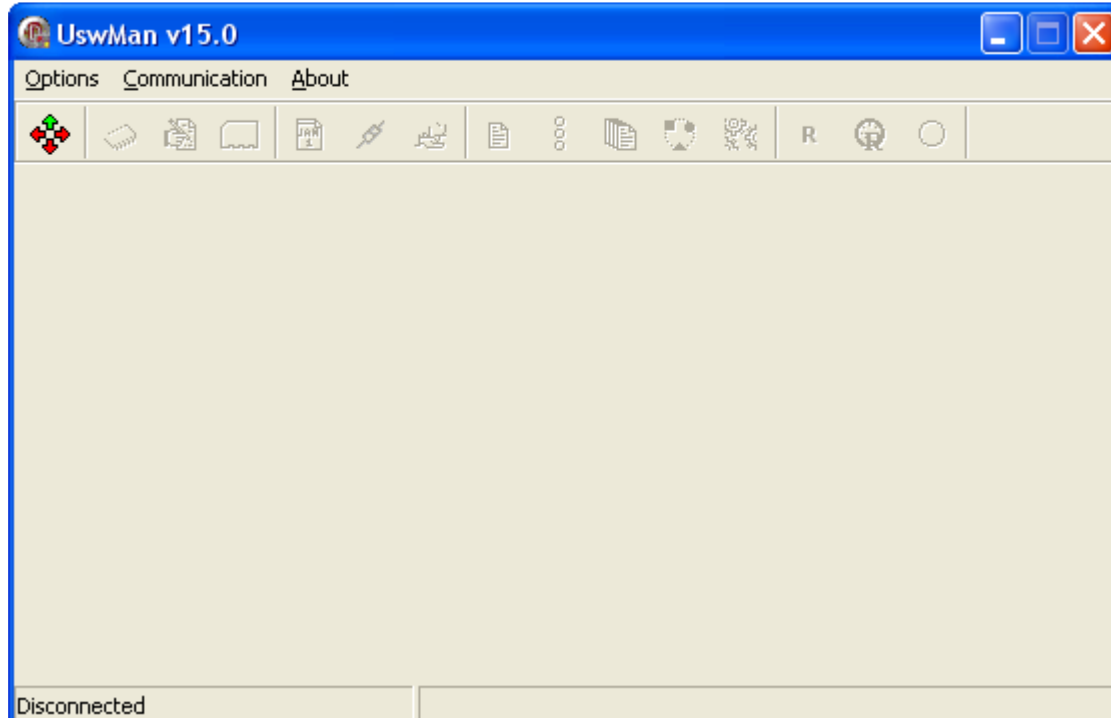
**UniMan** is universal SW used for communication with Inoteska equipment which support TCP / IP. SW operates under OS Windows XP, 2000. UniMan provides text or graphical mode for configuration of device.


**Note:**

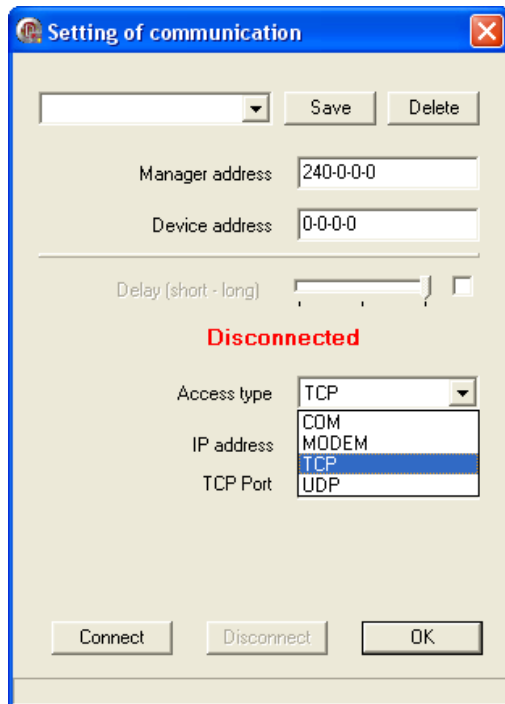
**Latest firmware and management software for ITX32M is available on Inoteska website – [www.inoteska.sk](http://www.inoteska.sk).**

**Run UniMan vxx.exe** (xx is SW version)

After running the management software, initial window is displayed:



First, it is necessary to set the communication with device. Click on speed button . Following window will be displayed:



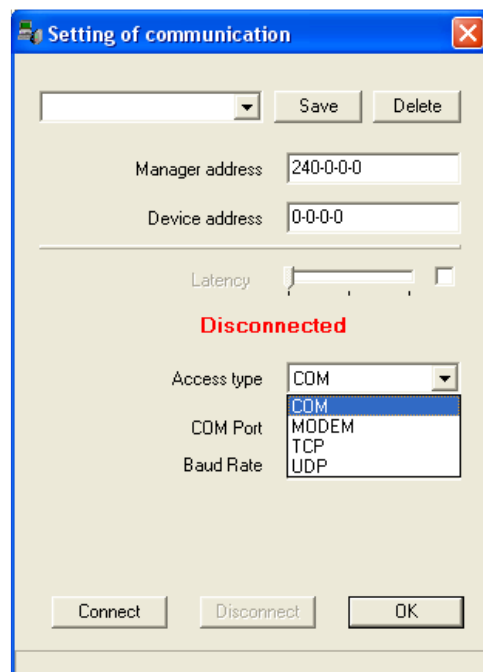
**Manager address** – 240-0-0-0 (this address can be changed: first number from interval 240-254, other three numbers from interval 0-255)

**Device address** - 0-0-0-0 – local connection (this address can be changed: first number from interval 0 - 239, other three numbers from interval 0-255)

**Connection - COM**

Local access to device via device address in format X-X-X.X .

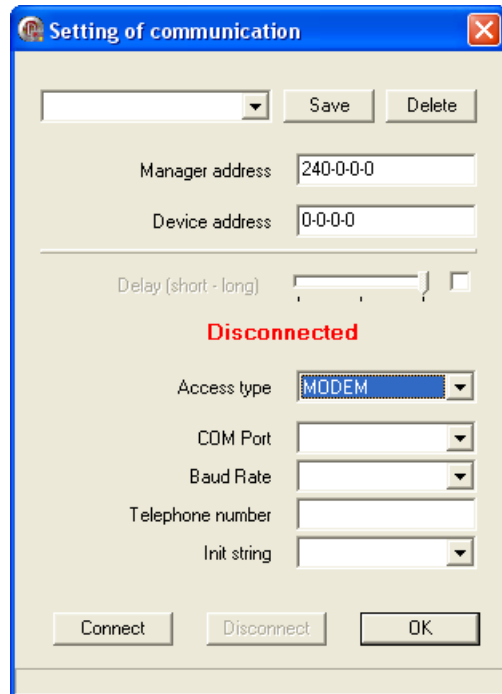
- 1) Set **Access type – COM**.
- 2) Select **COM** port (communication port) and set **Baud Rate** (115200 Bd).
- 3) Click on **Connect** . If connection is successful, **Connected** is displayed.
- 4) Click **OK** .



**Connection - MODEM**

Remote access via modem. Connect the PC serial port to modem.

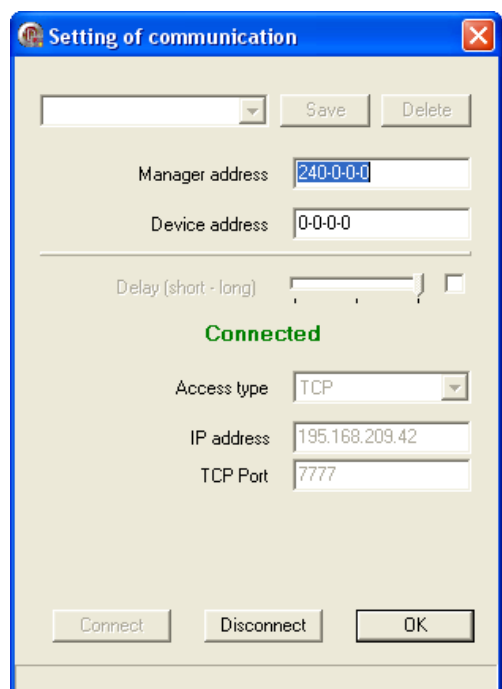
- 1) Set **Access type – MODEM**.
- 2) Select **COM port** (communication port) and set **Baud Rate** (115200 Bd), **Phone number** and **Init string** (according to the type of modem connected).
- 3) Click on **Connect**. If connection is successful, **Connected** is displayed.
- 4) Click **OK**.



**Connection - TCP**

Remote access using IP address and device address.

- 1) Set **Access type – TCP**.
- 2) Set **IP Address** and **TCP Port**.
- 3) Click on **Connect**. If connection is successful, **Connected** is displayed.
- 4) Click **OK**.





**Connection - UDP**

SW transmits broadcast and finds all „Inoteska“ devices connected in the network.

This access type can be used only if the conditions stated below are met.

