



inoteska

TRUNK FXS / LB

PRODUCT MANUAL



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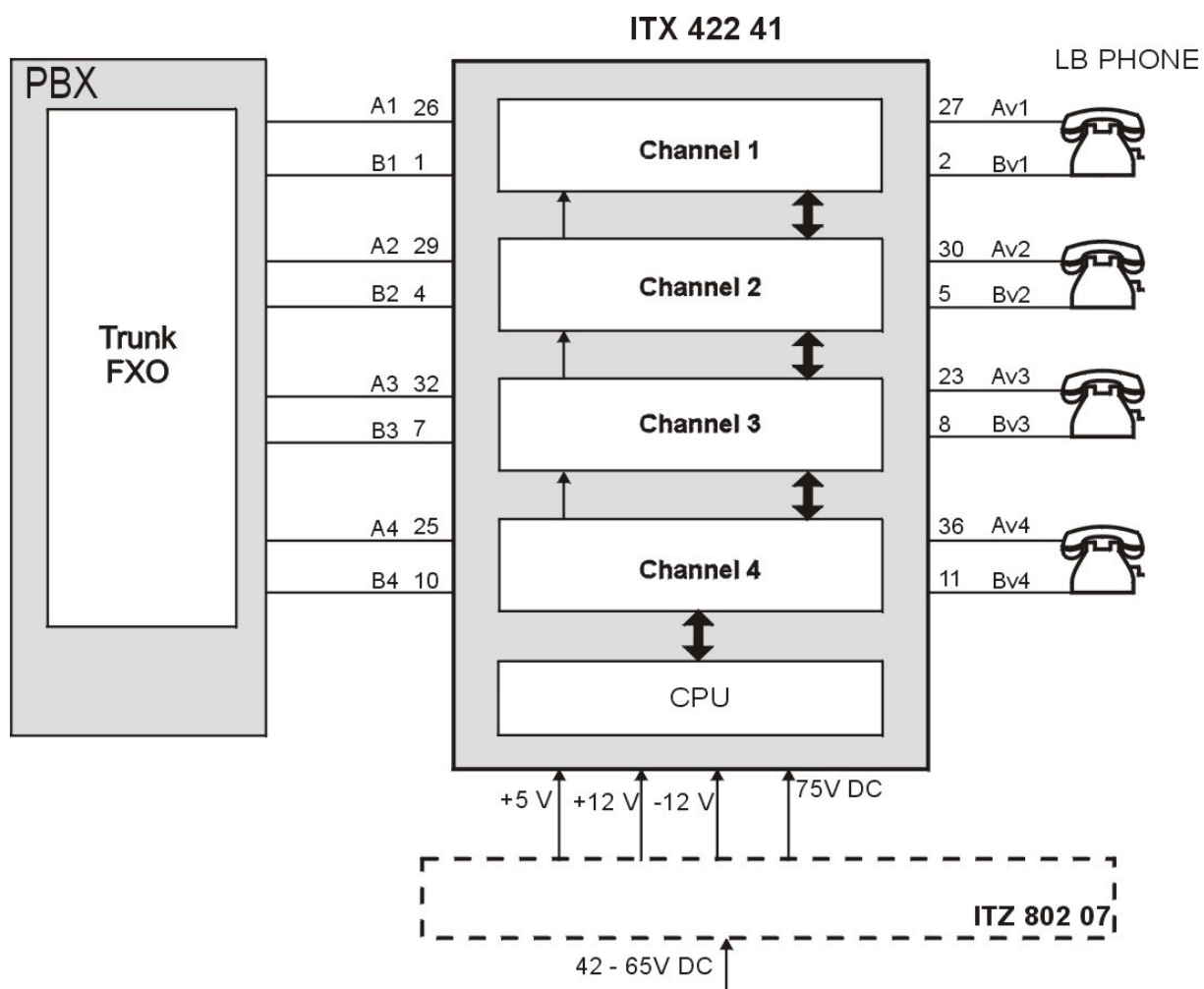
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1. TECHNICAL SPECIFICATION

