DIGITON
Technical Research Ltd.

ICN 2005

Intelligent Conference System
User Manual

DIGITON Ltd.

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Printed in Hungary
May, 2007
Version: 1.4.

Contents

1. GENERAL INFORMATION

1.1. INTRODUCTION

ICN 2005 (ICN = **I**ntelligent **C**ongress **N**etwork) is the further developed version of the previous popular conference system **ICN 2000** of DIGITON Ltd. With preserving the successful design, with significant service extension, the new **ICN 2005** conference system is a favourable value rate representing solution.

The new 32-channel communication system ensures transmission for 31 digital audio channels and 1 data communication channel. The audio channels offer a voice quality that meets all the demands with the aid of a transmission of 16 bit/48kHz PCM. The audio channels can be freely distributed between the languages interpreted and the active microphones. This means that with the aid of conference system **ICN 2005** even such a system serving 23 languages can be set-up – that meets the interpretation requirements of the European Union.

When developing the system one of the most important aspects was the principle of modular extendibility. The cabling and power supply structure can be flexibly adapted from the simple meetings of a few participants up to Parliamentary systems that serve several hundreds of people. The delegate units are produced in three different versions, starting with the simple one that allows the presentation of speeches and ensures loudening, through the model that is equipped with an LC graphic display, up to the model that ensures chip card identification. Naturally all these types can be incorporated into the same system.

1.2. CONFERENCE SYSTEM SERVICES

1.2.1. *Core functions*

The basic sets of the delegate units of the conference system contain a microphone (HEP 301), a loudspeaker and a "word-requesting" button. The excellent audio quality and speech understanding is ensured by a decentralised, controlled audio amplification technology solution. The built-in microphone of the delegate unit has "cardioid" direction-characteristics in order to ensure interference-free operation. In the basic set-up (Diagram 1) the system is made up of a central unit (PEP 3001), chairman (PEP 300) and delegate units (PEP 301..). In this set-up the system can be operated only in automatic mode. With the aid of power unit ETP 315 maximum 15, while with the aid of power unit ETP 370 maximum 70 delegate units can be connected to the system. The maximum number of active microphones that can be used simultaneously can be set with the aid of central unit PEP 3001.

The main characteristics of the system are the following:

- simple operation
- fast installation
- excellent speech understanding
- aesthetic appearance
- multi-dialogue communication
- several types of microphone activating operation modes
- possibility of connecting external audio recording units
- receiving of the signals of external audio sources
- receiving the signal of external room audio amplifiers
- room-audio output for the purpose of external loudening
- connection of an external participant from a phone line

1.2.2. *Transmitting interpreted speeches*

Unit HEP 301 of the conference system allows the simultaneous transmission of even 30 different language interpretations. Channel 31 broadcasts the floor-voice, while channel 32 is for data communication. According to the international prescriptions in each interpreter booth work facilities have to be ensured for two interpreters simultaneously, for this reason 2 interpreter units are required in each booth. Therefore in the system each interpreter has an independent interpreter unit, which ensures interpreter shifting within the booth. The system does also support the interpretation mode of several relay languages.

Naturally the interpreter system is capable of operation if 1 interpreter unit is installed in each booth.

The translated languages may be listened with the aid of the headphones that is connected to the delegate unit. Selecting the language and setting the audio volume can be achieved with the aid of the press-buttons of the delegate unit.

1.2.3. *Voting facility*

Units HEP 301V of the conference system are equipped with backlit graphic LC displays, which also ensure a three press-button voting facility for the participants, in addition to transmitting the interpreted languages. Using chairman unit HEP 300 or processor-based control panel PEP 3002 it is possible to implement only simultaneous, secret and nameless voting, while with computer control unit PEP 3004 it is possible to conduct also different polls, with names and without names, simple and weighted voting as well.

It is possible to read from the graphic LC display of the delegate unit the remaining time while it is possible to vote and also the result of the vote.

Selecting the interpreted languages and setting the adequate audio volume can be also done with the aid of the graphic display, which simultaneously displays the abbreviated name of the selected language as well.

1.2.4. *Chip card identification*

Units HEP 301VR of the conference system – in addition to the functions that are described in sections 1.2.3. – have a chip card reader as well, with the aid of which it is possible to identify the participants with chip cards independently of their delegation desk. It is only practical to order such a system together with the control unit. In chip card operation mode it is possible to ask word or vote only after inserting the chip card into the device.

2. SYSTEM ELEMENTS

2.1. CENTRAL UNIT PEP 3001

2.1.1. General introduction

Central unit PEP 3001 is the core element of conference system **ICN 2005.** It is required for all the possible configurations. It is the task of the unit to synchronise the system and to generate the floor audio channel. It is possible to connect to a single PEP 3001 device even 400 participant and interpreter units, provided the system is adequately set up. Through the analogue inputs of the unit it is possible to mix the signals of external audio sources as well to the floor audio, and from its outputs it is possible to connect the signal of the floor audio channel to an external amplifier or voice recording equipment. The two coaxial output located on device are for driving the infrared radiators.

The central unit in addition to the above controls the word giving of the word, voting and it indicates to the speakers the „*SLOWLY PLEASE"* request of the interpreters. The "waiting list" is also managed by the central unit, which contains the list of those units, which did not get the word due to the available channels being occupied. Whenever an occupied channel is freed the first unit on the waiting list is moved among the units that have got the word.

Diagram 1 of the next page shows the overview drawing of unit PEP 3001.
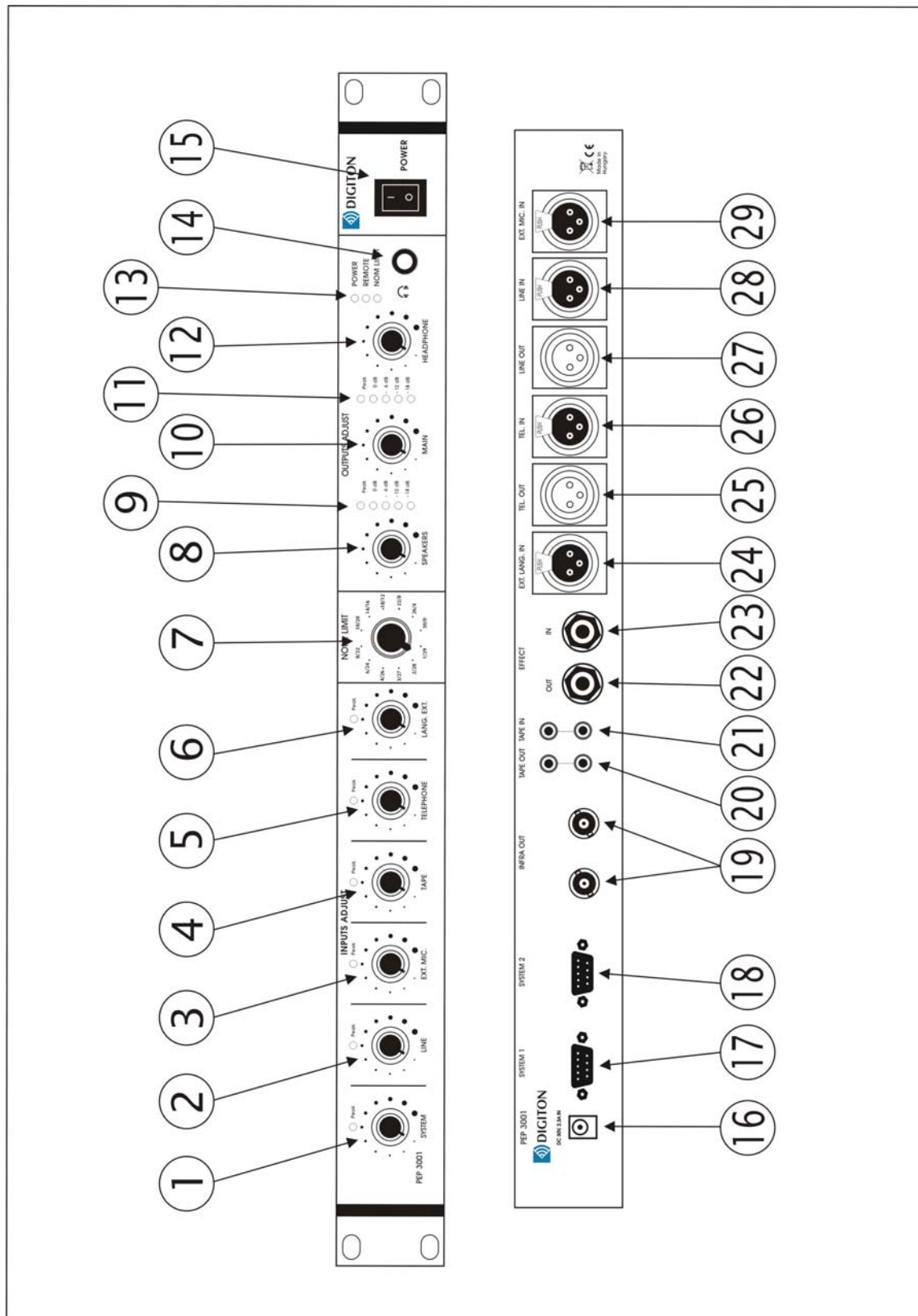
Diagram 1 - Overview sketch of unit PEP 3001

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The following table contains the name and function of those operator and display components and connectors of central unit PEP 3001, which are marked in Diagram 1.

Number	Name
1	„*SYSTEM*" – volume regulator of the system
2	„*LINE*" – volume regulator of the line level input
3	„*EXT. MIC.*" – volume regulator of the external microphone input
4	„*TAPE*" – volume regulator of the tape recorder input
5	„*TELEPHONE*" – volume regulator of the phone input
6	„*LANG. EXT.*" – volume regulator of the external language input
7	„*NOM LIMIT*" – switch setting the number of microphones that may be switched on simultaneously
8	„*SPEAKERS*" – volume regulator of the loudspeakers of the units
9	Output control display of the signal forwarded to the loudspeakers of the units
10	„*MAIN*" – volume regulator of the line level output
11	Outgoing control meter of the line level output
12	„*HEADSET*" – volume regulator of the headset output
13	Status indicating LEDs
14	Headset connector
15	„*POWER*" – supply voltage main switch (it has a function only when ETP 315 is applied)
16	„*DC 30V*" – supply voltage connector for connecting unit ETP 315
17	„*SYSTEM 1*" – system connector
18	„*SYSTEM 2*" – system connector
19	„*INFRA OUT*" – coaxial outputs to the infrared radiators
20	„*TAPE OUT*" – output for a voice recording device
21	„*TAPE IN*" – input for a voice recording device
22	„*EFFECT OUT*" – output for connecting an external device
23	„*EFFECT IN*" – input for connecting an external device
24	„*EXT. LANG. IN*" – connector of external language input
25	„*TEL. OUT*" – connector of phone output
26	„*TEL. IN*" – connector of phone input
27	„*LINE OUT*" – connector of line level output
28	„*LINE IN*" – connector of line level input
29	„*EXT. MIC. IN*" – input connector of external microphone

2.1.2. *Operation guide*

Starting up the operation of the central unit – after connecting power unit ETP 315 – is done with power voltage switch marked „*POWER*" (15), the execution of which is indicated by green photo-diode „*POWER*" (13) of the device. After switching on, yellow photo-diodes „*REMOTE*" and „*NOM LIMIT*" (13) flash alternatively on the front panel of the central unit for some seconds – during the period of synchronising –, and then after synchronisation is completed both go out.

During operation the flashing of LED marked „*REMOTE*" (13) indicates data transmission, while the flashing of LED marked „*NOM LIMIT*" (13) indicates a synchronisation error.

Unit PEP 3001 also contains a 6 channel analogue mixer, the block scheme of which is presented in Diagram 2 of the next page. The signal entered through the inputs of the mixer („*SYSTEM*", „*LINE*", *EXT. MIC.*", „*TAPE*", „*TELEPHONE*") can be mixed to the collecting bus (*"NORMAL BUS"*) of the floor voice with volume regulators (1-5) that belong to these inputs. The Floor Voice generated this way on one side is forwarded to channel 0 of the PPM modulator of the unit, and on the other side it appears on outputs marked „*LINE OUT*" (27) and „*TAPE OUT*" (20) of the device.

The volume regulator of mixer marked „*SYSTEM*" (1) regulates the aggregated signal of the switched on microphones of the conference system, which signal is subsequently forwarded to the collecting bus (*"NORMAL BUS"*) of the floor voice. The level of the floor voice signal ("FLOOR") that is forwarded from here to the built-in loudspeakers of the conference system can be regulated with volume regulator marked „*SPEAKERS*" (8). The level of the signal forwarded to the loudspeakers – that may be controlled with the control meter (9) located next to the regulator – has to be set in such a manner that the red colour LED should flash only for a short while even in the case of louder voices.

The level of the floor voice signal appearing on output marked „*LINE OUT*" (27) can be set to the value desired with the volume regulator marked „*MAIN*" (10) located on the front panel, which can be also visually checked on the control meter (11) that is located next to the regulator. The level of the outgoing signal has to be set in such a manner, that the red colour LED of the control meter should flash for a very brief time only in the case of very loud voices, and it should not be lit continuously. This output can be used for controlling the floor loudspeakers of the given room.

With the aid of the headset connected to the headset socket (14) of the front panel the floor voice (*"FLOOR"*) can be checked acoustically as well. The volume of the signal forwarded to the headset can be set to the desired value with the aid of the volume regulator *"HEADPHONE"* (12) that is located next to the connector.

The central unit allows the receiving of external phone lines as well. However a special connecting cable is needed for this, prepared for this purpose. The signal that goes to the headset of the hand-speaker of the phone device has to be introduced to input „*TEL. IN*" (26) of unit PEP 3001, the volume of which can be set with volume regulator marked „*TELEPHONE*" (5). And to the input of the hand-speaker of the phone device receiving the signal of the microphone output marked „*TEL. OUT*" (25) of the central unit has to be introduced.