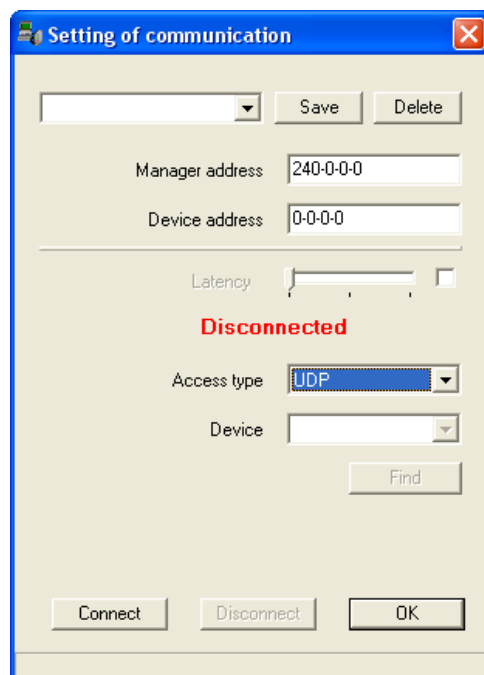
***If device is connected in network***

- Device and PC must be connected in the same local network
- Network must transmit *broadcast*
- PC must have IP address allocated

***If device is connected to PC locally***

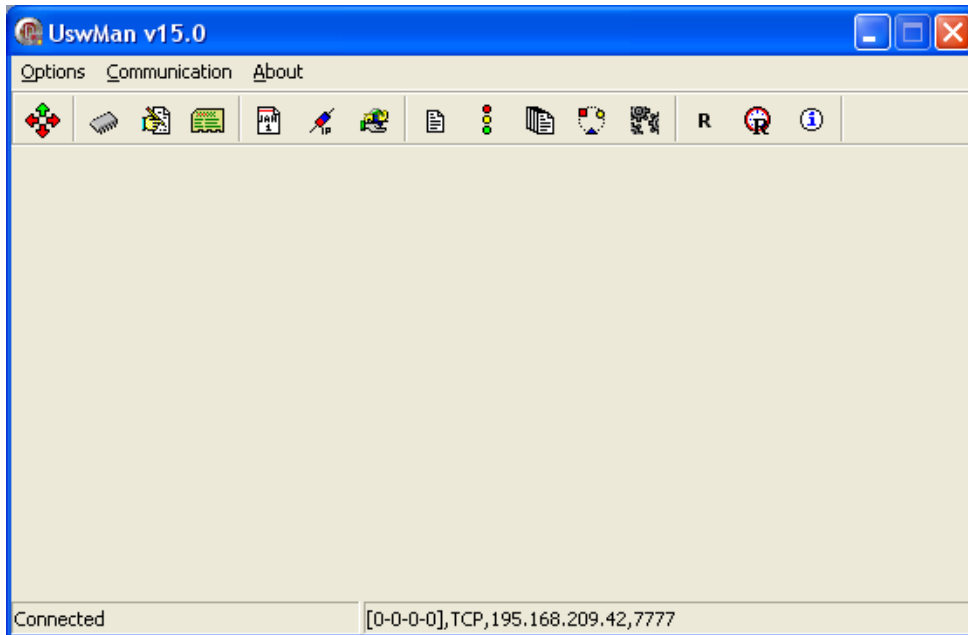
- PC must have arbitrary IP address allocated (it is necessary to disable DHCP and set static IP address, e.g. 192.168.1.2)
- Receive/Transmit of *broadcast* packets must be enabled on PC
- UDP port 3864 must be enabled on PC

- 1) Set **Access type – UDP**.
- 2) Click **Find**.
- 3) Select the device from the list and click on **Connect**. If connection is successful, **Connected** is displayed.
- 4) Click **OK**.



**Note:**

In case of successful connection, device address, type and parameters of access are displayed in the line at the bottom of main management SW window.

**In case of error, please check:**

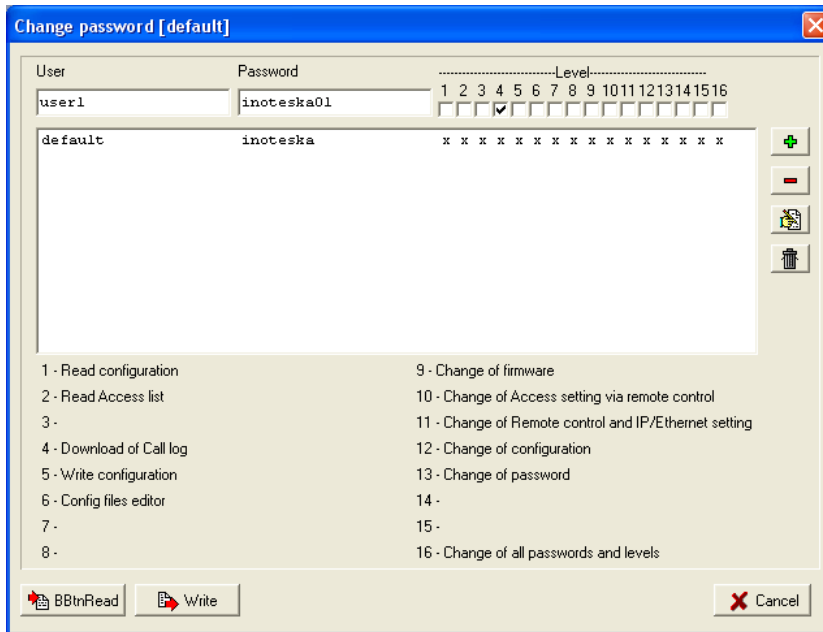
- System power source
- Device address 0-0-0-0 – local connection (this address can be changed: first number from interval 0 - 239, other three numbers from interval 0-255)
- Manager address 240-0-0-0 (this address can be changed: first number from interval 240 –254, other three numbers from interval 0-255 )
- Password correctness
- Serial port connection
- Cable between device and PC
- Baud Rate between device and PC set to 115200 Bd.

## Password setting

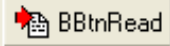


After setting the communication parameters and successful connection, it is necessary to set password. Choose from main menu **Options – Password**.

### Change password of device

Default password is **inoteska**. It can be changed in menu **Options – Password – Change password of device**.

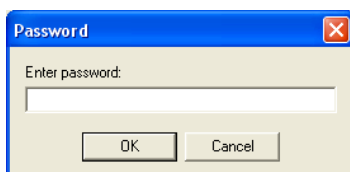


Here it is possible to edit the list of passwords for different users and set the level of their rights for access to device (1 to 16). There are notes below explaining each access level. List of passwords can be edited using the buttons on the right side of list.

-  - read settings from device
-  - write new password settings to device
-  - quit window

### New login

Main menu **Options – Password – New login** using new password. After setting the correct password, main window will all available SW options be displayed.

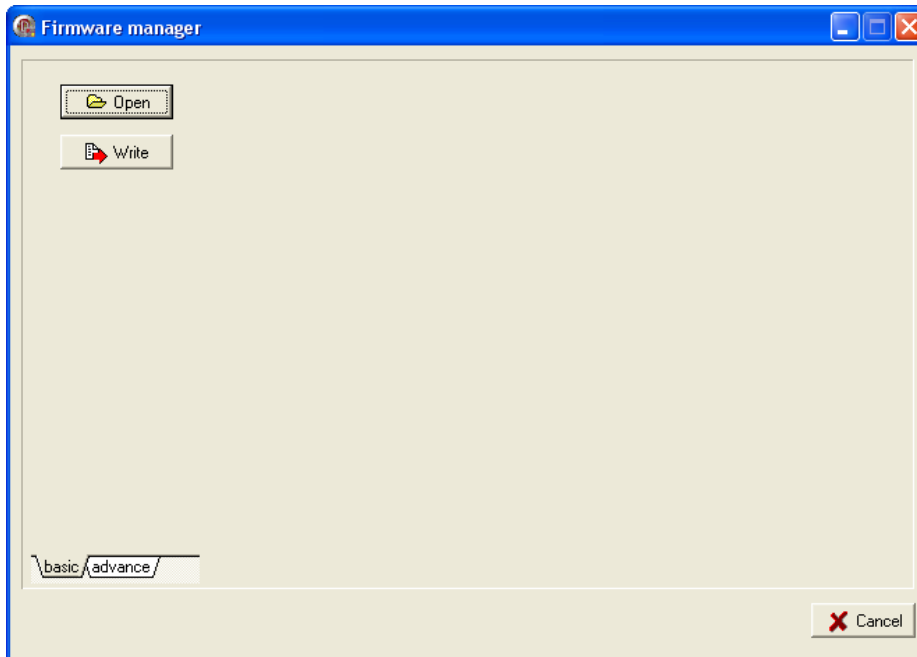


## Change language

User can choose the language which will be used while working with management software. Main menu **Options – Language - Slovak / English**.

## Firmware manager



Main menu **Communication – Programmer** or click on speed button . Following window is displayed:



Here it is possible to change the device firmware.

### How to proceed:

#### Basic

Click  and find appropriate \*.txt (batch file). Then click  and new firmware will be written do device flash memory.



- quit window

#### Advance

Extended options for firmware upgrade.