Trunk allows:

- To connect up to 4 LB telephone sets
- To connect to line interface of a PBX with loop signalling FXS
- AC signalling between LB Trunk and LB telephone, using ringing voltage
- Power supply from the host PBX 42V to 65 V, 300 mA
- Two-wire line between LB Trunk and LB phone

Application of ITX 422 41



Technical Information

Transmission and electrical information

- Frequency Band	300 - 3400 Hz
- Input impedance	600 Ω (@ 40 mA, 300 - 3400 Hz)
- Insertion loss	0.5 \pm 0.7 dB @ 800 Hz
- Longitudinal balance	
50 - 300 Hz	26 dB
300 - 600 Hz	40 dB
600 - 3400 Hz	46 dB

Reflection attenuation

Reflection attenuation is higher than 12 dB in the range of 300 - 600 Hz and 18dB in the range of 600 - 3400 Hz, by the input level 0 dB.

Psophometric noise

Average value of the psophometric noise (measured in the point with the zero relative level of the voice signal) does not exceed the value of -67 dB.

Silence level

Silence detector must operate as follows:

- up to signal level -36 dB can not evaluate the silence
- 36 dB to -42 dB can evaluate the silence
- 42 dB and less has to evaluate the silence

Busy tone level

Busy tone detector must operate as follows:

- at level -10 dB to -20 dB
- and frequency
- 410Hz to 450 Hz has to evaluate busy tone
- 390 - 410 Hz and 450 - 470 Hz can evaluate busy tone
- less than 390 Hz or more than 470 Hz can not evaluate busy tone

2. GENERAL DESCRIPTION

LB trunk ITX 422 41 is connected to PBX line interface (extension) with loop signalling. Line is connected to the LB telephone set or equivalent equipment.

LB trunk allows to connect up to 4 lines. The whole system is controlled by microcomputer. The card contains also protective elements against overvoltage on the tip and ring wire.

The board is usually powered from the host PBX. Power requirements are -42 to -65 V DC, 300 mA.

The Management software is used for parameters setting.

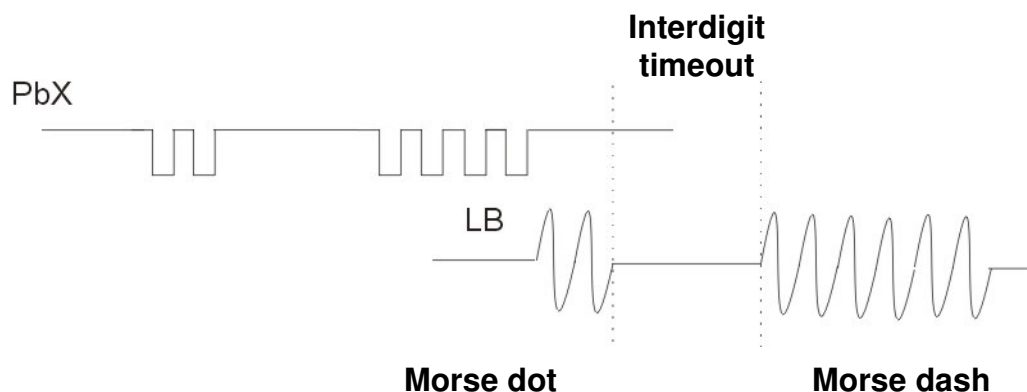
Outgoing Call from PBX

Outgoing call from PbX is done by seizing FXO trunk and dialing the digits which correspond to dot and dash set (see chapter 5 for details). Dots and dashes have to be transmitted in sequence corresponding to Morse code of called party.

The dial from FXO trunk in PbX can be pulse or DTMF.

The dial must be terminated with the digit different from the set one representing dot or dash.

The ringing from ITX 422 41 is transmitted only if the termination digit was dialed.



Example:

Values set – Morse dot 2
- Morse dash 7

The called party is represented as „MOD“.