It is also possible to mix the input signals of PEP 3001 to an *"EFFECT BUS"*, and from there to forward the mixed signal to an external unit (e.g. excitation inhibitor) through connector „*EFFECT OUT*" (22). The signal given out to the external unit can be re-entered into the central unit with the aid of connector „*EFFECT IN*" (23).
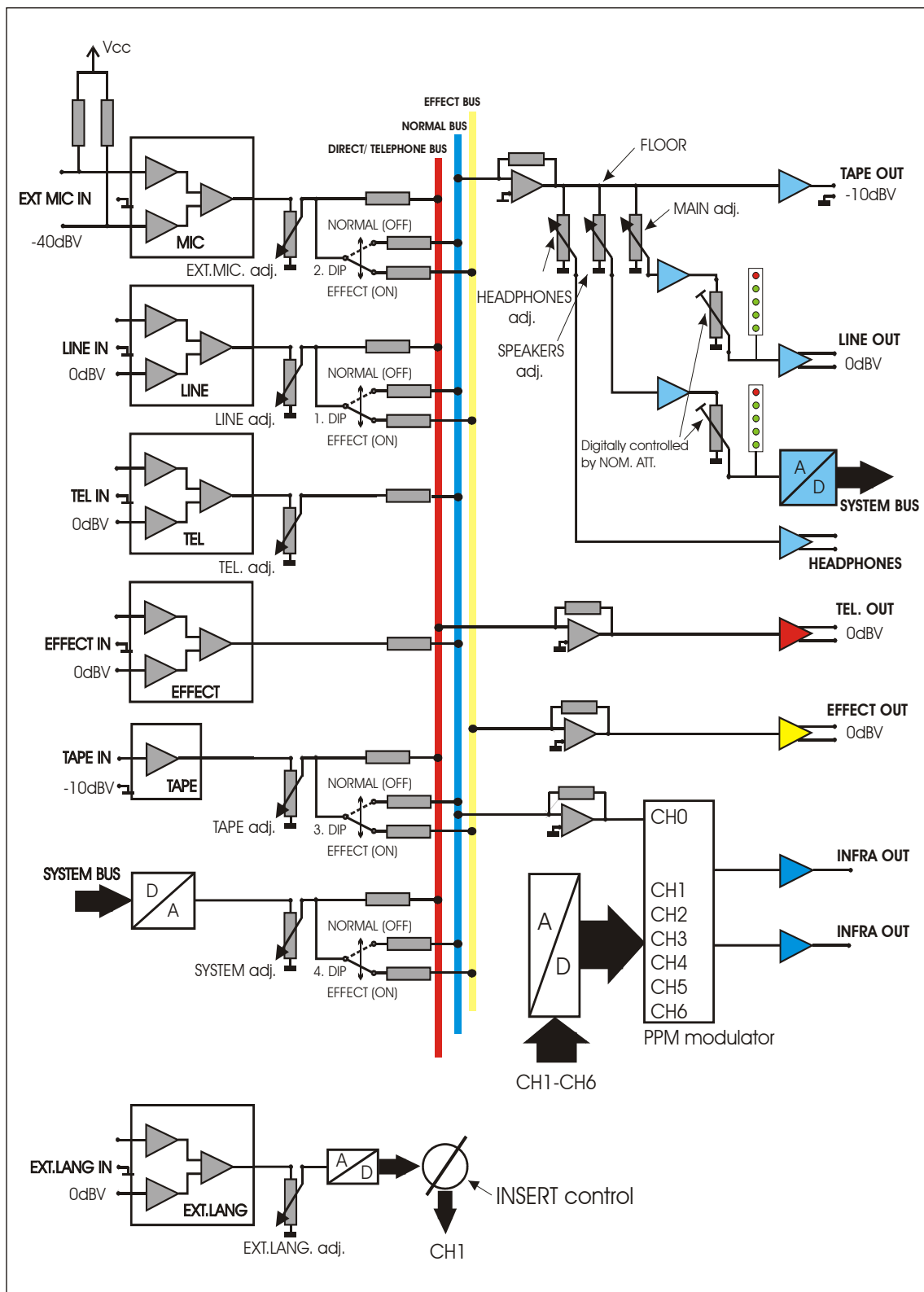
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Diagram 2 - Block scheme of the analogue part of central unit PEP 3001

The level of the external language entered into input marked „*EXT. LANG. IN*" (24) can be set to the desired value with volume regulator marked „*LANG. EXT.*" (6). The signal connected here appears on language channel 1 in case this function is switched on with DIP switch 7 located at the bottom of the device.

Information related to the other cables that are to be connected to unit PEP 3001 (system cable and coaxial cable) is included in Section 3.

2.1.3. *Power supply*

The following power units ensure the power supply voltage of the system:
– When using unit ETP 315 the power supply voltage gets into the system through central unit PEP 3001, which ensures the power supply of maximum 15 units through 2 different branches.
– In the case of unit ETP 370 the power supply voltage goes directly to the system cable, which together with unit PEP 3001 ensures the power supply of maximum 70 units through 3 branches.
– With using several ETP 370 units it is possible to establish a system that consists of maximum 400 units.

2.1.4. *System arrangement and control*

Only one PEP 3001 unit can be used in the system. The PEP 3001 central unit has two system cable connectors („*SYSTEM 1*" and „*SYSTEM 2*"), which allows the installation of the units on two branches. Both branches have to be continuous, which can only consist of the own elements of system **ICN 2005** and their connected cables.
The PEP 3001 central unit is capable of executing the following basic controlling tasks itself:
– The number (from 1 to 30) of simultaneously switched microphones can be set („*NOM LIMIT*")
– 2 different automatic word giving methods can be selected
– Managing voting started by the Chairman
– Controlling the infra-modulator

2.1.5. *DIP switches*

The DIP switches located at the bottom of the device and their functions are included in the following table.

Number of the switch	Name	Switch setting	
		Off	On
1	LINE IN	for „*NORMAL BUS*"	for „*EFFECT BUS*"
2	EXT. MIC. IN	for „*NORMAL BUS*"	for „*EFFECT BUS*"
3	TAPE IN	for „*NORMAL BUS*"	for „*EFFECT BUS*"
4	SYSTEM BUS IN	for „*NORMAL BUS*"	for „*EFFECT BUS*"
5	SYSTEM BUS OUT	NOM damping off	NOM damping on
6	LINE OUT	NOM damping off	NOM damping on
7	EXT. LANG.	Switched off	Switched on
8	Word giving method	Automatic 1	Automatic 2

The meaning of the names included in the above table is the following:

„NORMAL BUS”/„EFFECT BUS”

It can be selected with DIP switches of serial numbers 1–4 in such a manner that the signals of inputs *„LINE IN”, „EXT. MIC. IN”, „TAPE IN” and „SYSTEM BUS IN”* should be forwarded to either the *„NORMAL BUS”* or the *„EFFECT BUS”*.

NOM damping:

In its switched on condition it changes the volume of the loudspeakers of the delegate units depending on the number of active microphones, in order to avoid acoustic pop noise (as the number of active microphones increases it reduces the volume of the loudspeakers of the delegate unit). With switch 5 this attenuation is introduced on output marked *„SYSTEM BUS OUT”* that is at the signal that is forwarded to the built-in loudspeakers of the delegate units, while with switch 6 for example NOM attenuation can be activated on output *„LINE OUT”* (27) that is for amplifying the floor voice.

EXT. LANG:

When DIP switch 7 is switched on, the signal forwarded to input connection marked *„EXT. LANG. IN”* (24) is introduced to channel 1 of the system, while if it is switched off, then channel 1 can be used for the interpreted languages.

Word giving methods

With DIP switch 8 it is possible to select from the following two different ways of giving the word:

Automatic 1:

The microphone of the word-asking participant is immediately and automatically switched on, if there is available free channel within the system. In contrary cases, if there is a lower priority speaker, then the word will be taken away from the that lower priority speaker, which has talked for the longest, and in the rest of the cases the word asking participant is included in the waiting list.

Automatic 2:

The microphone of the word asking participants is immediately and automatically switched on, if there is a free channel available within the system. In contrary cases, if there is an identical or lower priority speaker, then the word is taken away from the one that has talked for the longest, and in the rest of the cases the word asking participant is included in the waiting list.

2.1.6. <u>*Technical data*</u>

Height	:	44 mm (1 HE)
Width	:	482 mm (19”)
Depth (with connectors)	:	108 mm
Mass	:	1450 g

Parameter	Minimum	Nominal	Maximum	Measurement unit
DC parameters				
Power voltage	16	48	55	V
Power uptake	3	-	4	W
Inputs parameters				
„LINE IN" input level	-	0	+6	dBu
„LINE IN" impedance	-	20	-	kOhm
„TELEPHONE IN" input level	-	0	+6	dBu
„TELEPHONE IN" impedance	-	20	-	kOhm
„EFFECT IN" input level	-	0	+6	dBu
„EFFECT IN" impedance	-	20	-	kOhm
„TAPE IN" input level	-	-10	-4	dBu
„TAPE IN" impedance	-	20	-	kOhm
„EXT. LANG IN" input level	-	0	+6	dBu
„EXT. LANG IN" impedance	-	20	-	kOhm
„EXT. MIC. IN" input level	-	-40	-34	dBu
„EXT. MIC. IN" impedance	-	20	-	kOhm
„EXT. MIC. IN" input noise level to the value desired with an 150 Ω drive (E.I.N.)	-	-124	-	dBu
Outputs parameters				
„LINE OUT" output level	-	0	+6	dBu
„TELEPHONE OUT"output level	-	0	+6	dBu
„EFFECT OUT" output level	-	0	+6	dBu
„TAPE OUT" output level	-	-10	-4	dBu
Load impedance for outputs	-	1	-	kOhm
Relation of signal-noise at the outputs (EXT. MIC. volume reduced)	88	90	-	dB
Frequency range (-3dB)	20	-	20000	Hz
Headset output parameters				
Power	-	90	200	mW
Load impedance	8	32	-	Ohm
Frequency range (-3dB)	45	-	22000	Hz
Signal-noise ratio	70	-	-	dB

2.1.7. Connectors

Power supply voltage

Type of connector: DC power connector

Number of contacts	Function
1	VCC
2	GND

Audio frequency inputs and outputs

LINE IN, TEL. IN, EXT. LANG. IN, EXT. MIC. IN
Type of connector: XLR socket

Number of contacts	Function
1	GND
2	Audio -
3	Audio +

LINE OUT, TEL. OUT
Type of connector: XLR plug

Number of contacts	Function
1	GND
2	Audio -
3	Audio +

EFFECT IN, EFFECT OUT
Type of connector: 6.3 mm stereo jack socket

Number of contacts	Function
1	GND
2	Audio -
3	Audio +

TAPE IN, TAPE OUT
Type of connector: RCA socket

Number of contacts	Function
1	GND
2	Audio

HEADPHONE - headset connector
Type of connector: 6.3 mm stereo jack socket

Number of contacts	Function
1	GND
2	Right
3	Left

System cable connector

SYSTEM 1, SYSTEM 2
Type of connector: D-SUB9 socket

Number of contacts	Function
1	GND
2	CAN+
3	VCC
4	CAN-
5	GND
6	Returning Digital data +
7	Returning Digital data -
8	Forwarded Digital Data +
9	Forwarded Digital Data -

<u>Coaxial cable connector</u>

INFRA OUT
Type of connector: BNC

Number of contacts	Function
1	PPM data signal
2	GND

2.2. MICROPROCESSOR CONTROL UNIT PEP 3002

2.2.1. *General introduction*

Unit PEP 3002 is the control unit of conference system **ICN 2005**, with the aid of which it is possible to modify the setting of several functions that are integrated into central unit PEP 3001, and it does also ensure additional services for the user of the system.

Thanks to the backlit contrast LC display and simple menu system of the control unit the following functions can be easily accessed:
- two automatic and one manual word giving mode of operation
- giving the word or taking it away
- starting a three button vote
- setting the voting time
- checking presence
- prohibition by the chairman
- setting the addresses of the units
- displaying the help request arriving from the interpreters

On the display of the unit in addition to the addresses of the speaking units and those that are on the waiting list, the operation mode and the current status of NOM LIMIT is also displayed.

The control unit is incorporated into an ergonomic box, its power supply is provided by the system cable, therefore there is no need for external power supply. Unit PEP 3002 can be connected anywhere along the chain of the delegate and interpreter units serially concatenated serially on the system cable.

Important! Microprocessor controller PEP 3002 cannot be connected to computer controlled conference systems.