**Firmware** – you can choose firmware version from the list of available versions

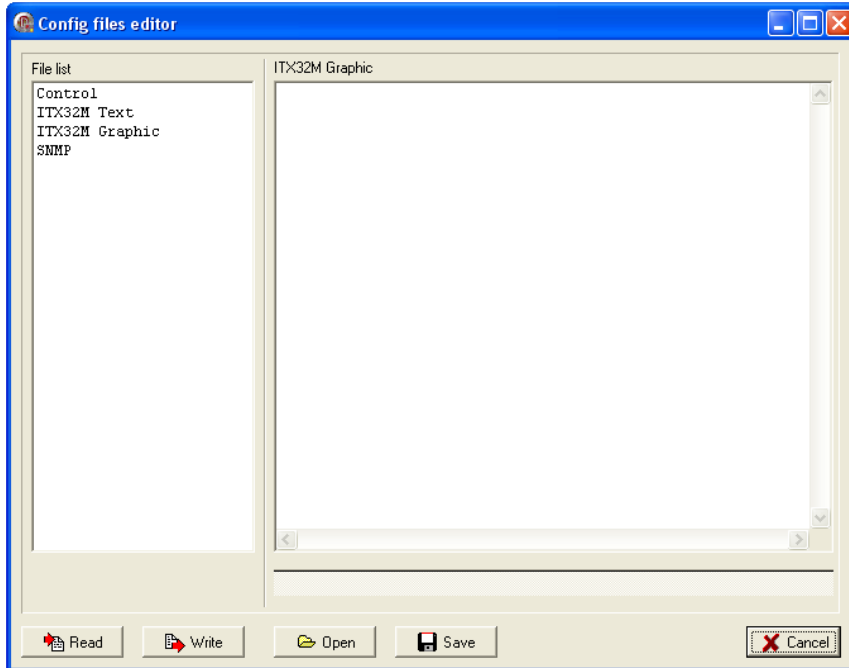
**Field-programmable gate arrays** – you can also also change the version of field-programmable array

**Other files**

**Note:** Latest firmware and management software for ITX32M is available on Inoteska website – [www.inoteska.sk](http://www.inoteska.sk).

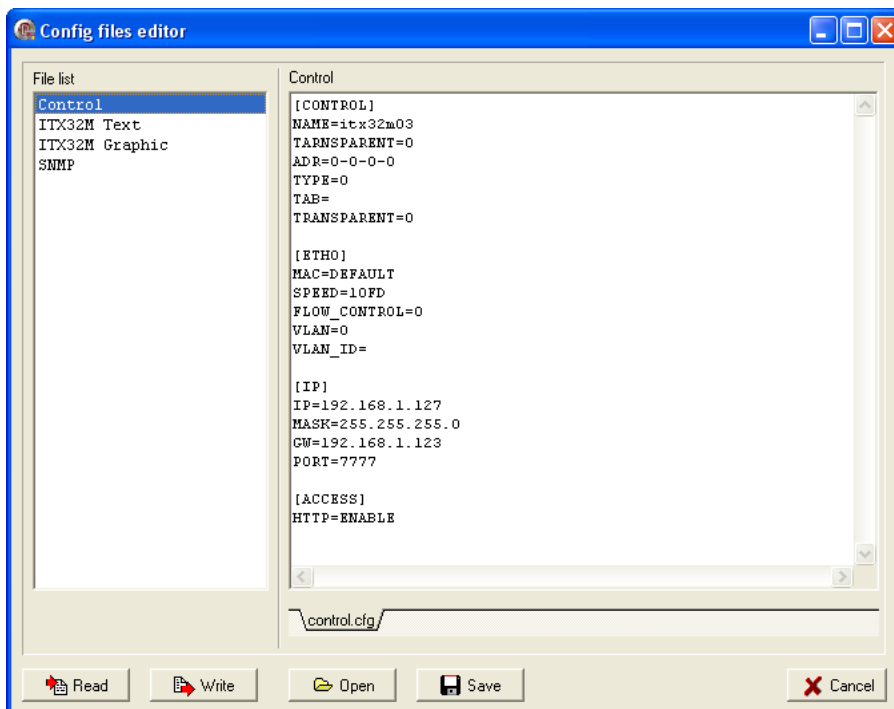
## Config files editor

From main menu choose **Communication – Config files editor** or click on speed button . There is a window displayed:



Here you can configure the device.

**Control** – double-click on Control displays **Remote control and IP/Ethernet settings**



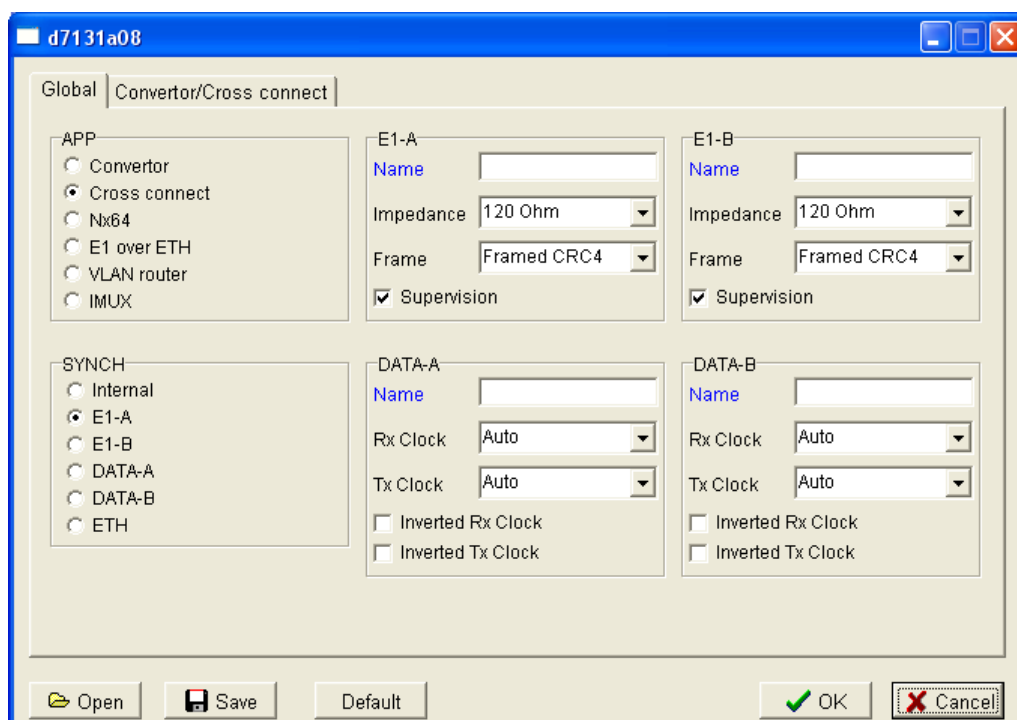
**ITX 32 M Text – ITX32M settings in text form**

```
#----- Configuration File for ITX32M -----
# ITX47131.7
#-----
[APP]
# TYPE - Type of Application
# CONVERTOR      (E1 - X21), (E1HDL - ETH)
# CROSS_CONNECT (E1/A - E1/B), (E1 - X21), (E1HDL - ETH)
# NX64           (GE1/A  GE1/B  DATA1) -> DATA0 (X21-Nx64)
# E1_OVER_ETH    (E1/A  E1/B) -> ETH
# VLAN_ROUTER   G_VLAN_A(ETH) -> HDLC_E1/A, G_VLAN_B(ETH) -> HDLC_E1/B
# IMUX          ETH -> E1/A  E1/B
#
```

**For more information about available ITX32M functions/applications, please read the information in chapter 1. Product overview.**

**ITX 32 M Graphic – ITX32M settings in graphic form**

**Global – graphic form** for settings of global parameters (for all applications)



**APP** - list of all functions/applications enabled for the specific device

**SYNCH** – synchronization

**Internal** – ITX32M is source of synchronization

**E1-A/B, DATA-A/B, ETH** – ITX32M will be synchronized to external source of synchronization

**E1-A/B**

**Name** – user-defined „names“ for E1 interfaces

**Impedance** – balanced 120 Ohm  
 - unbalanced 75 Ohm

**Frame** – unframed – transparent transport 2.048 Mbps  
 - framed - 31 optional timeslots, 16th timeslot is transparently transfered  
 -framed CRC4 – set in case „cooperative“ device requires it. CRC4 parameter can be set for each interface.