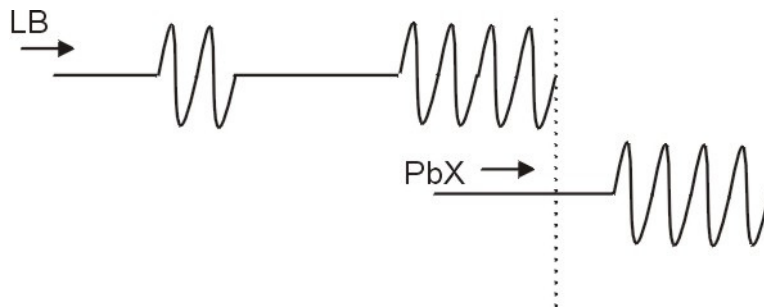
Outgoing call is: 77 777 722 1- dial termination
M O D

Incoming Call to PBX

Each LB line in ITX 422 41 may have its own mark set. After receiving it, it rings to PbX. Then FXO trunk in PbX proceeds the incoming call according to PbX configuration.

It is possible to set dot, dash and pause length in ITX 422 41 configuration.

Start Dial after Seizing



3. MECHANICAL ASSEMBLY

ITX 422 41 is placed in the 19" rack 6 U ITP 222 05.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
○			FXS / LB ITX 422 41 4 - fold	FXS / LB ITX 422 41 4 - fold	FXS / LB ITX 422 41 4 - fold	FXS / LB ITX 422 41 4 - fold												DC / DC ITZ 802 07			○
○																					○
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Dimensions in mm (height x length x width):