Following Diagram 3 contains the overview drawing of control unit PEP 3002.
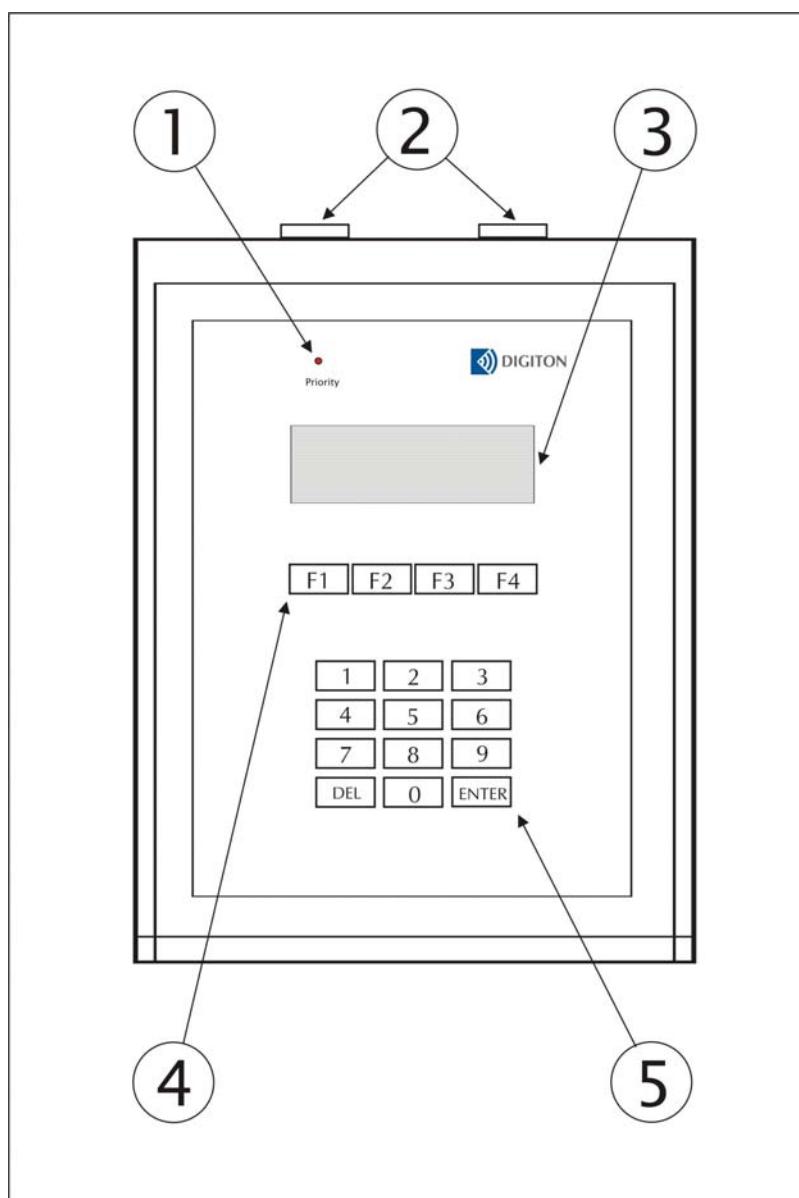
Diagram 3 - Overview drawing of microprocessor control unit PEP 3002

The following table contains the name and function of those operating, displaying devices and connectors of control unit PEP 3002 – that are marked on Diagram 3.

Number	Name
1	„*PRIORITY*" – LED indicating that a chairman prohibition is on
2	„*SYSTEM*" – system cable connector (9 pole D-SUB plug-socket)
3	4x20 character LC display with backlighting
4	„*F1 – F4*" – function buttons
5	Numeric keyboard

2.2.2. *Operation guide*

2.2.2.1. *Offline operation mode*

When switching on the system the text *Offline System starting...* is displayed on the 4x20 character backligth display of the unit (3). If this text does not disappear within 1-2 seconds, then one should check cabling and restart the system. After successful switching on the text *System starting...* disappears and the system is set to operation mode *Offline,* and the following text appears on the display.

```
        Offline


Online
```
```
   F1      F2      F3      F4
```
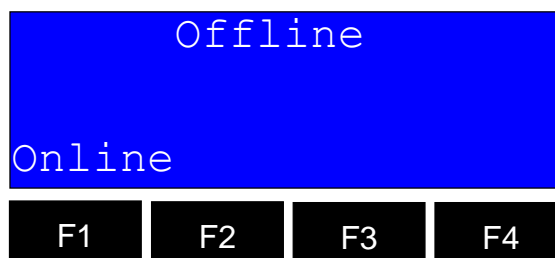
In this operation mode the conference system is controlled by the central unit (PEP 3001) and only the essential functions do operate. Pressing button *Online* („*F1"*) the controlling centre (PEP 3002) takes over the controlling of the system and it switches to operation mode "C*onference control".*

2.2.2.2. *Operation mode "Conference control"*

The basic diagram of controlling the conference is the following. This diagram is displayed on the display when button *Online* („*F1"*) of the system in operation mode *Offline* is pressed:
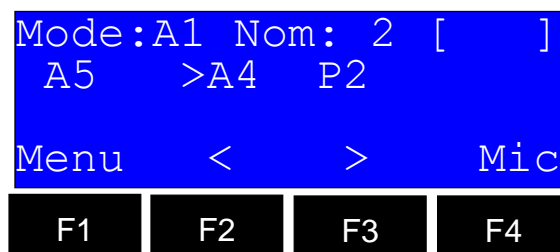
```
Mode:A1 Nom: 2 [    ]
 A5    >A4   P2

Menu    <      >     Mic
```
```
   F1      F2      F3      F4
```

The top line contains the system parameters, and their meaning is the following:

Mode   - From of giving the word, which may be
        - *M*   - giving the word manually
        - *A1*   - giving the word automatically No 1
        - *A2*   - giving the word automatically No 2

Nom   - The number (from 1 to 30) of microphones that may be switched on simultaneously, which can be only set with the switch that located in the central unit „*NOM LIMIT"* (7) (number of microphones = NOM). In present diagram 2 microphones are allowed for to be switch on at the same time.

[ ]   -   It is possible to give with the numeric keys of the control unit the number of microphones that are to be switched on, the activating of which is done with button *"ENTER"* located on the numeric keyboard (5).

The numbers located in lines 2 and 3 of the display gives the address of microphones switched on and the address of those that are on the waiting list, while the letters preceding them indicate their statuses according to the following:

„*A"*   - *S*witched on microphone (active)
„*P"*   - Microphone on waiting list (passive)

In the mentioned diagram the microphones of the units with the address 5 and 4 are switched on, while the unit with address 2 is on waiting list. The symbols that close in A4 shows the position of the cursor.

It is possible to enter the function of line 4 marked with labels by pressing function buttons „F1" – „F4" (4) as follows:

Menu - it is possible to enter the menu by pressing button „F1"

</> - it is possible to select from among the units that are displayed in lines 2 and 3 with buttons „F2" and „F3"

Mic - it is possible to give the word or take the word away from the selected unit with button „F4"

2.2.2.3. *Operation mode "Menu"*

From operation mode "*Conference controlling*" it is possible to enter operation mode " "*Menu*" by pressing button „F1", where it is possible to select from the following sub-menus:

- *Conference mode* (operation mode for giving the word)
- *Start vote* (starting the vote)
- *Vote time* (voting time)
- *Attendance check* (checking attendance)
- *Start priority* (prohibition of the chairman)
- *DU renumber* (re-addressing)
- *Offline*

After pressing button „F1" – when entering operation mode "*Menu*" the following diagram is displayed in the display:

```
>Conference mode<
 Start vote
 Vote time
Select ↑      ↓    Exit
```

| F1 | F2 | F3 | F4 |

Moving between the submenu items (scrolling) can be achieved with buttons ↑/↓ („F2/F3") and it is possible to enter the selected item with button *Select* („F1"). With button *Exit* („F4") it is possible to return to the previous conference controlling operation mode.

- Conference mode (operation mode for giving the word)

In *Operation mode "Menu"* selecting submenu *Conference mode*, then pressing button *Select* („F1") we may enter this sub-menu (see on the following diagram), where sign ◄ shows the currently set conference mode. Moving the cursor up/down and with the aid of buttons „F2/F3" it is possible to select the relevant word giving method, and by pressing button *Select* („F1") the selected mode is set. With button *Menu* („F4") it is possible to return to the menu operation mode.

```
 Manual◄
>Automatic1<
 Automatic2
Select ↑      ↓    Menu
```

| F1 | F2 | F3 | F4 |

In submenu *Conference mode* the following word giving methods may be set:

Manual:

Units of priority „0" will not get the word automatically, but will be put on a waiting list, and the word can be given to them only from the control centre. However, units of higher priority do get the word automatically. In the case of several higher priority units, and if there is no free channel, then the word will be taken away from the lowest priority unit, who had spoken for the longest period. If there are only units of higher priority switched on, then the word requestor is put on a waiting list.
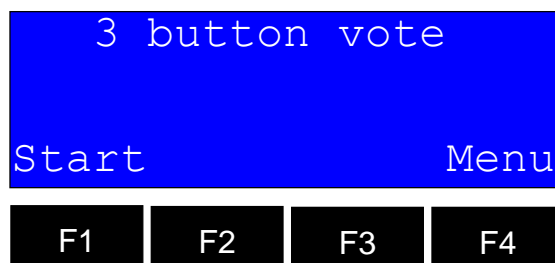
Automatic 1:

If there is a free channel, then the speaker automatically gets the word. If there is no free channel, and if there are speakers of lower priority, then the word will be taken away from the speaker who has spoken for the longest period, otherwise the speaker is put on a waiting list.

Automatic 2:

If there is a free channel, then the speaker gets the word automatically. If there is no free channel, and provided there is a speaker of identical or lower priority, then from among them the word will be taken away from the one who has been talking for the longest, otherwise the speaker is put on the waiting list.

- Start vote (starting the vote)

Selecting item *Start vote* from the menu, then pressing button *Select* („*F1*") we can enter this sub-menu. The diagram of this sub-menu is the following:

```
┌────────────────────────────┐
│     3 button vote          │
│                            │
│                            │
│ Start             Menu     │
└────────────────────────────┘
   [F1]    [F2]    [F3]    [F4]
```

It is possible with button *Start* („*F1*") to start voting, while with button *Menu* („*F4*"), it is possible to return to the menu.

After starting the vote, the following diagram is displayed on the screen. With the aid of this screen it is possible to monitor the momentary status of the vote, and the time that is still left for voting. With button *Stop* („*F4*") voting can be interrupted at any time.

```
┌────────────────────────────┐
│        Voting...           │
│ Yes   No   Abst  Time:     │
│  0     0     0    0:12     │
│                   Stop     │
└────────────────────────────┘
   [F1]    [F2]    [F3]    [F4]
```
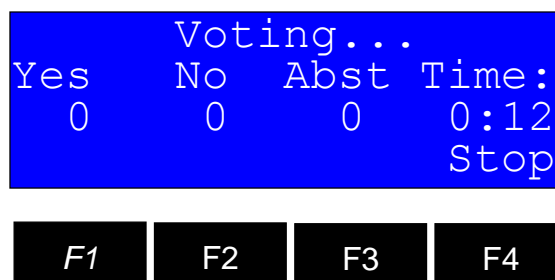
When the voting time is over, the result of voting appears on the display of the central controller in the following form:

```
        Vote results
Yes    No  Abst
  2     1    1
Menu           Restart
```

F1	F2	F3	F4

Keeping button *Menu* („*F1*") pressed down, it is possible to return to the menu, and with button *Restart* („*F4*"), it is possible to initiate a new vote.
Naturally the result of the vote is displayed on the displays of the delegate units as well.

• Vote time (time available for voting)

Selecting from the menu item V*ote time*, then pressing button *Select* („*F1*") it is possible to enter this sub-menu, which is presented by the following diagram:

```
Vote time: 0:27


Menu    –     +    Save
```

F1	F2	F3	F4

With the numeric keyboard (5) it is possible to set the time available for voting, which can be increased or decreased by 1 seconds with buttons marked -/+ („*F2/F3*"). With pressing button *Save* („*F4*") it is possible to store the value set. The maximum time that can be set for voting is 4 minutes 15 seconds. Pressing button *Menu* („*F1*") it is possible to return to the menu.

• Attendance check (checking presence)

By selecting menu item *Attendance check* from the menu, and pressing button *Select* („*F1*") it is possible to enter this sub-menu. The following diagram presents this sub-menu:

```
  Attendance check
Time remaining: 0:17
No. of attendee:   7
Menu            Exit
```

F1	F2	F3	F4

After pressing button *Select* („*F1*") the function checking attendance is started immediately. The display continuously shows the time available for registering (*Time remaining*) and the number of those, who have already registered (*No. of attendee*). The time available for checking presence is identical with the time that was previously set for voting, and it cannot be set separately.

After the expiry of the period that is set for checking attendance, the following diagram is displayed on the screen showing the number of registered participants (*No. of attendee*):

```
Attendance check

No. of attendee:  25
Menu            Exit
```

| F1 | F2 | F3 | F4 |
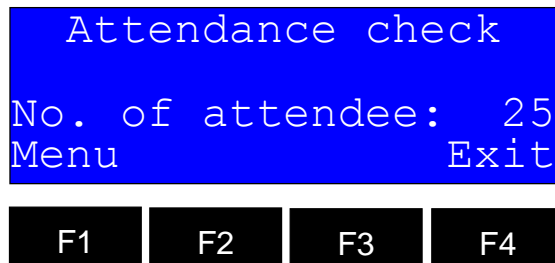
Pressing one of the buttons „YES", „NO" or „*ABST*" can do checking attendance or „*ABST*". It is possible to return to the menu with button *Menu* („*F1*"), while with button *Exit* („*F4*") it is possible to return to the conference controlling operation mode.

- Start priority (introducing a banning issued by the chairman)

It is possible to enter this sub-menu by selecting menu item *Start priority*, then pressing button *Select* („*F1*"). When entering this sub-menu the following diagram is displayed:

```
Priority mode



Reset         Restore
```

| F1 | F2 | F3 | F4 |
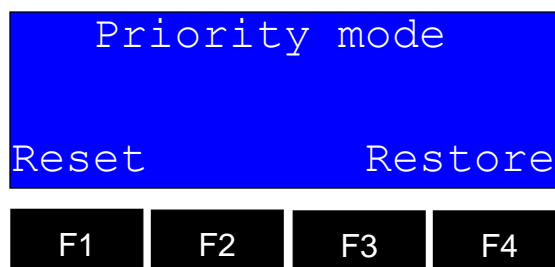
At this point on the units of priority „0" the red LED starts to flash, indicating that the microphones of the given units are forbidden (they cannot be switched on). It is possible to return from this prohibition with the aid of the control center in two ways to conference controlling mode. By pressing button *Restore* („*F4*") the microphones that have been switched on prior to the prohibition issued by the chairman are switched on again, while by pressing button *Reset* („*F1*") the microphone of all the units of priority „0" is switched off.

<u>Comment:</u> By pressing button „*PR*" (*Priority*) located on the unit of the chairman, naturally it is also possible to enter this operation mode.