**DATA-A/B**

**Name** — user-defined „names“ for DATA interfaces

**Rx clock** – source of receiving clock

- Auto – external clock autodetection – data interface standard setting. If there is external clock, data will be received by external clock; otherwise data will be received by internal clock.
- Internal – data are received by internal data clock

**Tx clock** - source of transmitting clock

- Auto - external clock autodetection - data interface standard setting. If there is external clock, data will be transmitted by external clock; otherwise data will be transmitted by internal clock.
- Internal - data are transmitted by internal data clock

**Inverted Rx clock** – type of receiving clock, most often used for Long haul or substantial data delay

**Inverted Tx clock** – type of transmitting clock, most often used for Long haul or substantial data delay

**Global – text form**

```
[GLOBAL_PARAM]
# Global Parameters
# SYNCH - synchronization [INTERNAL, E1A, E1B, DATA0, DATA1, ETH]
#
//ETH only E1_OVER_ETH
# IMPEDANCE_E1A - [75,120] Impedance E1/A
# FRAME_E1A - [UNFRAMED, FRAMED, FRAMED_CRC4]
#
# RX_CLOCK_DATA0 - [AUTO,INTERNAL]
# INVERTED_RX_CLOCK_DATA0 - [ENABLE, DISABLE]
#
#
SYNCH=E1A

#---- E1/A ----
NAME_E1A=
IMPEDANCE_E1A=120
FRAME_E1A=FRAMED_CRC4
```

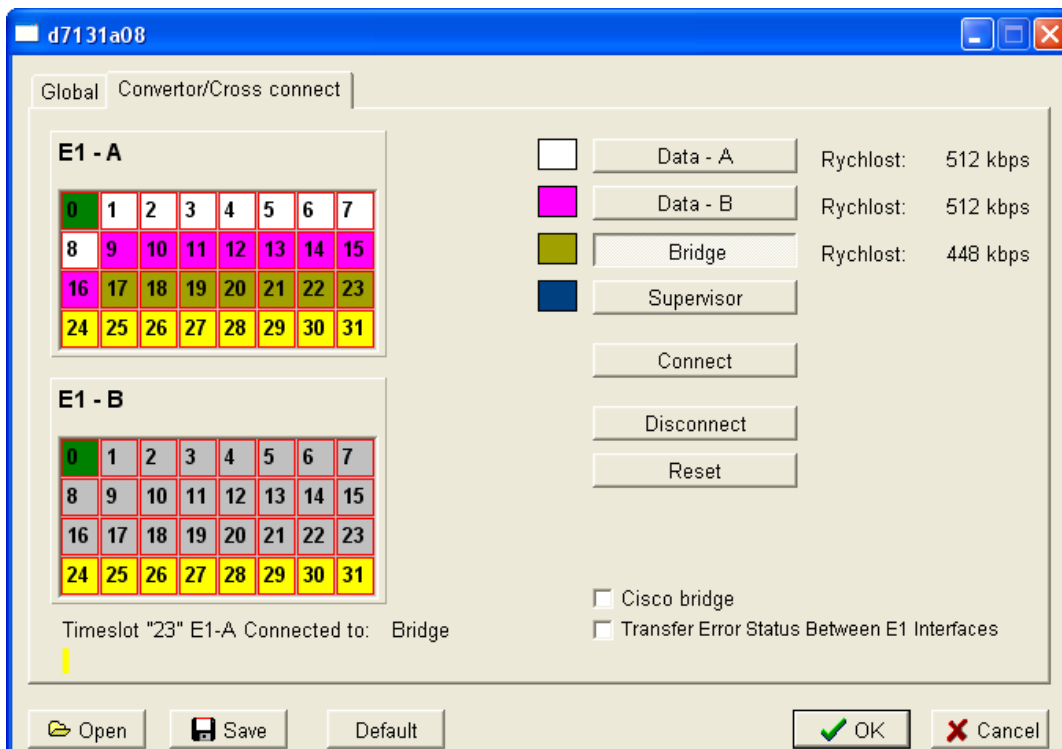
SUPERVISION\_E1A=ENABLE

```
#---- E1/B ----
NAME_E1B=
IMPEDANCE_E1B=120
FRAME_E1B=FRAMED_CRC4
SUPERVISION_E1B=ENABLE
```

```
#---- DATA/A ----
NAME_DATA0=
RX_CLOCK_DATA0=AUTO
TX_CLOCK_DATA0=AUTO
INVERTED_RX_CLOCK_DATA0=DISABLE
INVERTED_TX_CLOCK_DATA0=DISABLE
```

```
#---- DATA/B ----
NAME_DATA1=
RX_CLOCK_DATA1=AUTO
TX_CLOCK_DATA1=AUTO
INVERTED_RX_CLOCK_DATA1=DISABLE
INVERTED_TX_CLOCK_DATA1=DISABLE
CISCO_BRIDGE=DISABLE
```

**Cross Connect – graphic form**



**Data – A (Data –B)**

**How to assign data timeslots to E1 interfaces** - click on **Data - A (Data – B)**, then click on the target timeslots of target E1 (E1 – A or E1 – B) - data connection from data interface to the specific E1 interface will be set. Data transfer rate is displayed on the right, next to Data - A (Data – B) and is increased by the number of marked



timeslots in the crossconnection field. It is not possible to assign the same data timeslots to both E1 interfaces.

### Bridge

Click on **Bridge**, then click on target timeslots of E1 – A or E1 – B interface – timeslots will be connected. Data transfer rate is displayed on the right, next to Bridge.

### Supervisor

For device supervision it is necessary to set Supervisor timeslot by click on **Supervisor** and selected E1 timeslot.

### Connect

Click on this button and then on timeslot in E1 – A (or E1 – B) and on target timeslot of E1 interface – these two timeslots will be crossconnected.

### Disconnect

Click on selected timeslot to disconnect the connection which was already set.

### Reset

All settings will be removed.

### Timeslots are standardly differed by colour:

White – Data - A  
 Purple – Data – B  
 Khaki – Bridge  
 Blue - Supervisor  
 Yellow – crossconnected timeslots  
 Grey – unspecified timeslot

### Cross connect – text form

```
CROSS_CONNECT CONVERTOR
[CROSS_CONNECT]
# GA0,GA1,GA2,GA_HDLC Groups for E1/A
# GB0,GB1,GB2,GB_HDLC Groups for E1/B
# DATA0 DATA/A
# DATA1 DATA/B
#
# CHANNELS 0..31
# SYNTAX: GA0=1,2,3,16 or GA0=<1-3>,16
#
# CON0,CON1,CON2 CONNECTIONS
# SYNTAX: CONx=GA0-GB0 or CONx=GA0-DATA0
#
# TRANSFER_ERR - [ENABLE, DISABLE] Tranfer Error Status Between E1

#--E1/A--
```

GA0=<1-8>  
 GA1=<9-16>  
 GA2=  
 GA\_HDLC=

#--E1/B--  
 GB0=  
 GB1=  
 GB2=  
 GB\_HDLC=

CON0=GA0-DATA0  
 CON1=GA1-DATA1  
 CON2=

TRANSFER\_ERR=DISABLE

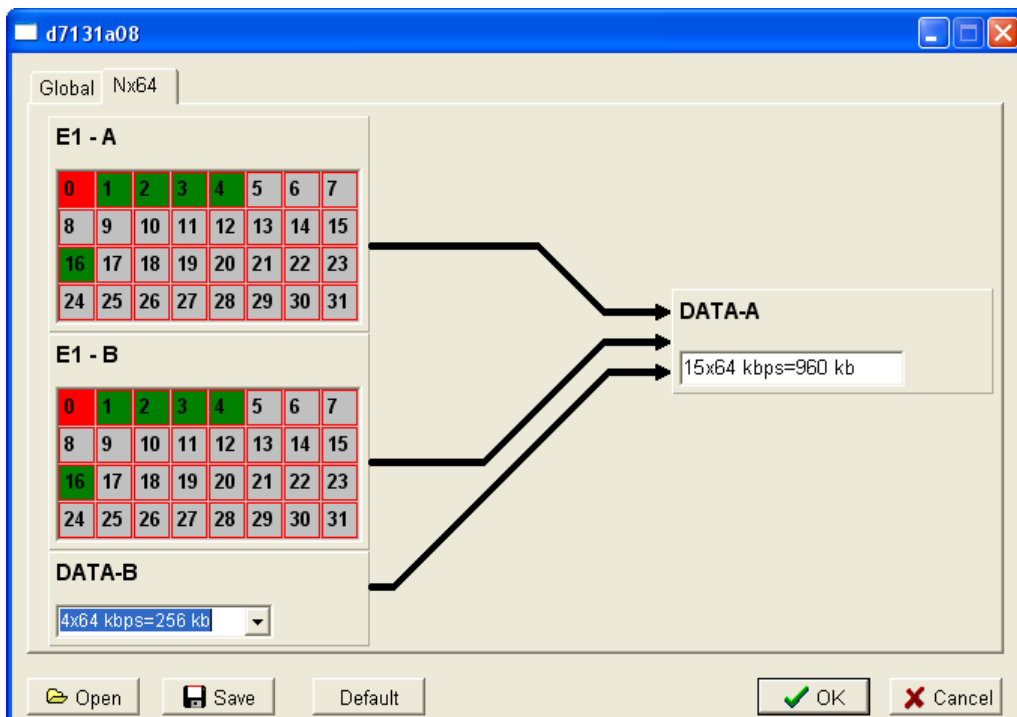
**Note :**

Graphic form does not allow user to set the groups of timeslots in E1 interface. To create the groups, use text form to set them. .

#--E1/A--  
 GA0=<1>  
 GA1=<2>

#--E1/B--  
 GB0=<1>  
 GB1=<2>

**Nx64 – graphic form**



In this application, ITX32M is used for connection of two devices via synchronous interface. ITX 471 31.7 can be connected only via X.21-A interface. X.21-A port is limited by max. transfer capacity 31x 64kbps (1x 64 kbps is always assigned for transfer of synchronization data).