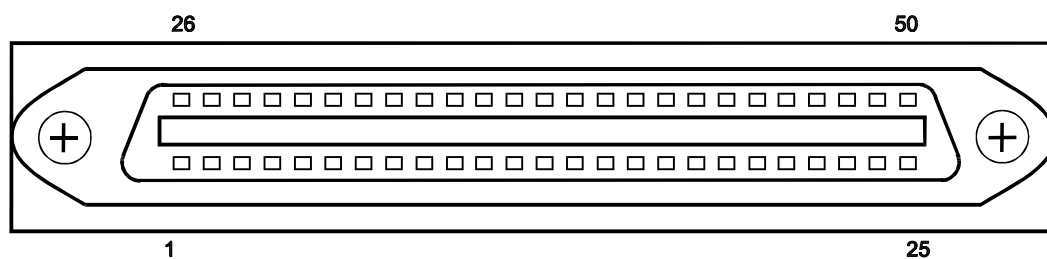
267 x 480 x 239

Max. number of ITX 422 41 cards embeded in ITP 222 05 rack: 16 pcs

4. SETTING UP

Connector J 2

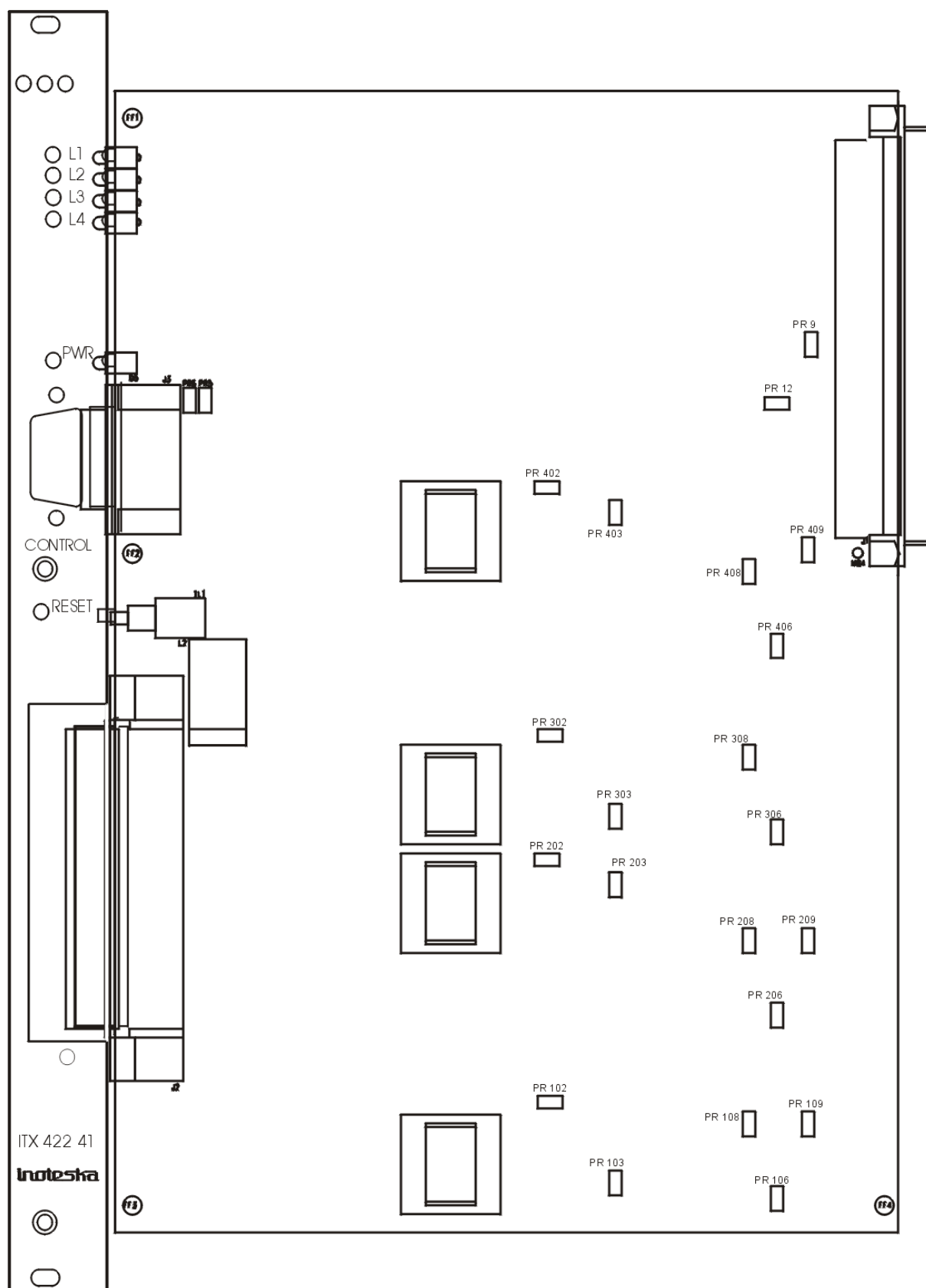
50-pin connector is included in the package.



1 - B1	26 - A1
2 - Bv1	27 - Av1
3 -	28 -
4 - B2	29 - A2
5 - Bv2	30 - Av2
6 -	31 -
7 - B3	32 - A3
8 - Bv3	33 - Av3
9 -	34 -
10 - B4	35 - A4
11 - Bv4	36 - Av4
12 -	37 -
13 -	38 -
14 -	39 -
15 -	40 -
16 -	41 -
17 -	42 -
18 -	43 -
19 -	44 -
20 -	45 -
21 -	46 -
22 -	47 -
23 -	48 -
24 -	49 -
25 - 0V	50 -

A1 - 4, B1 – 4 - tip and ring wires to PBX
 Av1 - 4, Bv1 - 4 line wires to LB telephone

Jumpers layout



Jumpers setting:

Ringling voltage frequency

	PR 9	PR12
25 Hz	1-2	1-2
50 Hz	not connected	not connected

Amplification

	PbX → LB		
	0 dB	+3dB	
PR 102	not connected	1-2	1. LB Trunk
PR 202	not connected	1-2	2. LB Trunk
PR 302	not connected	1-2	3. LB Trunk
PR 402	not connected	1-2	4. LB Trunk

	LB → PbX		
	0 dB	+3dB	
PR 103	not connected	1-2	1. LB Trunk
PR 203	not connected	1-2	2. LB Trunk
PR 303	not connected	1-2	3. LB Trunk
PR 403	not connected	1-2	4. LB Trunk