- DU renumber (readdressing)

Selecting item *DU renumber* from the menu, and pressing button *Select* („*F1*") it is possible to enter this menu, the diagram of which is the following:

```
Renumbering devices
Device number: 1

Menu    -     +    Exit
```

| F1 | F2 | F3 | F4 |
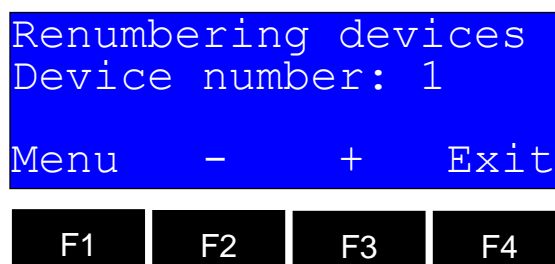
When entering the menu item all the photo-diodes (LED) of all the delegate and chairman units of the system starts to flash and at this point it is possible to overwrite the addresses of the units (reset). The starting address to be set can be selected with buttons -/+ („*F2/F3*") or it may be given by the numeric key-board (5). This address set will be given to the unit the microphone button of which will be first pressed. When pressing the microphone button of the next unit, the address of the given unit will be automatically one greater, however it is also possible to give other address. After setting the addresses the units are returning to their basic status. Pressing button *Menu* („*F1*") it is possible to return to the menu, while pressing button *Exit* („*F4*") it is possible to return to the conference-controlling mode.

- Offline

Selecting the last item *Offline* of the menu, and pressing button *Select* („*F1*"), it is possible to exit operation mode *Online*. In this case the controlling of the conference system is taken over by central unit PEP 3001.

Pressing button *Exit* („*F4*") it is possible to return to the conference controlling operation mode.

2.2.3. „*CALL*" *(help request of the interpreter)*

With keeping button „*CALL*" of the interpreter unit for at least 3 seconds continuously, the interpreters may ask technical assistance from the technician operating the system. In this case on the display of the controlling unit the following diagram appears, which also indicates the address of the interpreter unit that asks the help:

```
Call: interpreter
 3


             Exit
```

| F1 | F2 | F3 | F4 |
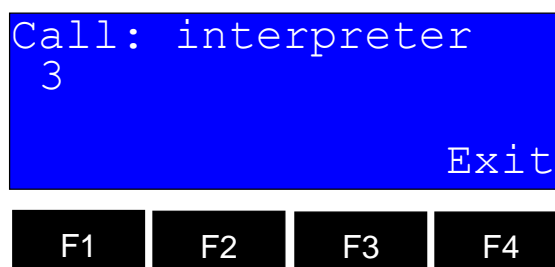
At the same time the complete display flashes as well in order to draw the attention of the technician to the request. It is possible to exit from here with button *Exit* („*F4*"), and in this case the assistance requests are deleted.

2.2.4. *Technical data*

Height	:	100 mm
Width	:	157 mm
Depth (with connectors)	:	200 mm
Mass	:	691 g

Parameter	Minimum	Nominal	Maximum	Measurement unit
Power supply voltage	9	48	55	V
Power uptake	0,8	1	1	W

2.2.5. Connectors

The „*SYSTEM 1"* and „*SYSTEM 2"* marked connectors if the device are D-SUB9 plug and socket, the wiring of which is identical with the connectors of unit PEP 3001 of the same marking (see section 2.1.7).

2.3. CHANNEL DECODER PEP 3006

2.3.1. General introduction

The task of the channel decoder PEP 3006 is to decode all the 31 digital channels of the **ICN 2005** conference system into the analog format. The unit asures this way the possibility of listening and recording simultaneously all translated languages. The languages appear in RCA connectors marked *"CH0-CH30"* on the backboard of the unit in analog format. Tape recorder and multichannel digital soundrecorder can be connected to these lines level sound frequency outputs.

Aditionaly there is an analog line output *"EXT LINE"* on wich the preset channel can be selected.

Using the connected headphones the channels of the system can be checked acoustically.

The power supply of PEP 3006 is assured via system cables, it is not demanded another external power supply source.

Important! For an adequate working the channel decoder has to be connected to the „*SYSTEM 2*" plug of PEP 3001 basic unit.

One of the possible configurations of the system is showed in Diagram 12, section 3.4.

The channel decoder is built in a standard house (as the basic unit) to be inserted in rack case.

The Diagram 4 on the next page shows the overview drawing of channel decoder PEP 3006.
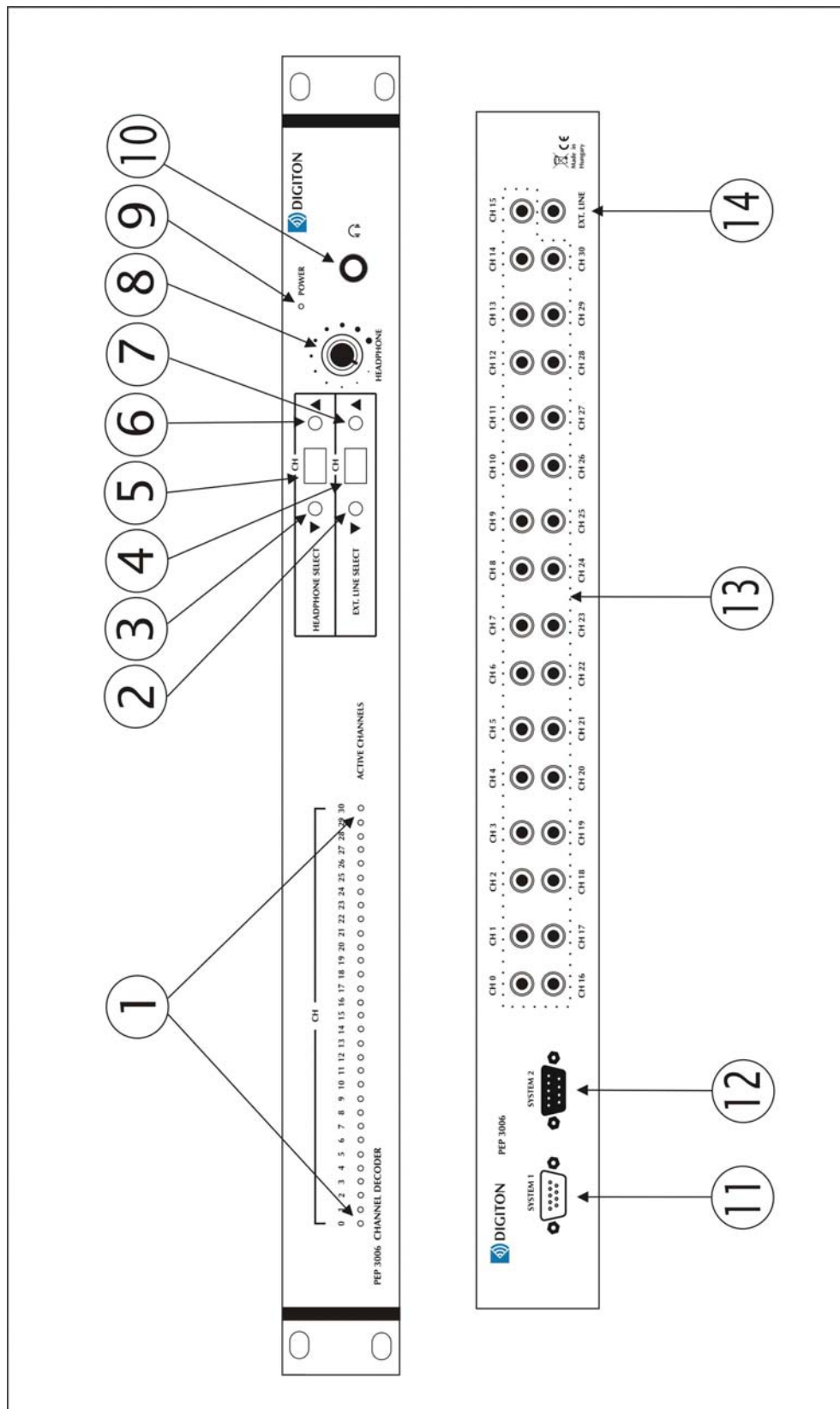
Diagram 4 - Overview diagram of channel decoder unit PEP 3006

The following table contains the name and function of those operator and display components and connectors of channel decoder PEP 3006, which are marked in Diagram 4.

Number	Name
1	„ACTIVE CHANNELS" –green LED indicating the active channel
2	„EXT. LINE SELECT" – external line channel selecting "down" button
3	„HEADPHONE SELECT" – headphones channel selecting "down"button
4	External line („EXT. LINE") two digits channel number display
5	Headphones („HEADPHONE") two digits channel number display
6	„HEADPHONE SELECT" – headphones channel selecting "up" button
7	„EXT. LINE SELECT" – external line channel selecting "up" button
8	„HEADPHONE" – volume regulator of the headphones output
9	„POWER" –green LED indicating switched on status
10	Headphones connector
11	„SYSTEM 1" – system connector (plug)
12	„SYSTEM 2" – system connector (socket)
13	„CH0 – CH30" – sound analog output
14	„EXT. LINE" – external line output

2.3.2. *Operation guide*

Similary to the other units of the system, the connection of the PEP 3006 is possible with dasy chain of the system cable via the „SYSTEM 1" and „SYSTEM 2" connectors. The only main difference is that the PEP 3006 has to be connected directly to „SYSTEM 2" output of PEP 3001.

After swiching on the system, a green „POWER" LED (9) on the front side of the unit shows the swich on status.

The green „ACTIVE CHANNELS" LED (1) on the left part of the front side of the unit shows the active channels used momently. The channels used by interpreter and delegate units are displayed at the same time.

The volume of the headphones connected to the headphone output (10) on the right part of the unit can be set to the adequate level with volume regulator of the output (8). By pressing up and down the headphones channel selector buttons (3) and (6) marked "HEADPHONES SELECT" is possible to listen the desired channel. The number of the selected channel is visible on the two digits display, between the two press-buttons (5).

The signal wich appears on the „EXT LINE" (14) output of the unit can be adjustable by pressing down respectively up the external channel selecting buttons (2) or (7) marked - „„EXT LINE SELECT". The chosed number of channels appears on the twoo digits display (4) between the buttons.

In case of pressing the channel sellector buttons (3,4 and 6,7) longer the number of the choosed channel is changing continuously up or down depending on the pressed buttons.

2.3.3. *Technical data*

Height	:	44 mm (1 HE)
Width	:	482 mm (19")
Depth (with connectors)	:	108 mm
Weight	:	1150 g

Parameter	Minimum	Nominal	Maximum	Dimension
DC parameters				
Power voltage	16	48	55	V
Power uptake	2		3	W
Line level output parameters				
Output level	-	0	+6	dBu
Frequency range (-3dB)	20	-	20000	Hz
Signal noise ratio (S/N)	70	-	-	dB
Distortion (THD)	-	-	0,1%	dB
Headset output parameters				
Power	-	90	200	mW
Load impedancy	8	32	-	Ohm
Frequency range (-3dB)	45	-	20000	Hz
Signal noise ratio	70	-	-	dB

2.3.4. *Connectors*

Audio frequency outputs:
CH0 – CH30, EXT. LINE
Type of connector: RCA socket

Number of contacts	Function
1	GND
2	Audio

HEADPHONE – headset connector
Type of connector: 6,3 mm stereo jack socket

Number of contacts	Function
1	GND
2	Right channel
3	Left channel

System cable connectors:
SYSTEM 1, SYSTEM 2
Type of connectors: D-SUB9 plug, D-SUB9 socket
See the PEP 3002 connector description as the same number of contacts (section 2.2.5 respectively 2.1.7)

2.4. POWER SUPPLY UNITS ETP 315 AND ETP 370

2.4.1. *General introduction*

Power supply units ETP 315 and ETP 370 ensure the needed power voltage for the units of conference system **ICN 2005**. Device ETP 315 ensures power supply for maximum 15 units, while device ETP 370 ensures power supply for maximum 70 units through 2 or 3 branches.
An arbitrary number of devices ETP 370 may be used within a system.

Important! To one branch maximum 35 units can be connected and the length of a branch cannot exceed 100 meters. In respect of the number of the units each device (controlling unit, delegate unit, chairman unit, interpreter unit, channel decoder) has to be taken into consideration.

2.4.2. *Operation guide*

When using device ETP 315, the power voltage is introduced into the system through central unit PEP 3001. This device is able to ensure the power supply of 15 units through 2 different branches. In the case of device ETP 370, the power is introduced into the system directly. This device is able to ensure the power supply of max. 70 units, together with unit PEP 3001 altogether through 3 branches.
By using several ETP 370 devices it is possible to set-up a system that contains max. 400 units.

Important! Each branch has to be continuous, and they may be made up of only the own elements and cables of system **ICN 2005**. A closing element has to be inserted into the free connector of the last unit of each branch, otherwise the system is not synchronised.

The overview drawing of power supply device ETP 370 can be seen on Diagram 5 located on the next page.

When using device ETP 370 a unit has to be connected to at least one of the outputs marked „*OUTPUT*" (2), otherwise the system will not operate. A closing element has to be inserted to the outputs of the system cables of PEP 3001 and ETP 370 that may be left free. Controlling computer PEP 3004 can be connected to connectors marked „*SERIAL*" (4) or „*USB*" (5) of the unit. In this case the PC program running under Windows XP executes the controlling of the conference system.

On central unit PEP 3001a yellow colour LED labelled „*REMOTE*" indicates that the controlling of the conference system had been taken over by controlling unit PEP 3002 or PEP 3004. In one system at any one time only one ETP 370 device can be connected tot he computer, and „*SERIAL*" (RS232) and „*USB*" controlling cannot be used simultaneously. The „*SERIAL*" controlling cable should be connected only in switched off status.