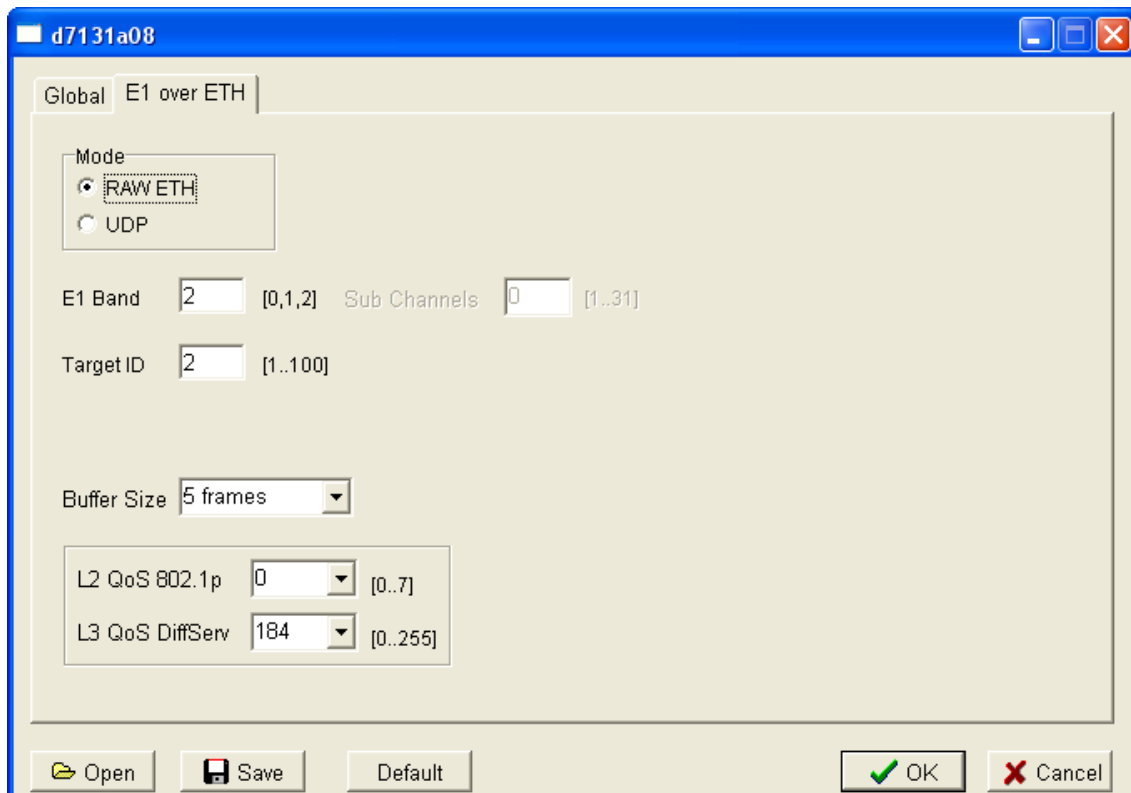
**NX64 – text form**

```
[NX64]
#
# GA0 Group for E1/A
# GB0 Group for E1/B
# SPEED_DATA1 [n=0..31] Speed=n*64 kbps
# DATA0 DATA/A Nx64 Interface
# DATA1 DATA/B Standard Data Interface
# GA0 GB0 DATA1 <= 31 Channels

GA0=<1-4>,16
GB0=<1-4>,16
SPEED_DATA1=4
```

**E1 over Ethernet – graphic form**

In this application, ITX32M allows transparent connection of E1 interfaces over Ethernet.



**Mode**

**RAW ETH** – used in local network or if VLAN tunnel is made. Devices are detected according to their ID.

**UDP** – this application can be used also in broad network and for routing to specified IP address.

**E1 Band** – number of active E1 interfaces

**Target ID** – ID number of a pair of devices (both devices of one pair have the same ID)

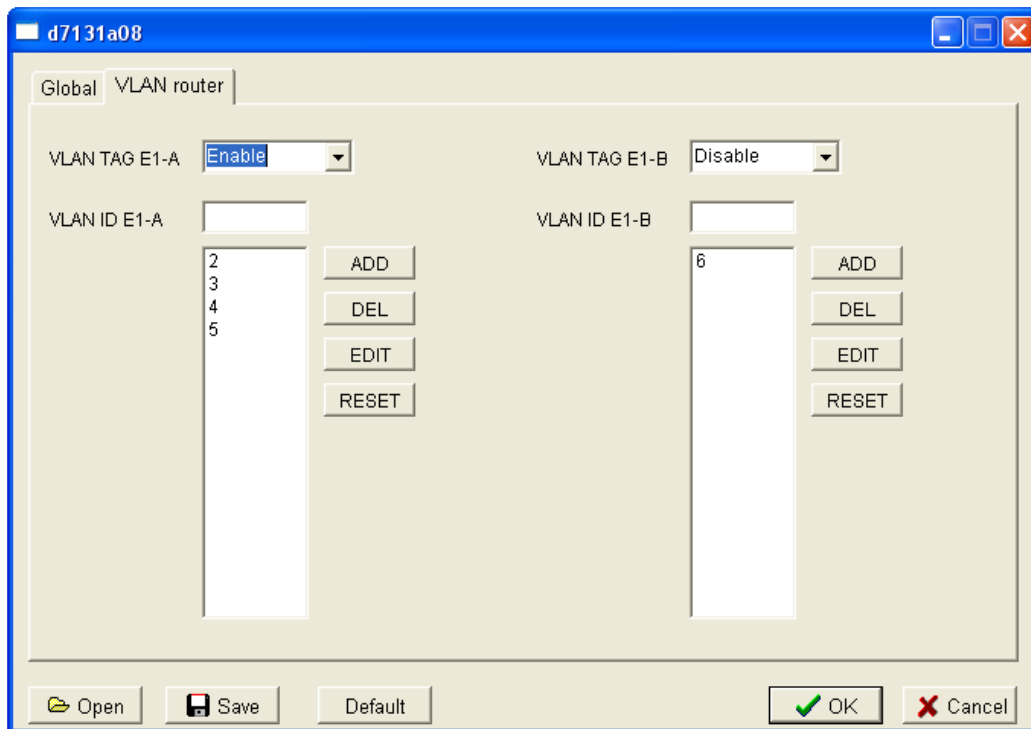
**Buffer size** – possibility to adjust buffer size (2, 5, 10 frames). For voice transfer, it is recommended to use 5 frames or less.

**E1 over Ethernet – text form**

```
[E1_OVER_ETH]
# MODE [RAW_ETH,UDP]
# TARGET_ID [1..100] ID for Two Equipments (MODE=RAW_ETH)
# E1_BAND [0,1,2] No of E1 Interfaces
# SUBCH (If E1_BAND=0) SUBCH=(1..31)
FRAME_E1A=FRAMED/FRAMED_CRC4
# TARGET_IP (IP address x.x.x.x) (MODE=UDP)
# BUFFER_SIZE (2,5,10 Frames) default 5
# L2QOS [0..7] Layer 2 QoS 802.1p priority value (default 0)
# L3QOS [0..255] Layer 3 QoS DiffServ (default 184)
```

```
MODE=UDP
E1_BAND=2
TARGET_ID=2
SUBCH=0
TARGET_IP=10.10.4.2
BUFFER_SIZE=5
L2QOS=0
L3QOS=184
```

**VLAN Router – graphic form**



In this application, device is used for routing from Ethernet interface to E1-A or E1-B interface based on VLAN ID.




- VLAN TAG E1-A/B** – enable/disable to transfer VLAN tag.
- VLAN ID E1-A/B** – list of ID VLAN which are routed to E1-A/B



**VLAN Router – text form**

```
[VLAN_ROUTER]
# VLAN_TAG_E1A [ENABLE,DISABLE]
# VLAN_ID if VLAN_TAG_E1A=ENABLE [1,2,..,16] max 16 Vlans ID (1..4094)
# if VLAN_TAG_E1A=DISABLE VLAN ID = one Vlan (1..4094)
#
```

```
VLAN_TAG_E1A=ENABLE
VLAN_ID_E1A=2,3,4,5
```

```
VLAN_TAG_E1B=DISABLE
VLAN_ID_E1B=6
```

-  Read - read config files from device
-  Write - write modified config files to device
-  Open - open existing config file

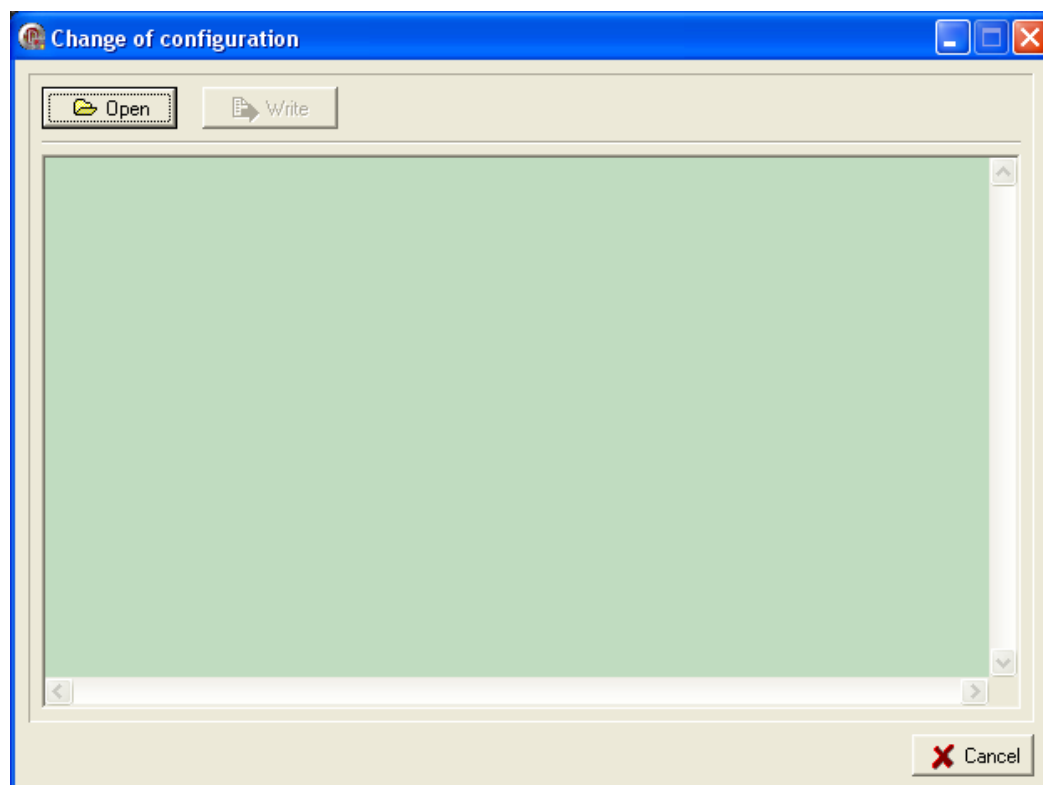
-  Save - save config files to \*.txt file
-  Cancel - quit window