Receiving DTMF level

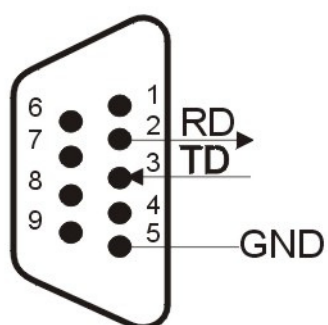
	0 dB	+6 dB
PR 106	not connected	1-2
PR 206	not connected	1-2
PR 306	not connected	1-2
PR 406	not connected	1-2

HW jumpers:

PR 108	not connected
PR 109	not connected
PR 208	not connected
PR 209	not connected
PR 308	not connected
PR 309	not connected
PR 408	not connected
PR 409	not connected

Connector for PC connection :

ITX 422 41 - PC
9 PIN FEMALE
DCE



Cable ITX 422 41 - PC



1.	-	6.	-
2.	RD	7.	-
3.	TD	8.	-
4.	-	9.	-
5.	GND		

5. MANAGEMENT SOFTWARE

CD with the Management software and this manual is supplied with the ITX 422 41.

Installation:

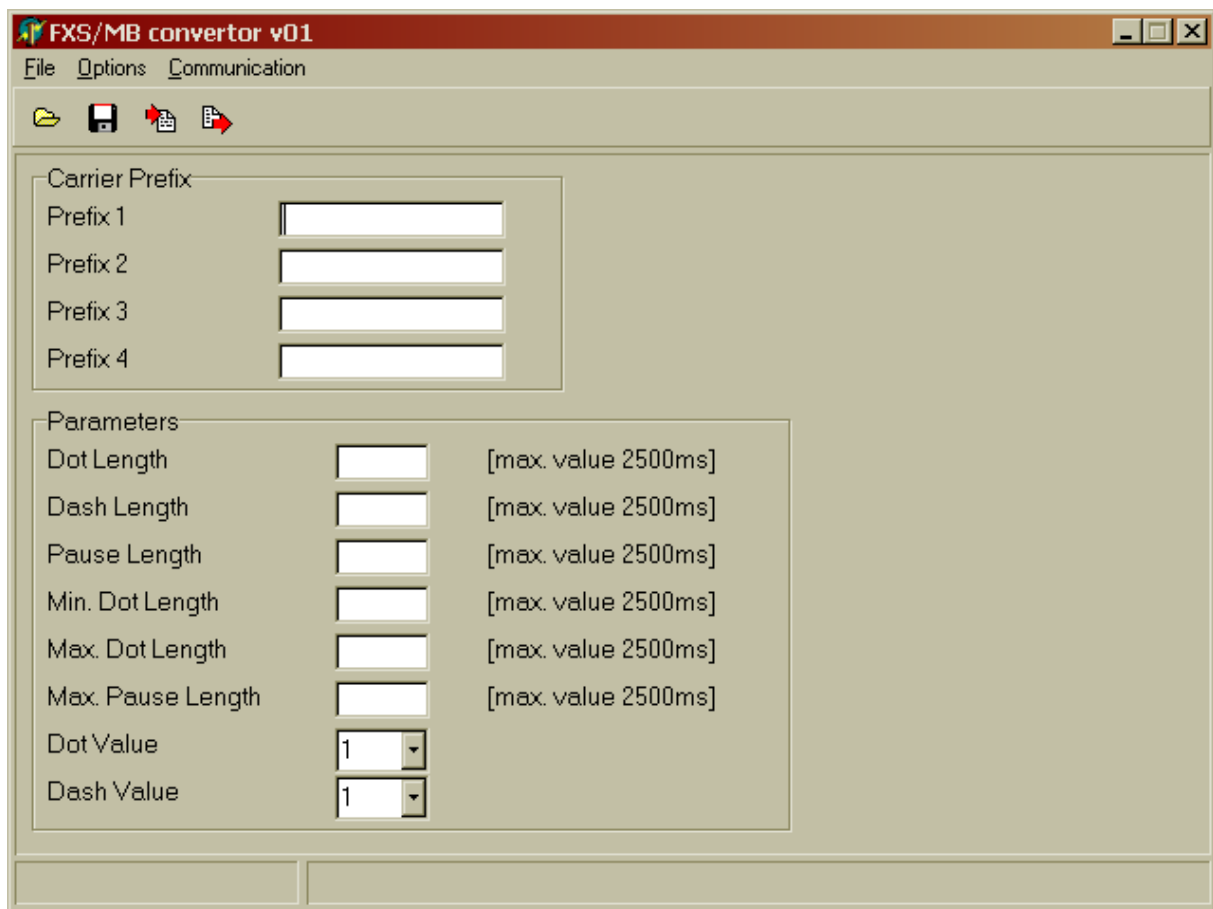
1. Insert the CD in your CD-ROM drive.
2. Under Windows '98 or higher, click the Start button and choose Run.
3. Type: d:\42241, where d is the letter assigned to your CD-ROM drive.
4. Click OK