Important! Units PEP 3002 and PEP 3004 cannot be used simultaneously for controlling the system. At any one time only one controller can be connected to the system.
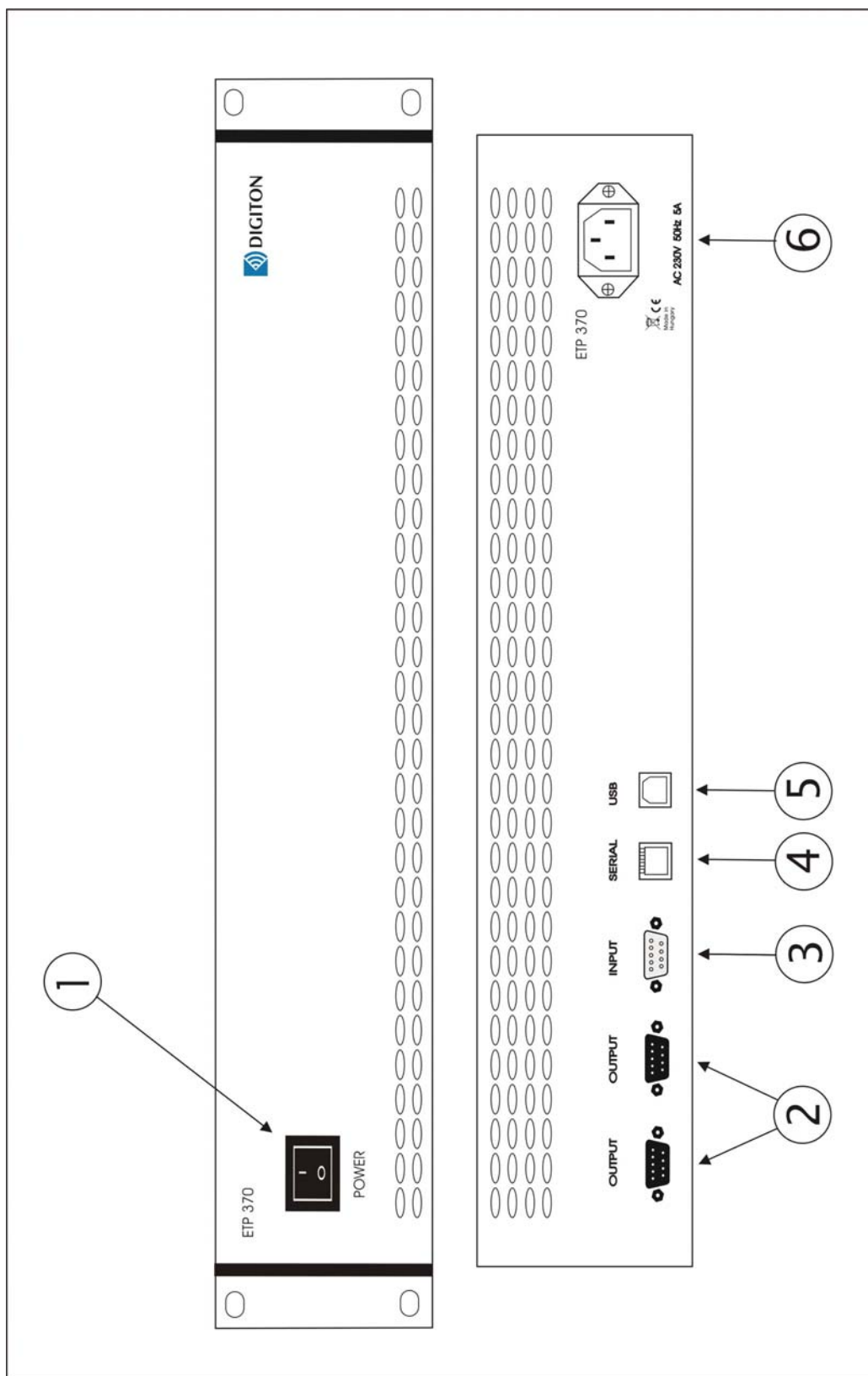The value of Nom-limit can be set only from the central unit.

Diagram 5 - Overview diagram of power supply unit ETP 370

The following table contains the name and function of the devices and connectors of the display of power unit ETP 370 – marked on Diagram 5.

Number	Name
1	„POWER" – power switch
2	„OUTPUT" – system cable connector (9 pole D-SUB socket)
3	„INPUT" – system cable connector (9 pole D-SUB plug)
4	„SERIAL" – serial port connector (RS232)
5	„USB" – USB port connector
6	Network connector socket

2.4.3. Technical data

2.4.3.1. Power unit ETP 315

Height   :   45 mm
Width   :   145 mm
Depth (with connectors)   :   70 mm
Mass   :   475 g

Parameter	Minimum	Nominal	Maximum	Measurement unit
AC input voltage	100	230	240	V
AC input power	-	-	1,5	A
AC input frequency	-	50	60	Hz
DC output voltage	-	48	-	V
DC output power	-	-	66	W

2.4.3.2. Power unit ETP 370

Height   :   88 mm (2HE)
Width   :   482 mm (19")
Depth (with connectors)   :   123 mm
Mass   :   3500 g

Parameter	Minimum	Nominal	Maximum	Measurement unit
AC input voltage	88	230	264	V
AC input power	-	-	5	A
AC input frequency	47	50	63	Hz
DC output voltage	41	48	56	V
DC output power	-	-	310	W

2.4.4. Connectors

2.4.4.1. Power unit ETP 315

Power voltage
Type of connector: DC power voltage connector

Number of contacts	Function
1	VCC
2	GND

Grid connection
Connector type: IEC C14

Number of contacts	Function
N	null
L	phase
GND	protective ground

2.4.4.2. Power unit ETP 370

Grid connector
Type of connector: IEC C14

Number of contacts	Function
N	null
L	phase
GND	protective ground

INPUT, OUTPUT – system cable connector
Type of connector: INPUT - D-SUB9 plug, OUTPUT - D-SUB9 socket

Number of contacts	Function
1	GND
2	CAN+
3	VCC
4	CAN-
5	GND
6	Returning digital data +
7	Returning digital data -
8	Forwarded digital data +
9	Forwarded digital data -

SERIAL – controller connector
Type of connection: RJ11 4/4

Number of contacts	Function
1	GND
2	TxD
3	GND
4	RxD

USB – controller connector
Type of connector: USB-B

Number of contacts	Function
1	+5V
2	USB Data-
3	USB Data+
4	GND

2.5. CHAIRMAN UNIT HEP 300

2.5.1. *General introduction*

Chairman unit HEP 300 is one of the basic units of conference system **ICN 2005.** This unit is put in front of the chairman conducting the conference.

The unit has a built-in microphone and loudspeaker, which allow the forwarding of the voice of the chairman towards the other units of the system and simultaneously forwards the voice of the other speakers to the chairman. The microphone switch located on the unit of the chairman always switches on the microphone of the chairman immediately, independently of the operation mode set. With the aid of the press buttons located on the unit it is possible to switch on the prohibition issued by the chairman and to start voting as well. Voting is done with the aid of the 3 press buttons located on the device. Device HEP 300 is suitable for taking over maximum 30 interpreted languages and the room voice as well, which may be listened to through the headset that is connected to the device. A chip card reader is also included in the unit, with the aid of which it is possible to identify the user of the device in the case of a computer controlled conference.

The backlit graphic LC display facilitates using the device and displays its current status and the result of the vote.

The priority level of the units can be set, through this a priority order can be set between the different level chairman, and vice-chairman units.

2.5.2. *Operation guide*

In **ICN 2005** systems the chairman unit(s) can be connected with the aid of the 9 pole D-SUB connectors (16) located on their backside and the installed system cables to the other units and to the central unit. The units of the conference system starting with the central unit (PEP 3001) are concatenated serially after each other, however, at the last unit a closing element must be used.

The overview diagram containing the displaying, operating devices of the chairman unit can be seen on Diagram 6 on the next page.
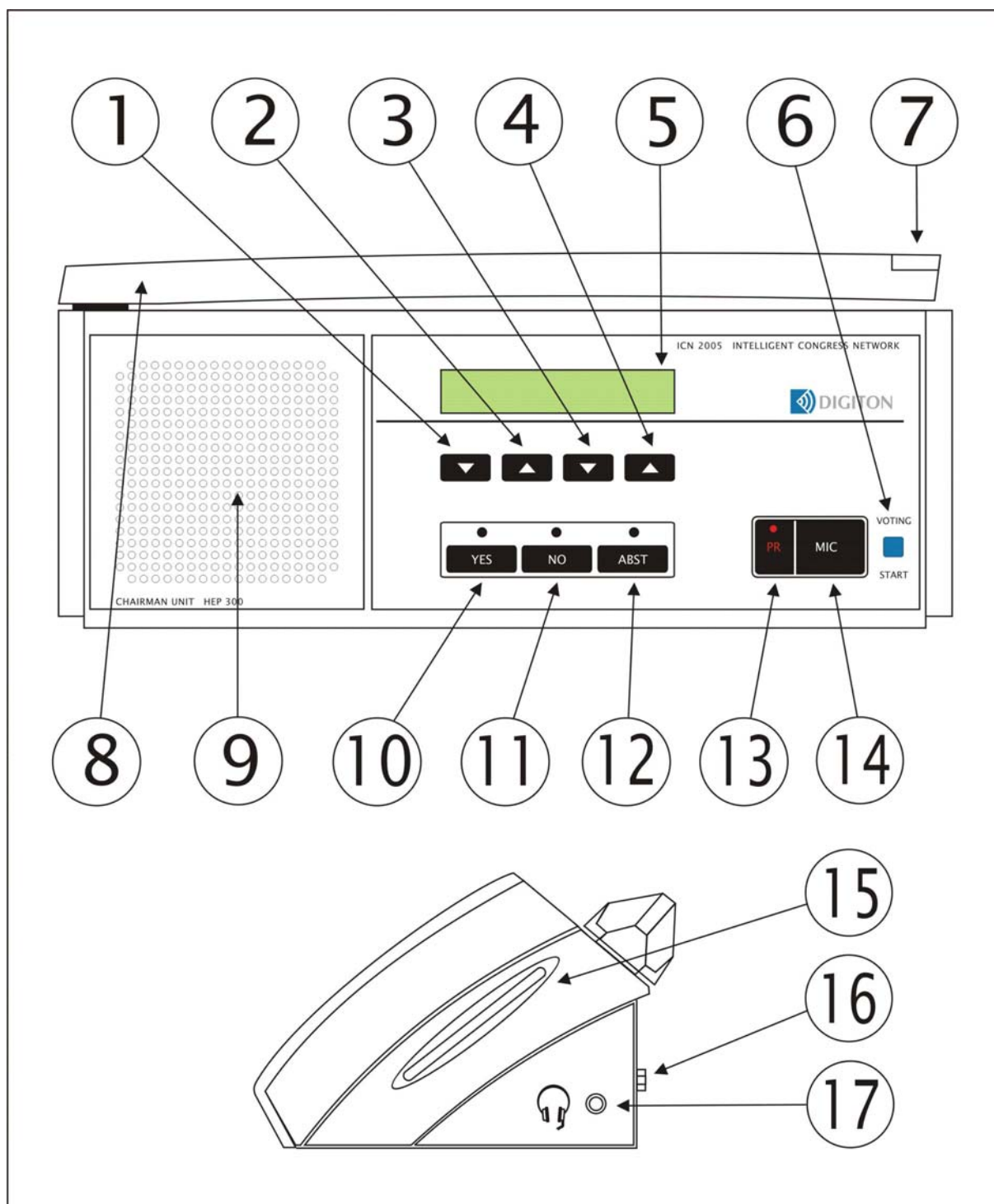
Diagram 6 - Overview diagram of chairman unit HEP 300

The explanation of the labels indicated on the above diagram are explained in the following table:

Number	Name
1	Head-set audio volume regulating button – downwards
2	Head-set audio volume regulating button – upwards
3	Selection button of the interpreted language channel forwarded to the headset – downwards
4	Selection button of the interpreted language channel forwarded to the headset - upwards
5	Backlit, graphic LC display
6	„*VOTING START"* – button for starting the vote
7	Indicating light at the end of the microphone arm: Green colour lit continuously – microphone switched on Green colour flashes – signal „*SLOWLY PLEASE"*signal coming from the interpreter Red colour continuously lit – asking the word status (waiting list) Red colour flashes – prohibition issued by the chairman
8	Microphone arm
9	Built-in loudspeaker
10	„*YES"* – voting button – yes
11	„*NO"* – voting button – no
12	*"ABST"* – voting button – abstain
13	„*PR"* – button for prohibition issued by the chairman (priority)
14	*"MIC"* – button for asking the word
15	Chipcard reader
16	„*SYSTEM"* – system cable connector (9 pole D-SUB „plug-socket")
17	Output connector of headset (3.5 mm stereo jack socket)

2.5.2.1. Basic functions and transmission of the interpreted languages

For a couple of seconds after switching on the system the label „*System starting…"* can be seen on the display of the interpreter unit, subsequently after the system synchronises itself the following basic diagram appears on the display.

On the left side of the display thee strip indicating the audio volume of the interpreted languages can be seen, while on the right side the abbreviation of the selected language channel is visible. From the built-in loudspeaker (9) the floor voice („FLOOR") can be heard always, the audio volume of which cannot be set by the user, it is available only from the service menu as described in the following section.

It is possible to listen to the interpreted languages with the aid of the headset connected to the headset socket located on the right side of the device (17), and it is possible to set its audio volume to the desired level with the aid of press buttons marked (1) and (2). Selecting the channel desired is done with press buttons marked (3) and (4). On the display of the unit the abbreviated name of the current language can be seen at all times.

Information on the list of programmed languages can be found in section that has the title „2.8.2. Interpreter unit HEP 303 Operation guide".

Prior to speaking button marked „MIC" (14) has to be pressed, upon the effect of pressing this button the LED located on the microphone arm (7) is lit with green colour, if the microphone of the unit has been switched on and it is lit with red colour if it has been introduced into the waiting list. With repeatedly pressing the word-asking button „MIC" (14) it is possible to switch off the microphone and to delete the word asking status.

The flashing of the green light located on the microphone arm during the speech is the -„SLOWLY PLEASE"– indication arriving from the interpreter, which is to draw the attention of the speaker to talk slower.