## Change of configuration

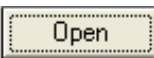
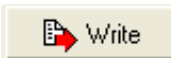
Main menu **Communication – Change of configuration** or click on speed button



. This window will be displayed:



It is possible to enable/disable the functions of ITX32M (for each function, a licence is necessary). This operation can be performed with \*.zkf file generated by producer Inoteska s.r.o.

Click on  to find a file for changing the configuration and then  to write new configuration to device. New device configuration will be displayed in

**Identification** window. Click  to quit the window.

### How to order:

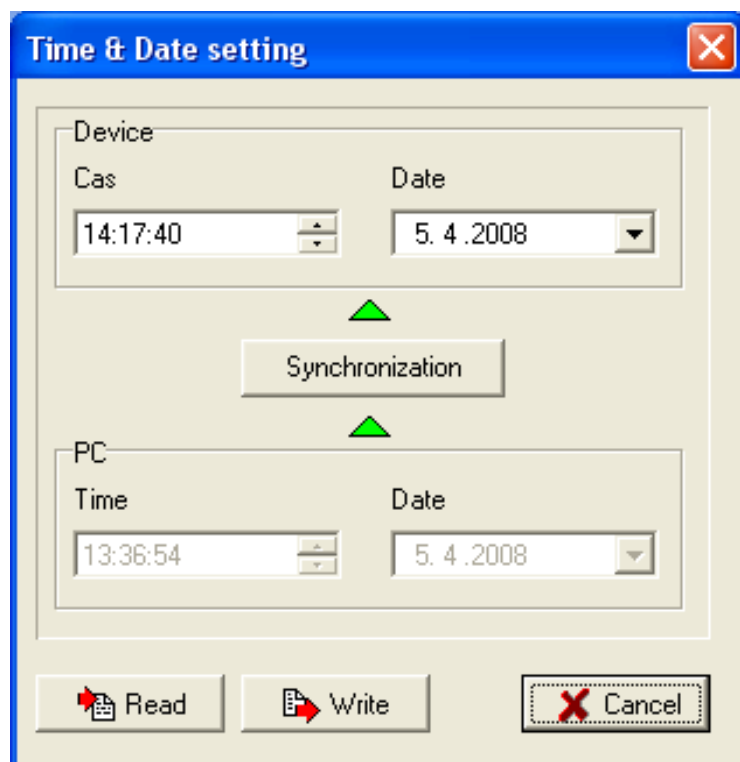
The device's basic configuration can be changed by ordering a new configuration from Inoteska.

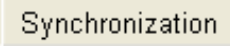
#### **Specify:**

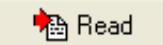

- Device's serial number
- Requested configuration

## Time & Date setting

Choose from main menu **Communication – Time & Date setting** or click on speed button . Following window will be displayed:




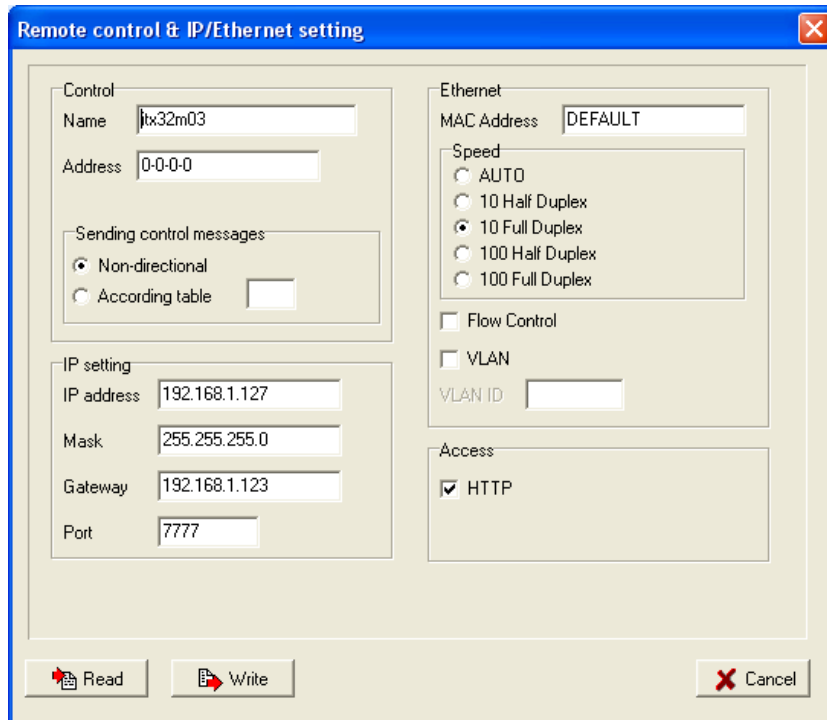
Here you can set **Device** and **PC** time&date or click  to synchronize these settings.

Click on  to read settings from device and  to write new settings to device.

Click  to quit the window.

## Remote control and IP/Ethernet setting

Main menu **Communication – Remote control\_IP/Ethernet setting** or click on speed button . There will be a window displayed where you can set TCP/IP parameters for communication with device.



### Control

**Name, Address** – device name and address

**Sending control messages**

**Non-directional**

**Accordinging table**

### Ethernet

**MAC address, Speed** – ethernet settings

**Flow Control** – control frames transmit when device buffers are overflowed

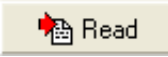


**VLAN** – VLAN ID – device will expect remote control through VLAN set

### IP setting

**IP address, Mask, Gateway, Port** – IP settings

### Access

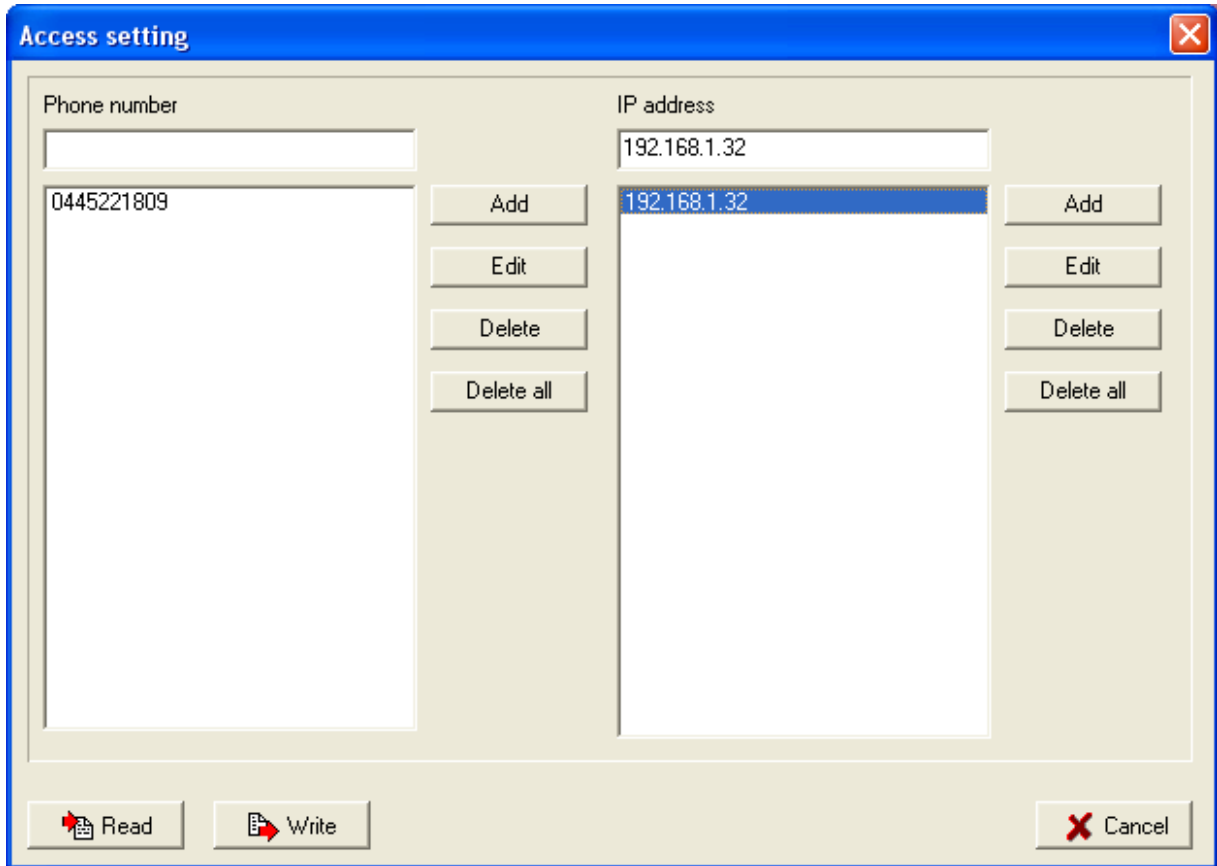
**HTTP** – allow/disalow of HTTP access

Click on  to read settings from device and  to write new settings to device. Click  to quit the window.