How to Run Management Software:

Run M2241a01.exe

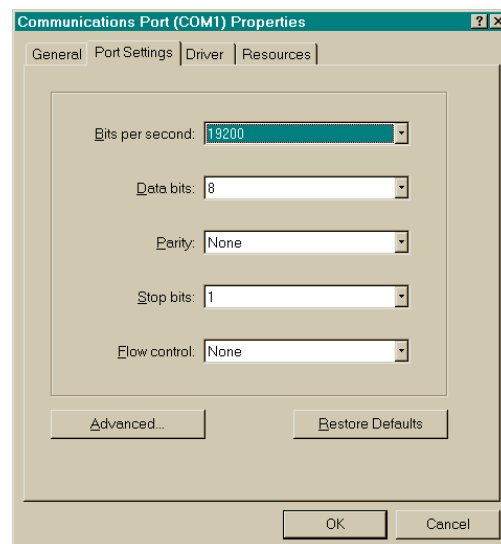
Note: If LEDs on the installed board flash, it indicates that no parameters were loaded.

After running the management SW a configuration window is displayed on the screen:



In case of error, please check:

- System power source
- Serial port connection
- Serial port setting in the connected PC
- Cable between ITX 422 41 and PC

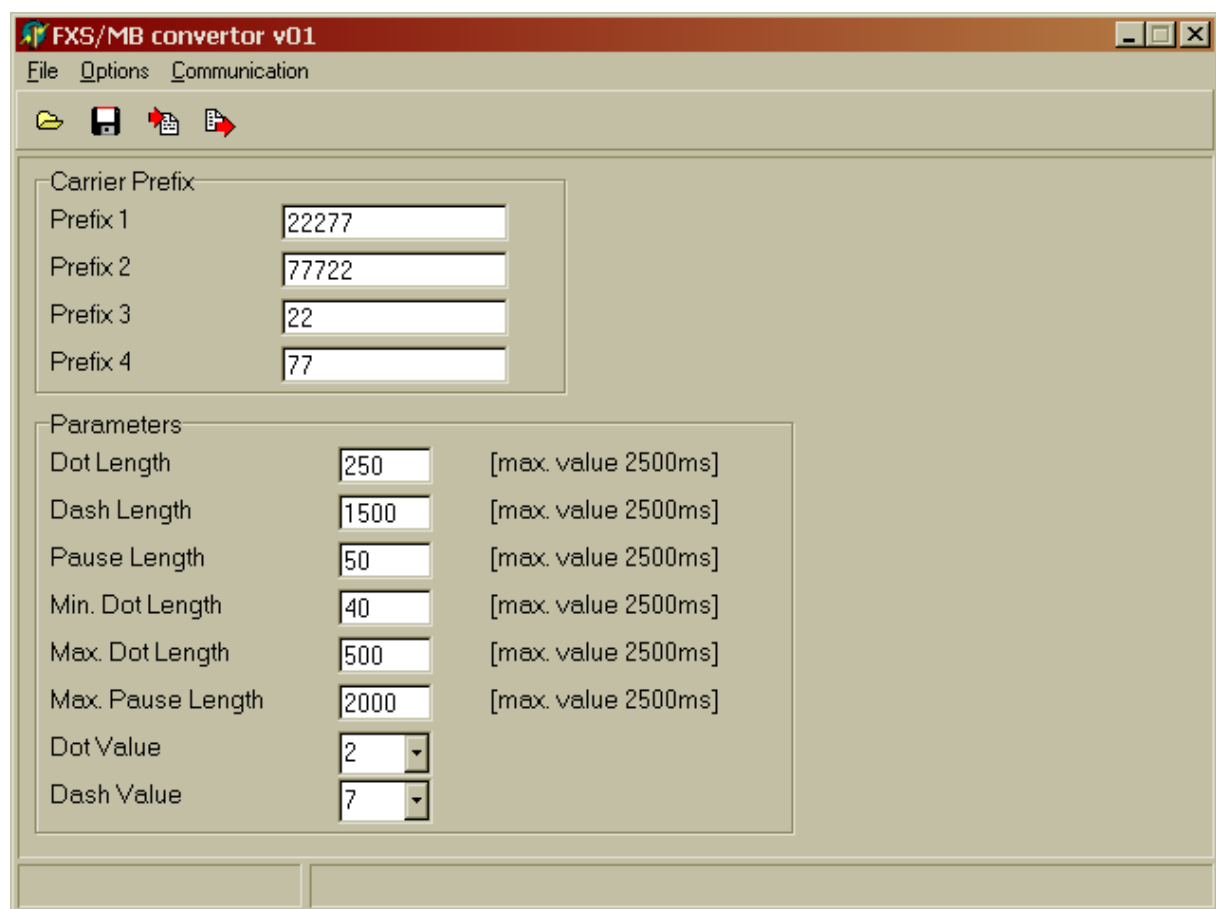


Default setting

If necessary, it is possible to load the default configuration by loading **default.dat** to ITX 422 41

Each parameters modification on the screen **has to be written to the device**.

Settings:



Speed buttons:

Load from file – loading of parameters from the file

Save to file – saving of set parameters to the file

Read from ITX –reading the configuration from ITX 422 41

Write to ITX – writing the configuration to ITX 422 41

Incoming call from LB to PbX

It is necessary to set following parameters for incoming call to PbX:

Carrier Prefix 1-4

The sequence of dots and dashes can be set for each line. After receiving the set combination of dots and dashes, the line rings to FXO trunk in PbX.