When pressing button marked „PR" (13) the prohibition issued by the chairman is switched on and with it the red indicating light located above the button is also switched on. In such cases the microphones of all the delegate unit of priority level „0" are moved into switched off status and the red indicating light flashes on the microphone arm. The prohibition issued by the chairman does not refer to units that have priority levels of „1", „2" and „3". Withdrawing the prohibition issued by the chairman is possible by repeatedly pressing button „PR" (13), in this case the microphones that were in switched on status before the prohibition issued by the chairman are switched on again.

2.5.2.2. *Voting possibility*

Units HEP 300, HEP 301V and HEP 301VR of the conference system are also suitable for executing votes. Voting can be started from the computerised controller (PEP 3004), from the microprocessor controller unit (PEP 3002), and button „VOTING START" (6) of the chairman unit.

When starting the voting, the indicators of the units will display the following voting image, on which in the middle the time that is still left from voting is displayed.

Votes may be submitted with three buttons of the set marked „YES", „NO" and „ABST" (10, 11 and 12). When the voting time expires the result of the vote is displayed on the display in the following format:
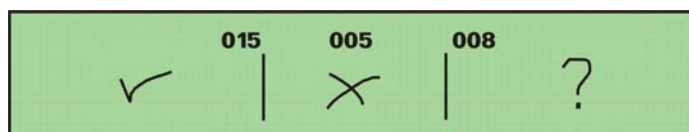
The result of the vote appears on the display of each device with the exception of the interpreter units. Naturally the result of the vote can be seen on the monitor of device PEP 3004 and on the display of device PEP 3002 as well.

Controller PEP 3004 allows conducting voting by names, secret votes, and open votes as well, while without computer controlling it is possible to keep only open voting.

In the case of voting by names it is possible to record each individual vote, can be documented who pressed which button and when. In the case of secret voting upon pressing any of the voting buttons the red LED above all the three voting press buttons is lit, which indicates that voting took already place, however an outsider cannot know which button had been pressed. In the case of open voting only the LED that is above the button pressed is lit. The vote can be withdrawn by pressing the same button again and it can be changed with pressing another button, but naturally only within the time that is available for voting.

After the end of voting by pressing any of the press buttons it is possible to step out from the voting operation mode and then on the display of the unit again the basic diagram is displayed.

The chairman can break the voting process or delete it within the voting time by repeatedly pressing button „*VOTING START*".

2.5.2.3. *Chip card identification*

Units HEP 300 and HEP 301VR of system **ICN 2005** do also contain a chip card reader as well, which are capable of identifying the participants of the conference with chip cards independently of the place where they are. This is needed when the speeches and the votes are identified, and naturally this operates only under computer control (PEP 3004).

Only the chip cards that are delivered by DIGITON Ltd. can be inserted into the above-mentioned units, otherwise failing operation may occur, or in extreme cases the inserted foreign chip card or the device may be damaged.

The chip card has to be inserted into the slot (15) that has been built-into the device on its right side for this purpose in the direction that is indicated by the arrow on the card in such a manner that the contacts of the chip should be upward. The insertion of a wrong chip card is indicated by the device through the display. After successful chip card identification the subsequent events of asking the word and voting are evaluated together with the code that is stored on the chip card. This way it is possible to weight, register, classify by rights the votes, and to identify the speakers (see the description of the computer control program).

In the case of a vote that is initiated from the computer it is possible to select in the control program chip card based voting. In this case an alarming diagram is displayed on the display in case the chip card is not inserted into the device.

2.5.2.4. *Programming the unit*

When the microphone is switched off with simultaneously pressing the buttons marked (1+4+11) it is possible to enter the service menu of the unit, in this case the following labels can be seen on the display:
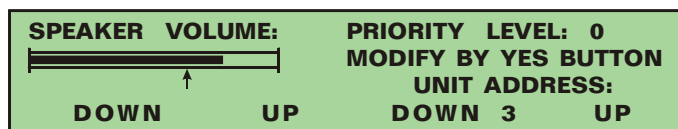
In this menu the audio volume of the loudspeaker can be set to the desired level with the aid of buttons (1) and (2). The actual level of the volume can be seen as a black band under the „SPEAKER VOLUME".

But the real volume of the loudspeaker depends on another parameter can be set by the „SPEAKERS" control of the central unit PEP3001. The actual level can be seen as a small arrow in the display of the delegate unit under the black „SPEAKER VOLUME" band.

The real sound volume - can be heard from the loudspeaker - is the average of the two parameters mentioned above.

The priority level of the device can be set by pressing button „*YES*" (10) to the desired level. In the system altogether 4 different priority levels can be set („0", „1", „2", „3"), from among which level „0" is the lowest, which is the default priority of the non-chairman speaker units. The microphone of all units of this level of priority becomes dumb when prohibition issued by the chairman is switched on, while the microphones of the units of priority levels „1", „2" and „3" remain switched on. This latter three priority levels allow the setting of the priority order between the different position participants of the conference, which is important primarily when the word is asked.

The own address of the unit can be also set in this menu („*UNIT ADDRESS*") with buttons (3) and (4), which is used by the units when they communicate with each other.

Important! In respect of addressing the units it is a prescription that the devices following each other along the cable should get addresses one after the other increased one-by-one, because otherwise operation may become uncertain. It is forbidden to give the same address to several units, since in this case when giving the word upon the word is asked the microphone of all units that have the same address becomes active, but the voice of only one of them will be heard.

It is possible to exit the service menu by pressing button marked „*NO*" (11), in this case all the parameters that were set till then are stored, and when the system will be switched on again, it will be started with these settings.

2.5.2.5. *Fast addressing*

In addition to addressing described in the previous section, it is possible to use a simplified fast addressing/readdressing as well, which can be started in two different ways.

In the first version after entering the service menu the microphone button should be pressed, as a result on each unit all the indicating lights will be flashing and a message will be displayed on the delegate units:

```
REMOTE  ADDRESSING  BY  HEP 301
    ORIGINAL  UNIT  ADDRESS  IS: 3
    CURRENT ADDRESS IS: 2
```

The text in the 2nd line „*ORIGINAL UNIT ADDRESS*" and the parameter after means the actual –preset earlier - internal address while the 3rd line „*CURRENT ADDRESS IS*" shows the following address can be given to the next unit in the queue.

The addressing of the units in this mode can be executed for the following:

Along the cabling the microphone buttons of each unit should be pressed one-by-one, this way the units will set to the default satus and – in the order of the „*CALL/MIC*" button pressing – will get their own address starting with 1 and increasing to the final.

An other possibility of starting fast addressing is accessible in the menu of control unit PEP 3002 (see section 2.2.2.3 Point „DU renumber"). In this operation mode with the aid of the numeric keyboard of the controlling unit the address of each unit can be set separately.

2.5.3. *Technical data*

Height	:	86 mm
Width	:	310 mm
Depth (with connectors)	:	125 mm
Mass	:	1000 g

Parameter	Minimum	Nominal	Maximum	Measurement unit
DC parameters				
Power voltage	10	48	55	V
Power uptake	-	1,5	3	W
Microphone parmeters				
Frequency range (-3dB)	100	-	16000	Hz
Signal-noise ratio (with closed circuited input, measuring the digital signal)	60	-	-	dB
Loudspeaker output parameters				
Power	-	0,3	1,2	W
Frequency range (-3dB)	45	-	22000	Hz
Signal-noise ratio	70	-	-	dB
Headset output parameters				
Power	-	30	60	mW
Load impedancy	8	32	-	Ohm
Frequency range (-3dB)	45	-	22000	Hz
Signal-noise ratio	70	-	-	dB

2.5.4. _Connectors_

Headset connector
Connector type: 6.3 mm stereo jack socket

Number of contacts	Function
1	GND
2	Right
3	Left

SYSTEM – system cable connector
Connector type: D-SUB9 socket, D-SUB9 plug

Number of contacts	Function
1	GND
2	CAN+
3	VCC
4	CAN-
5	GND
6	Returning digital data +
7	Returning digital data -
8	Forwarded digital data +
9	Forwarded digital data -

2.6. DELEGATE UNITS HEP 301V AND HEP 301VR

2.6.1. *General introduction*

Unit HEP 301V differs from chairman unit HEP 300 that was introduced in the previous section only in respect of the following aspects:
- it does not contain a chip card reader unit
- no prohibition issued by the chairman button marked „*PR*"it does not have the button „*VOTING START*"

Unit HEP 301VR differs from chairman unit HEP 300 that was introduced in the previous section only in respect of the following aspects:
- no prohibition issued by the chairman button marked „*PR*"
- it does not have the button „*VOTING START*"

Beyond the above both delegate unit types are identical from all aspects with the contents of section 2.5.

2.6.2. *Operation guide*

Delegate units HEP 301V and HEP 301VR differ from unit HEP 300 only in the aspects that are described in section 2.6.1.

The overview drawing of the displays, operating tools and connectors of the delegate units is included in the following Diagram 7.
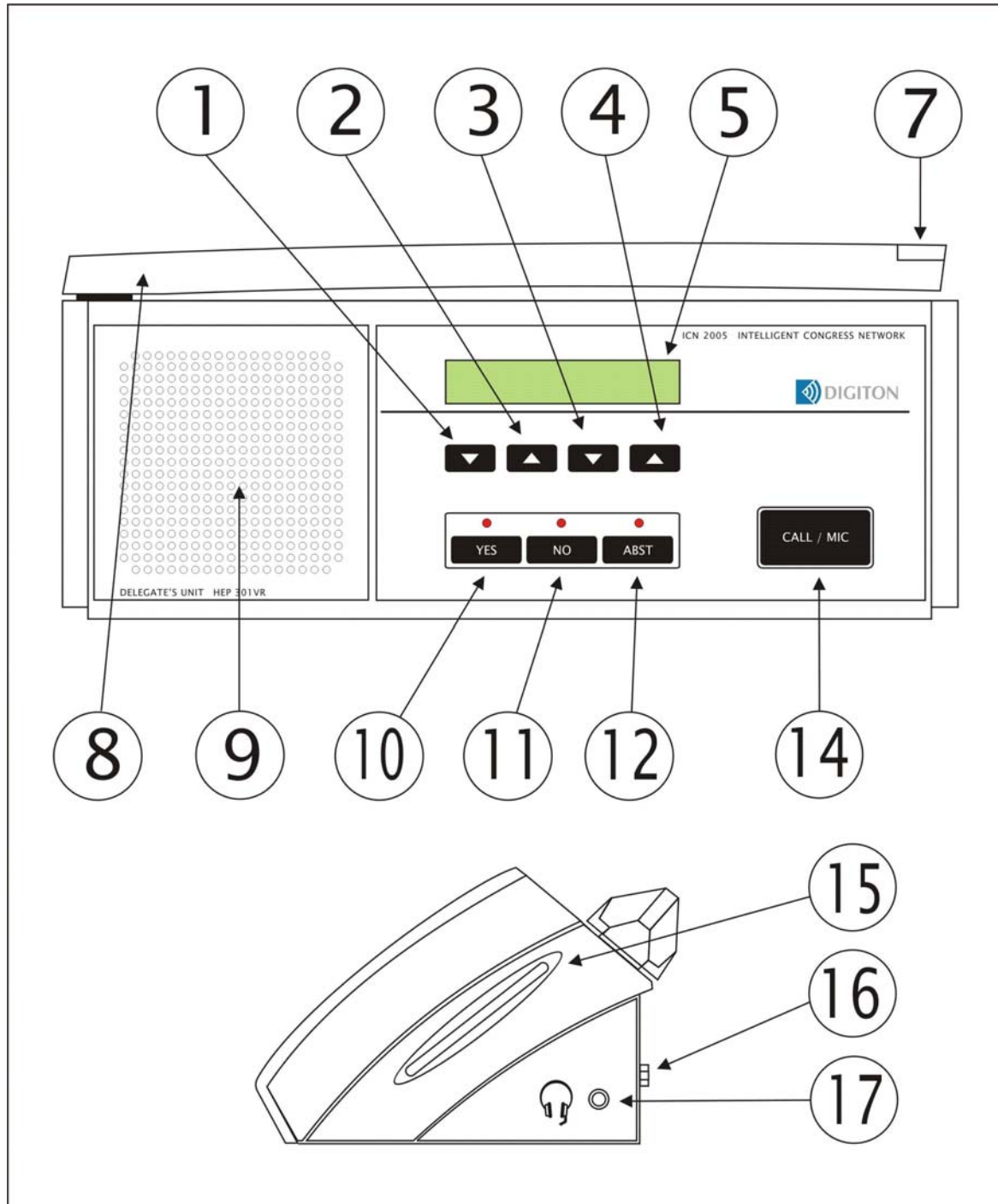

Diagram 7 - Overview drawing of delegate units HEP 301V and HEP 301VR

The legend belonging to the markings indicated in the above drawing are introduced in the following table.

Number	Name
1	Headset audio volume regulating button – downwards
2	Headset audio volume regulating button – upwards
3	Button for selecting the interpreted language channel forwarded tot he headset – downwards
4	Button for selecting the interpreted language channel forwarded tot he headset – upwards
5	Backlit, graphic LC display
6	---
7	Indicating light at the end of the microphone arm: Green colour lit continuously – microphone is switched on Green colour flashing – interpreter request „*SLOWLY PLEASE*" Red colour lit continuously – word asking status (waiting list) Red colour flashes – prohibition issued by the chairman
8	Microphone arm
9	Built-in loudspeaker
10	„*YES*" – voting button – yes
11	„*NO*" – voting button – no
12	"*ABST*" – voting button – abstain
13	---
14	"*CALL/MIC*" – button for asking the word
15	Chip card reader (only in units HEP 301V)
16	„*SYSTEM*" – system cable connector (9 pole D-SUB „plug-socket")
17	Connector of headset output (3.5 mm stereo jack socket)

2.6.3. *Technical data and connectors*

The technical data and the connectors of delegate units HEP 301V and HEP 301VR are the same as those that were described in sections 2.5.3 and 2.5.4.