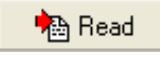




### Access setting


From main menu choose **Communication – Access setting via remote control** or click on speed button .








These settings allow to set the access parameters for remote control – **Phone number** and **IP address** authorized to communicate with device.

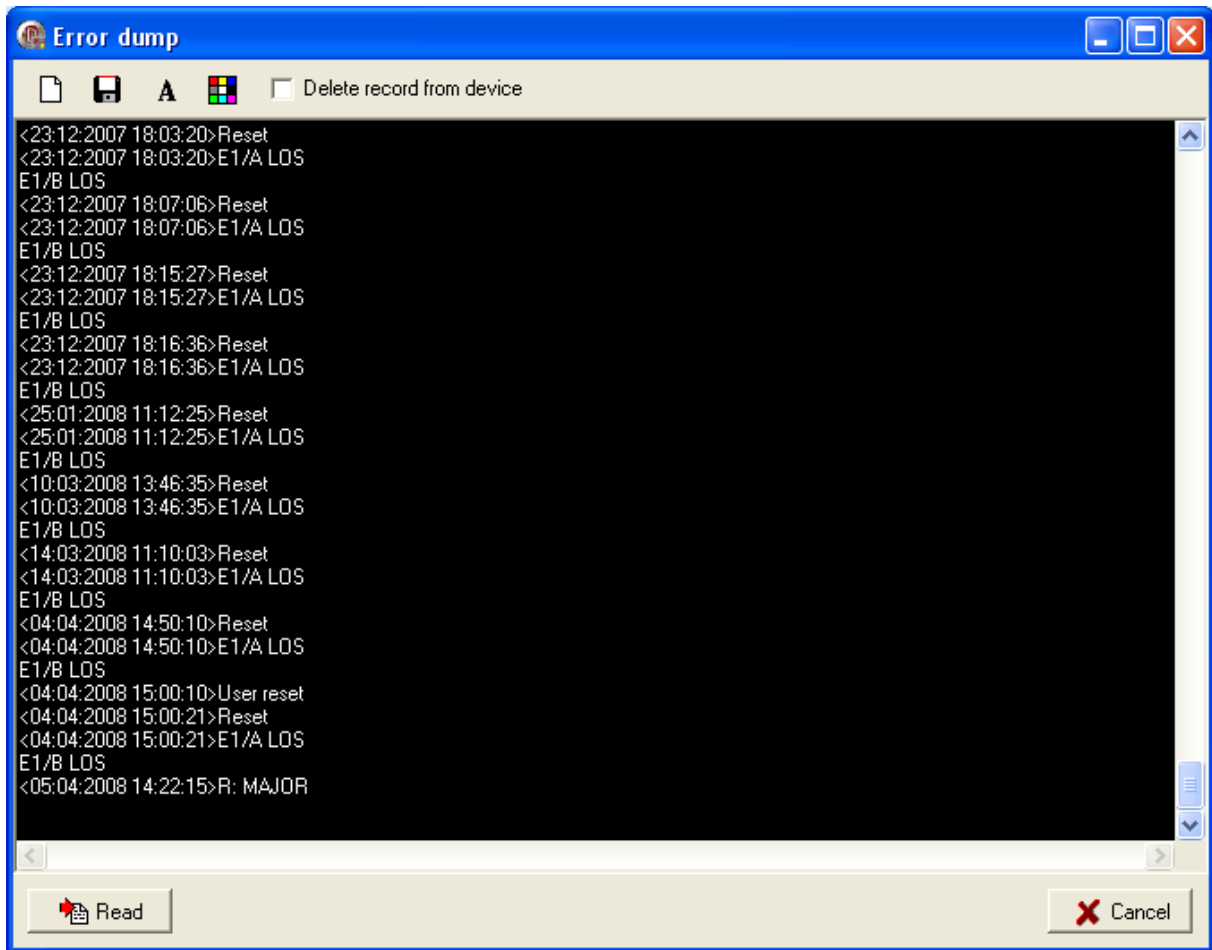
To edit the list of phone numbers/IP addresses, use the buttons on the right side of each list. Click on  **Read** to read access setting via remote control from device and  **Write** to write new settings to device. Click  **Cancel** to quit this window.

## Error dump

Choose from main menu **Communication – Error dump** or click on speed button . History of device main errors will be displayed – reset, drop-outs, ....


If you wish to clear the window, click on  and then click on  to read data from device. User can define text format  and background color . Data can be saved to a file by click on .

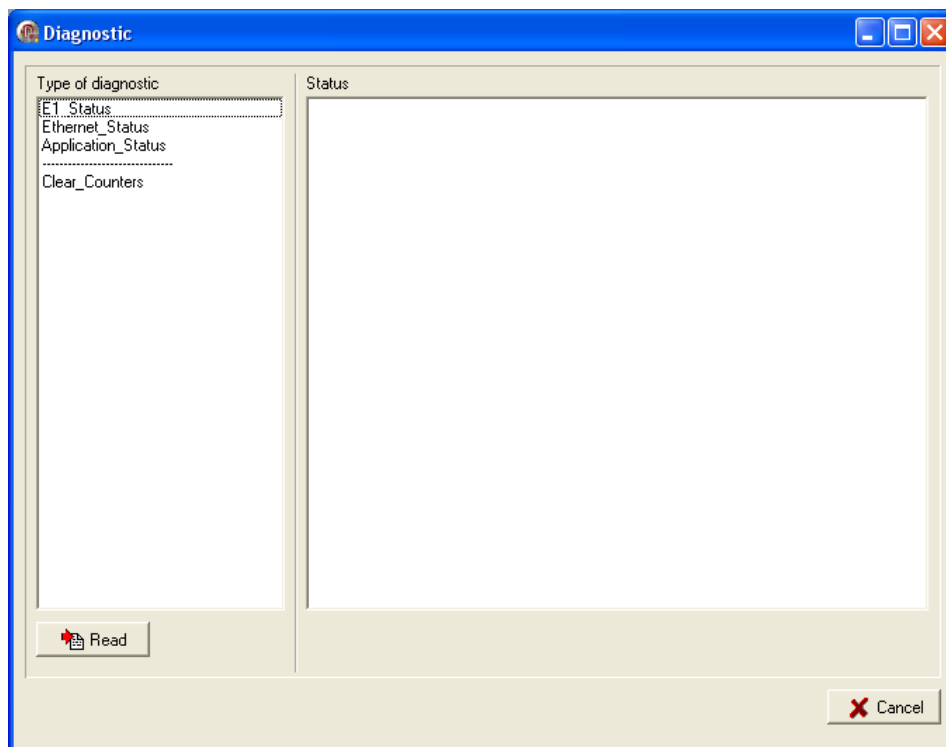
To **delete record from device**, activate this option in the top part of window.



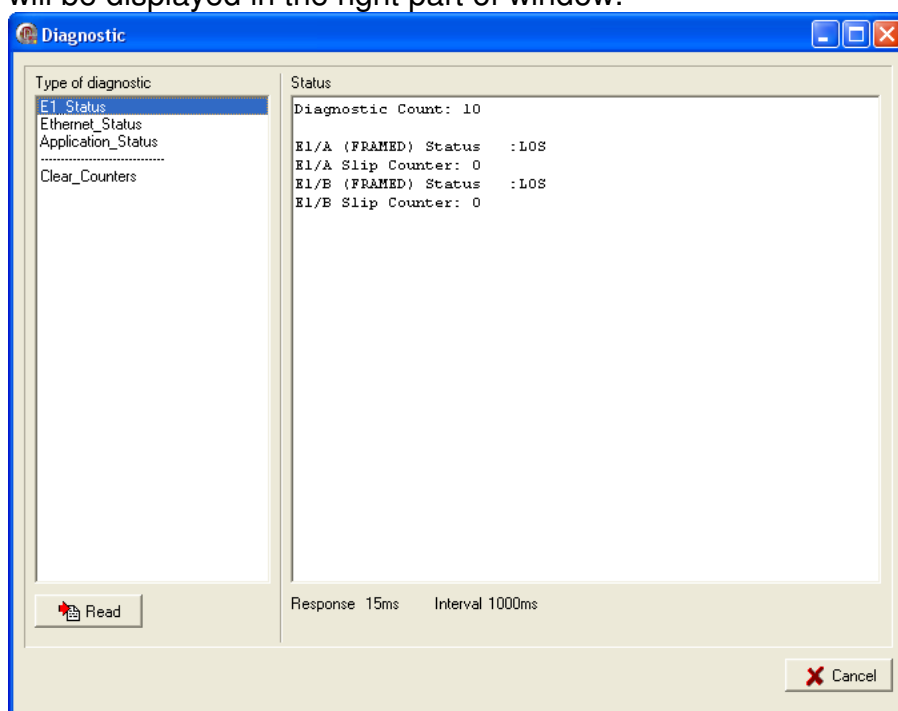
Click  to quit this window.