Digits representing dot and dash are set as:

Dot value

Dash value

Parameters for ringing coming from LB:

Min. Dot length

Max. Dot length

Max. Pause length

Values must be from interval stated below.

	Min. length	Max. length
Morse Dot	100	2500*
Morse Dash	400	2500*
Pause	200	2500

* The difference between dash length and dot length must be min. 300 ms.

Outgoing call from PbX to LB

It is necessary to set following parameters for outgoing call from PbX:

Dot length

- from interval 100 ms to 2200 ms

Dash length

- from interval 400 ms to 2500 ms

* The difference between dash length and dot length must be min. 300 ms.

Pause length

The length of interdigit timeout is from interval 50 ms o 2500 ms.

ITX 422 41 will transmit the ringing to LB according to the parameters set using the configuration SW.

6. APPENDIX - MORSE CODE

Morse Code Alphabet

The International morse code characters are:

A .-	N -.	0 -----
B -...	O ----	1 .----
C -.-.	P .--.	2 ..---
D -..	Q --.-	3 ...--
E .	R .-.	4-
F ..-.	S ...	5
G --.	T -	6 -.....
H	U ..-	7 --....
I ..	V ...-	8 ---...
J .---	W .--	9 ----.
K -.-	X -.-.	Fullstop .-.-.
L .-..	Y -.-	Comma --..-
M --	Z --..	Query ..--..