2.7.   DELEGATE UNIT HEP 301

2.7.1.   General introduction

Delegate unit HEP 301 is one of the simplest basic units of conference system **ICN 2005.** This unit is placed in front of the conference participants.
The unit has built-in microphone and loudspeaker, which allows the forwarding of the voice of the participants to the loudspeaker of the other units of the system. It is possible to ask the word with the aid of word asking button „*CALL/MIC*" (8), which depending on the operation mode set and the occupation of the channels either switches the microphone on or it adds the request to the waiting list.
Unit HEP 301 is also suitable for the forwarding of maximum 30 interpreted languages and the floor voice, and these may be listened to through the headset connected to the device.

2.7.2.   Operation guide

In systems **ICN 2005**, the delegate units may be connected to the other units or the central unit with the aid of the 9-pole D-SUB connectors (9) and the installed system cables located on their backside. The units of the conference system are concatenated one-by-one serially starting from the central unit (PEP 3001), however, at the last unit a closing elements must be used in all the cases.

The overview diagram containing the operating tools and connectors of the delegate unit can be seen on Diagram 8 of the next page.
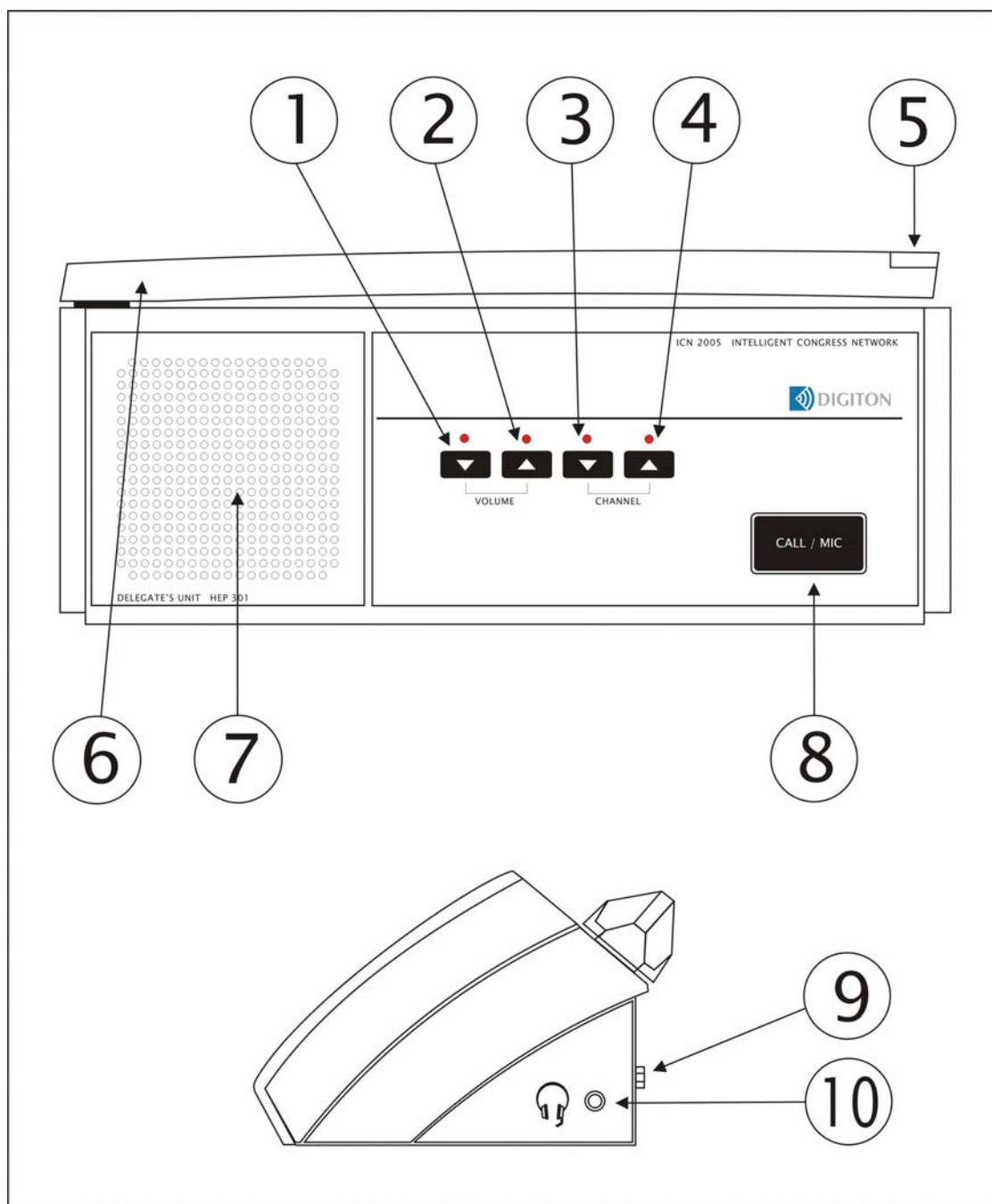
Diagram 8 - Overview diagram of delegate unit HEP 301

The legends of the marks that are included in the above diagram are included in the following table.

Number	Name
1	Headset audio volume regulating button – downwards
2	Headset audio volume regulating button – upwards
3	Button for selecting the interpreted language channel that is forwarded to the headset – downwards
4	Button for selecting the interpreted language channel that is forwarded to the headset – upwards
5	Indicating light at the end of the microphone arm: Green colour continuously lit – microphone switched on Green colour flashing – indication arriving from the interpreter „SLOWLY PLEASE" Red colour continuously lit – word asking status (waiting list) Red colour flashing – prohibition issued by the chairman
6	Microphone arm
7	Built-in loudspeaker
8	"CALL/MIC" – word asking button
9	„SYSTEM" – system cable connector (9 pole D-SUB „plug-socket")
10	Output connector of headset (3.5 mm stereo jack socket)

Prior to speaking button labelled „CALL/MIC" (8) has to be pressed, and then if the microphone is switched on, then the LED (5) located on the microphone arm is lit with green light, and it is lit with red colour if it has been introduced into the waiting list. With repeatedly pressing the word asking button „CALL/MIC" (8) it is possible to switch off the microphone or to delete the word asking status.

The flashing of the green light of the microphone arm is an indication arriving from the interpreters „SLOWLY PLEASE", which is to draw the attention of the speaker to talk slower.

It is possible to listen to the interpreted languages with a headset connected to the headset socket (10) located on the right side of the device, and it is possible to set its audio volume to the desired level with the aid of press buttons marked (1) and (2). Selecting the desired channel to be heard is done with press buttons marked (3) and (4). The flashing of the indicating lights located above the buttons indicates the end positions.

2.7.3. *Programming the unit*

It is possible to enter the service menu when the microphone is switched off, by pressing buttons marked (1+2+4) simultaneously. Successful entry is indicated by the flashing of the red LEDs located above buttons marked (3) and (4).

In the service menu the audio volume of the built-in loudspeaker can be set with buttons marked (1) and (2), and the flashing of the LEDs located above them indicates the end positions.

Delegate units HEP 301 can be addressed only with fast addressing described in section 2.5.2.5. In order to enter this operation mode buttons (1+3+4) have to be pressed simultaneously. In the case of successful entry all the indicating lights of all the units start to flash. Subsequently the steps that were described in the previously mentioned sections are to be followed.

The following diagram shows the buttons that have to be pressed simultaneously in order to enter the service menu and fast addressing:

Service menu

Starting fast addressing
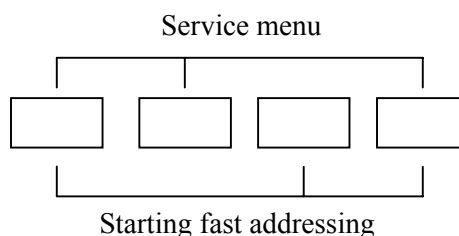
2.7.4. *Technical data and connectors*

The technical data and the connectors of delegate unit HEP 301 are identical, was described in sections 2.5.3 and 2.5.4.

2.8. INTERPRETER DESK HEP 303

2.8.1. *General introduction*

The interpreter unit HEP 303 is used in systems **ICN 2005** and **INFRAPLEX 2005**, its task is to ensure the technical conditions that are needed for the interpreter working in the interpreter booth. Its task is on one side to forward the floor voice or the voice of an other interpreter to the headset of all the interpreters or to the loudspeakers that are incorporated into the interpreter unit, and on the other side to transmit the text translated by the interpreters with the aid of the incorporated microphone to the relevant channel of the system.

According to the international prescriptions two interpreter units have to be installed into an interpreter booth, which allows the continuous working of the two interpreters. Naturally the system is capable of operation even if there is 1 interpreter unit applied in each booth.

In system **ICN 2005** the interpreters may send a „*SLOWLY PLEASE"* signal to the speaker, if they are not able to follow the pace of the speech. In addition to this, the interpreters may also send a help asking *Call* to the units of PEP 3002 or PEP 3004, which control the conference, if they need technical assistance.

The detailed description of the interpreter unit, its operation and programming are covered by the following sections.

2.8.2. *Operation guide*

In systems **INFRAPLEX 2005** and **ICN 2005** the interpreter units can be connected to each other and to the central unit with the aid of the 9 pole D-SUB connectors (17) located at their back sides and the installed system cables. The units are concatenated serially starting with the central unit (PEP 3001) however, at the last unit a closing element has to be used in all the cases.

Diagram 9 on the following page contains the overview drawing of the displaying, operating tools and connectors of the interpreter unit.
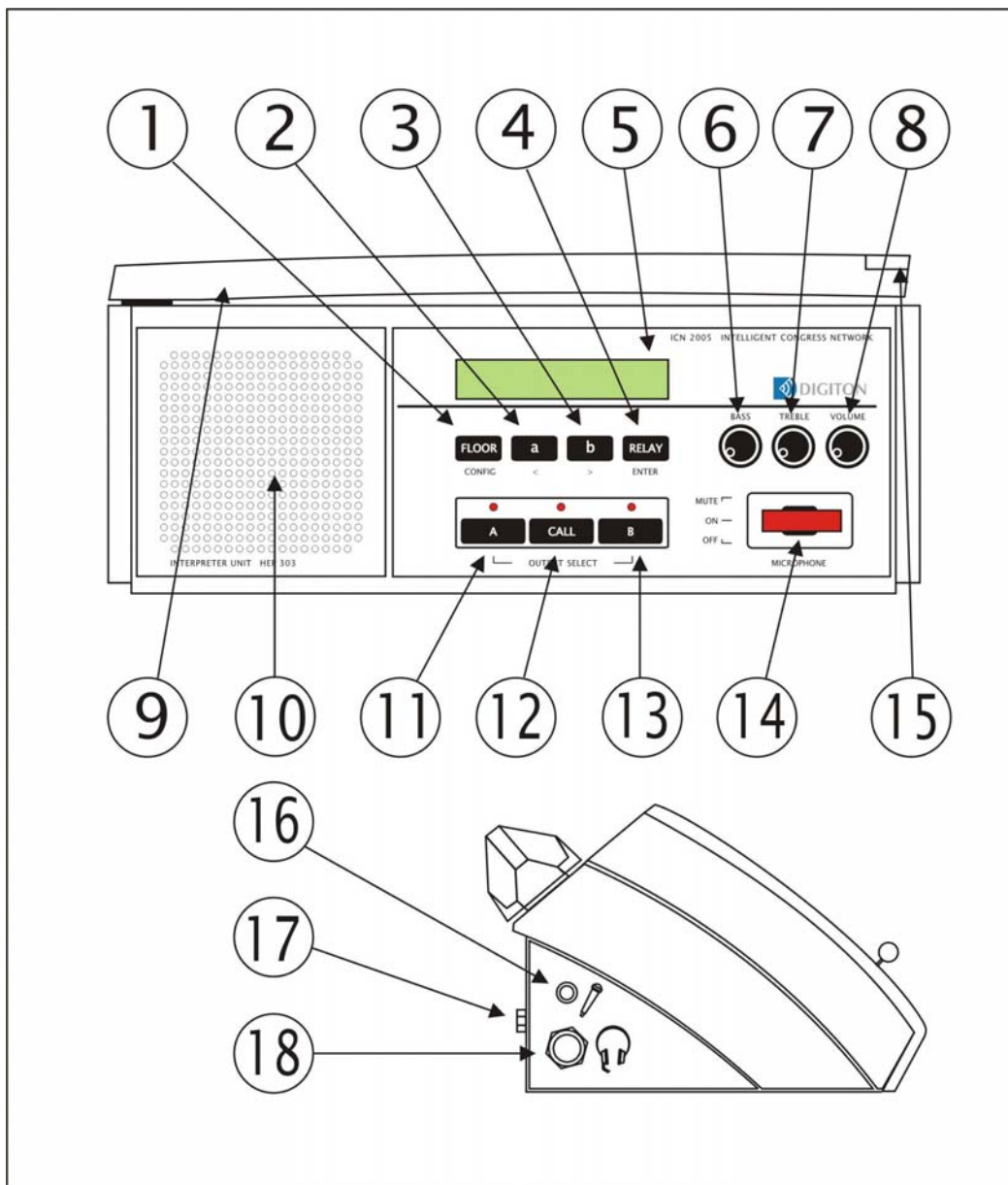
Diagram 9 - Overview drawing of interpreter unit HEP 303

The legend of the markings of the above drawing are included in the following table.