## Diagnostic

There is a real status of each interface displayed. From main menu choose **Communication – Diagnostic** or click on speed button .



Then double click on the item from the list in the left part of window – its diagnostic will be displayed in the right part of window.



**E1 status**

**Loss of Signal LOS** – detects loss of signal on link level - E1 interface is not connected.

**Alarm Indication Signal AIS** – transmitted signal is constant and data contain value Log1.

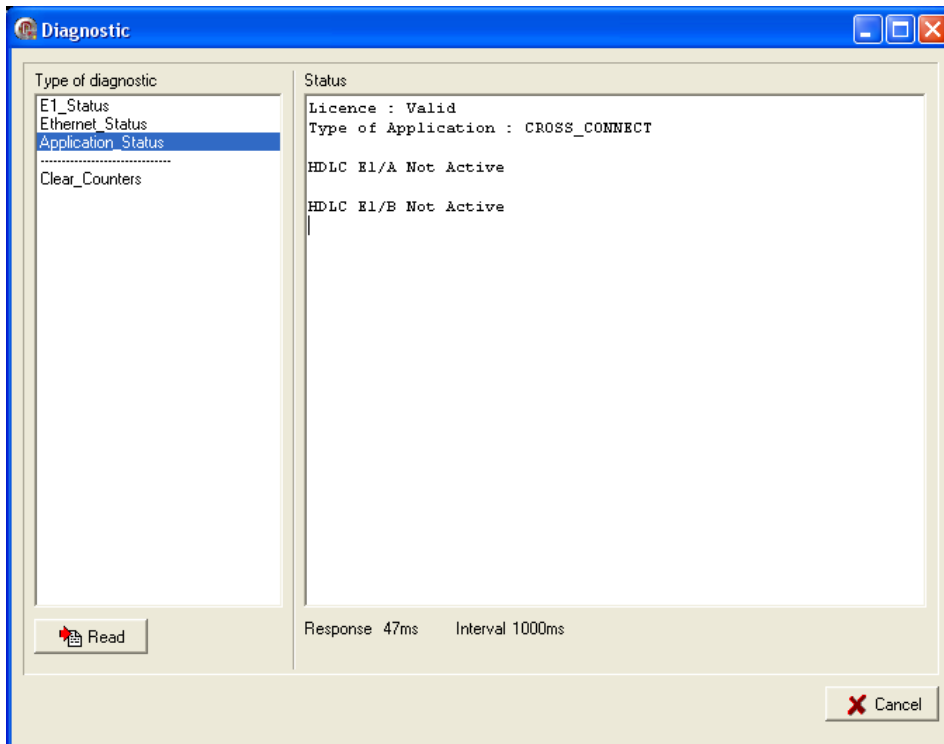
**Loss of Frame Alignment LFA** – indicates synchronization error in 0<sup>th</sup> timeslot.

**Receive Remote Alarm RRA** – indicates remote device alarm (error - loss of signal).


**Slip Detection Indicator SDI** – indicates positive slip if device clock has higher frequency than the clock signal received, and negative slip if device has lower frequency clock .

**Ethernet status** – status of Ethernet interface

**Application status** – displays the information about Type of application (device function) which is currently used



**Clear counters** – clears the counters in diagnostic

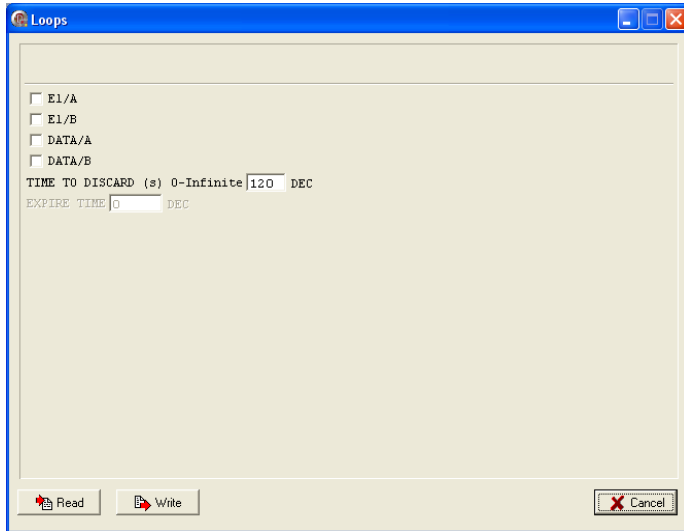
Click  to quit Diagnostic window.

**Listing messages**

Device does not support this function.

## Loops

Click on speed button .




It is possible to create SW loop for each E1/DATA interface (SW connection of receive with transmit).

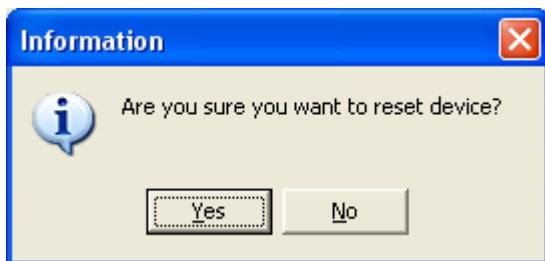
**Time to discard** and **Expire time** can be set.

## Service functions

Device does not support this function.

## Reset

If you want to reset the device, then choose from main menu **Communication – Reset** or click on speed button . Prompt is displayed:




For device reset, confirm by click on .

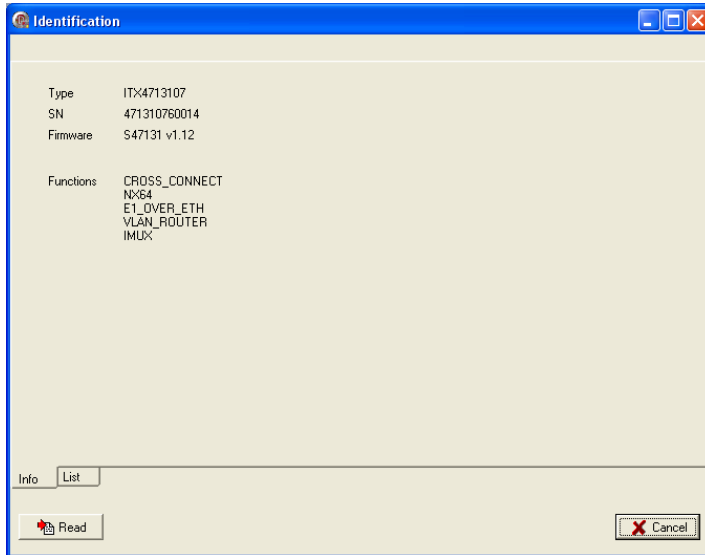
## Delayed reset

Device does not support this function.

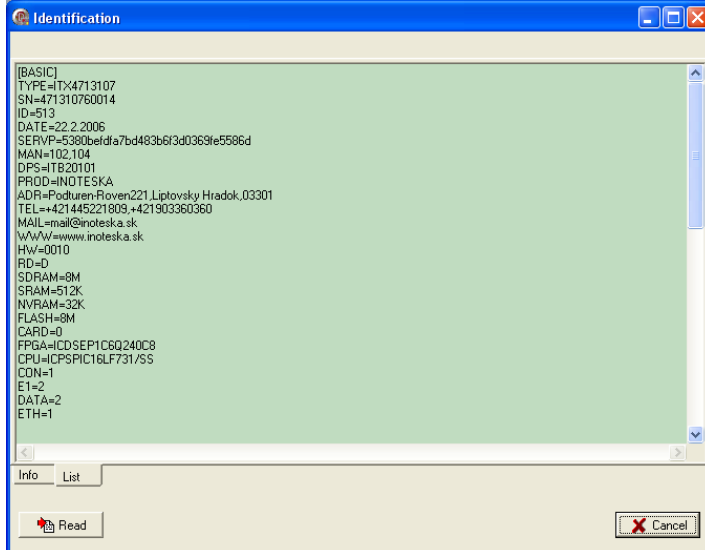
## Identification

To find out HW information about device, choose from main menu **Communication– Identification** or click on speed button .

### Info



### List



### Note:

Configuration SW does not allow to change HW configuration (e.g. number of activated E1/x.21, UDI interfaces, activation of multiplexer functions, ...).

## About configuration SW

Main menu **About** - information about configuration software will be displayed.

## 4. SALES CONDITIONS

**Warranty:**

Product warranty period is 24 months from the date of delivery or installation. Warranty does not apply in case of an accident, handling by a non-professional or improper use or force majeure.

**Delivery:**

Standard delivery time is max. 6 weeks from the signing of the purchase order or after mutual agreement.

**Contact:****Inoteska s.r.o.**

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**Account no.:** 616243342/0200

**SWIFT code:** SUBASKBX

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