Number	Name
1	„*FLOOR*" – button for selecting the channel of the floor voice
2	"*a*" – button for selecting the channel of the freely configurable language that is forwarded to the headset of the interpreter
3	"*b*" - button for selecting the channel of the freely configurable language that is forwarded to the headset of the interpreter
4	„*RELAY*" – button for selecting the channel of the relay language
5	Backlit, graphic LC display
6	„*BASS*" – bass regulator
7	„*TREBLE*" – treble regulator
8	„*VOLUME*" – volume regulator
9	Microphone arm
10	Built-in loudspeaker
11	"*A*" – output selecting button
12	„*CALL*" – help calling button (if pressed for a longer period) „*SLOWLY PLEASE*" – (when pressed for a short time)
13	"*B*" – output selecting button
14	„*MICROPHONE*" – three position microphone switch
15	Indicating light at the end of the microphone arm: Green colour – microphone switched on (switch in position „*ON*") Red colour – momentary muting (switch in position „*MUTE*") Not lit – microphone switched off (switch in position „*OFF*")
16	Connector of external microphone input (3,5 mm jack socket)
17	„*SYSTEM*" - System cable connector (9 pole D-SUB „connector socket-plug")
18	Connector of headset output (6,3 mm jack socket)

The 4 press buttons „*INPUT SELECT*" (1-4) located next to each other in the centre of the interpreter unit are for selecting the signal going to the headset of the interpreter – it can be either the floor voice or the voice of the other interpreter. By pressing button „*FLOOR*" (1) it is possible to select the floor voice, and by pressing buttons marked „a" (2) and „b" (3) it is possible to select the signal of a channel that is programmed in advance, while by pressing button „*RELAY*" (4) it is possible to select the signal of the relay channel for the headset that is connected to headset connector (18) of the interpreter unit. The volume of the signal appearing in the headset can be set to the desired level with the aid of volume regulator (8) that is located on the front panel, while the voice tone can set with the bass (6) and treble (7) tone regulators also located here.

If the headset of the interpreter is not connected to the device, then the channel to be interpreted will be broadcast through the built-in loudspeaker (10) of the interpreter unit, and its volume and tone can be set with the aid of the turn-buttons mentioned above.

It has to be noted, that the above mentioned press buttons „*INPUT SELECT*" (1-4) in the operation mode of programming the interpreter units do have other functions, the detailed description of which can be found in Sections 2.8.4 and 2.8.5.

The interpretation of the interpreter is forwarded through the microphone located in the microphone arm (9) and by pressing button *"A"* (11) and *"B"* (13) of the Output Selector („*OUTPUT SELECT*") to a channel of the system that is determined in advance. An external electret microphone may be also connected to the device through jack connector (16) located on the side of the unit, in which case the own microphone of the interpreter unit is disconnected.

The interpreter headphones is an accessory of interpreter unit HEP 303, for this reason it is needless to separately order it. At the same time the interpreter units can be ordered - if needed - with headsets (headphones with microphone) as well, (type HEP 303HS). The headset can be connected with the aid of the external microphone (16) and the headset connectors (18) located on the side of the unit.

On the graphic, backlit LC display (15) located on the front panel of the interpreter unit information assisting the work of the interpreters do appear, its default setting is shown in the following diagram:
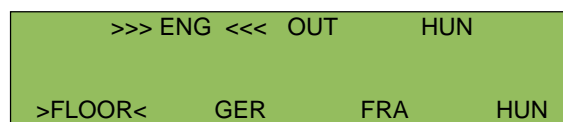
The top line provides information about the statuses of the outputs. On the two sides of the OUT label located in the middle, the abbreviation of the languages that are allocated to output channels marked *"A"* and *"B"* set in advance can be seen (in this case ENG and HUN, that is languages English and Hungarian are set for output channels *"A"* and *"B"*). In the switched on status of the microphone ">>> .... <<<" appears at the currently active output channel. Simultaneously, the indicating light located above the switched on output select button is also lit. Switching the outputs can be done with pressing the output selecting press buttons *"A"* (11) and *"B"* (13).

The following abbreviations may appear on the display: FLO = Floor (floor voice), EXT = External language (the signal given to the input „*EXT. LANG. IN*" of unit PEP 3001) or the abbreviations of the languages spoken at the conference (e.g. HUN = Hungarian, ENG = English, FRA = French, etc.). When programming the interpreter units a language has to be allocated to each used channel number.

In the bottom line of the display can be seen the abbreviations of the languages that may be selected by the interpreter for its own headset. Selection can be done with buttons marked *"INPUT SELECT"* (1) – (4), the name of the currently active channel can be seen highlighted with marking > ..... <.

In the bottom part of the right side of the front panel of the interpreter unit there is a 3 position microphone switch (14) marked *"MICROPHONE"*. In its bottom position marked „*OFF*" the microphone is switched off, in this case the indicating lights (15) located at the end of the microphone arm (9) and above the output selecting buttons (11 and 13) are not lit. In its middle position marked „*ON*" the microphone is switched on and LED (15) located at the end of the microphone arm (9) is lit with green light, and at the same time the indicating light located above the active output selecting switch is also lit. In its top position „*MUTE*" – which cannot be set for permanent - the microphone remains active, however, its signal is not connected to the output channel. This function can be used for momentarily muting (cough button) the channel. In this position the LED located in the microphone arm is lit with a red light.

The languages or their abbreviations that are preprogrammed into the device are included in the following table:

Language		Language	
in English	abbreviation	in English	abbreviation
ALBANIAN	„ALB"	ITALIAN	„ITA"
ARABIC	„ARA"	JAPANESE	„JPN"
ARAMAIC	„ARC"	KURDISH	„KUR"
ARMENIAN	„ARM"	LATVIAN	„LAV"
AZERBAIJANI	„AZE"	LITHUANIAN	„LIT"
BULGARIAN	„BUL"	MACEDONIAN	„MAC"
CHINESE	„CHI"	MALTESE	„MLT"
CROATIAN	„CRO"	NORWEGIAN	„NOR"
CZECH	„CES"	POLISH	„POL"
DANISH	„DAN"	PORTUGUESE	„POR"
DUTCH	„DUT"	ROMANIAN	„RUM"
ENGLISH	„ENG"	RUSSIAN	„RUS"
ESTONIAN	„EST"	SERBIAN	„SER"
FINNISH	„FIN"	SLOVAK	„SLO"
FRENCH	„FRA"	SLOVENIAN	„SLV"
GEORGIAN	„GEO"	SPANISH	„SPA"
GERMAN	„GER"	SUMERIAN	„SUX"
GREEK	„GRE"	SWEDISH	„SWE"
HEBREW	„HEB"	TIBETAN	„TIB"
HUNGARIAN	„HUN"	TURKISH	„TUR"
ICELANDIC	„ISL"	UKRAINIAN	„UKR"
IRISH	„GAI"		"

2.8.3. *Preparatory steps for programming the interpreter unit*

Before starting actual programming the interpretation system that matches the best the character and the site of the conference has to be selected. The most widely used solution is interpretation with one special common selected language, called "relay".

First the 31 audio channels available in the system have to be allocated (from number „0" to number „30"), number „0" is always reserved for the floor voice. The channels may be distributed to the languages interpreted starting with number „1" one by one, since the speaker units of the conference system occupy the channels downwards from channel „30". The output of each active speaker unit is connected to a separate audio channel, which means that the number of channels available for interpretation depends from the maximum number of microphones that may be switched on simultaneously („*NOM LIMIT*"). In other words, the distribution of the channels between interpretation and the conference system is theoretically arbitrary, however, their total number can be maximum 30, since one channel is always occupied by the floor voice („0").

System **ICN 2005** in its default setup does not contain interpreter units. Therefore all the 30 channels are available to the speakers of the conference.

Important! It is possible to select Channel No „1" for the purpose of transmitting interpreted languages only if DIP switch 7 located on the bottom of central unit PEP 3001 - the external language input („*EXT. LANG.*") - is in its switched off position. If this connector is in its switched on condition, then the signal introduced to connector marked „*EXT. LANG. IN*" is forwarded to channel „1" of the interpretation system.
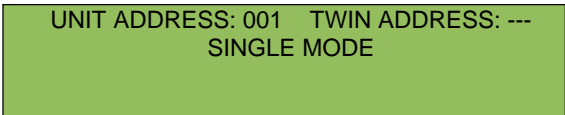
After allocating the languages used at the event to certain channels it has to be decided whether in the interpreter booth one (single mode) or two (twin mode) will work simultaneously, which basically determines the way the interpreter units are to be programmed.

After determining the above and checking the cabling of the system, the power unit (ETP 315 or ETP 370) has to be connected to the network, then the system has to be switched on with the network switch of central unit PEP 3001. After switching on, text „*System starting…*" appears on the display, after a couple of seconds – after the synchronisation of the system – the interpreter unit is reset to its basic position (see Section 2.8.2).

2.8.4. *Programming the interpreter unit when interpreters work alone (single mode)*

Step 1

When the microphone switch is in its switched off position *(„OFF"),* then with pressing buttons „*FLOOR+CALL+RELAY*" (1+4+12) simultaneously, it is possible to enter the service menu of the interpretation unit, as a result the following texts are displayed on its display:

```
UNIT ADDRESS: 001    TWIN ADDRESS: ---
              SINGLE MODE
```

In this operation mode it is possible to set the address of the given unit („*UNIT ADDRESS*"). The units use this address during communicating with each other. Setting the address is done with the aid of buttons „*FLOOR*" (1) and „*a*" (2). When pressing button „*FLOOR*" (1) once, the address to be given to the given unit is moved one step down, while pressing button „*a*" (2) moves it one step up. The desired address can be set by keeping these buttons pressed down continuously, since till the releasing of the buttons the address either increases or decreases continuously, depending on which of the buttons is pressed down.

Important! The interpretation units always have to have consequent addresses starting with 1, but their addresses have to be different from each other, since otherwise the system will operate with errors.

It is possible to step to the next point of the service menu with button marked „*B*" (13).

Step 2

By pressing button marked „*B*" (13) the next point of the service menu can be entered, in which case on the display of the interpreter unit appears the following texts:

```
OUT A NUM.: 001    LANG.MNEMONIC: ENG
```

It is possible to set here the number of the channel to which output marked „A" („OUT A NUM") of the given interpreter unit should be forwarded to, with setting the language that is to be forwarded though this channel.

Setting the channel numbers belonging to output „A" („OUT A NUM") is done with the aid of buttons „FLOOR" (1) and „a" (2), in a manner that is completely identical with the previously described one. The abbreviated name of the language („LANG. MNEMONIC") that belongs to the given output „A" can be given with the aid of buttons „b" (3) and „RELAY" (4).

The list of languages of the interpreter unit that are programmed in advance and which may be set is included in the Table that is located at the end of Section 2.8.2.
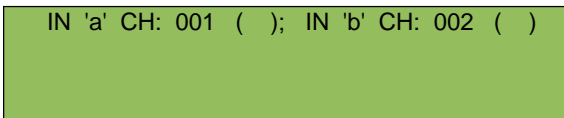
Step 3

By pressing button marked „B" (13) again it is possible to move to the next item of the service menu, where it is possible to set the number of the channel to which output marked „B" („OUT B NUM") is to be forwarded, with setting the language that is to be forwarded through this channel. The process of setting is completely identical with the version that was described in previous step 2, with the condition that output „B" is the same as the relay language ("RELAY"), the common language of the interpreters. Thus this means that in the case of each interpreter unit output marked „B" has to be programmed to the same channel and to the same language if there is one relay language.

It is possible to enter the next item of the service menu with button marked „B"(13), while it is possible to step backwards with button marked „A" (11).

Step 4

It is possible to move to the next point of the service menu by pressing button marked „B" (13) again, where the following texts do appear in the display of the interpreter unit:

```
IN 'a' CH: 001  (   );  IN 'b' CH: 002  (   )
```

At this item we may allocate one channel each to the input selecting buttons marked „a" (2) and„b" (3), in a manner that is completely identical with the above described procedure. However, here only the channel numbers have to be given, since the language allocated to the given channel is automatically entered by the system.

If needed it is possible to step backwards with button marked „A" (11).

With this the programming of the interpreter unit is completed, it is possible to exit the service menu with pressing button marked „CALL" (12) or by setting the microphone switch (14) into its middle position.
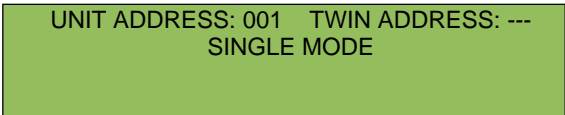
Otherwise, the service menu can be exited from under any of the menu items. When exiting the unit saves the current setting and on the occasion of the next start up the system starts its operation with these settings.

Important! In case the microphone is switched on (when the switch is set to its middle position – „ON") it is not possible to enter the service menu.

2.8.5. *Programming the interpreter unit in the case of interpreters working in pairs (twin mode)*

Step 1

When the microphone switch is in its switched off position *("OFF"),* by pressing buttons marked *„FLOOR+CALL+RELAY"* (1+4+12) simultaneously it is possible to enter the service menu of the interpreter unit, on the display of which at this point the following labels can be seen:

```
UNIT ADDRESS: 001    TWIN ADDRESS: ---
               SINGLE MODE
```

It is possible to set in this operation mode the own address of the given unit *("UNIT ADDRESS"),* which address is used by the units during communicating with each other. Setting the address is done with the aid of buttons *„FLOOR"* (1) and *„a"* (2). Pressing button *„FLOOR"* (1) once decreases the address to be given to the system with one, while pressing button *„a"* (2) increases it with one. The desired address can be set also by pressing these buttons continuously, since the address either increases or decreases continuously until the moment the buttons are released, depending on which of the buttons is pressed.

After setting it is possible to exit the service menu either by press button *„CALL"* (4) or by setting the microphone switch to its middle position, and the same operation has to be repeated with all the other of the interpreter units.

Important! The interpreter units have to always have consequent number addresses starting with one, each has to have a different address, because otherwise the system will operate with errors.
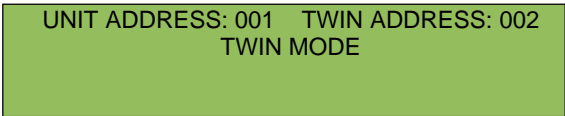
The interpreter units operating as twins have to be programmed always with subsequent numbers, in such a way that the odd number has to be the smaller one in a given pair belonging together (e.g.: 1-2, 3-4, 5-6, etc.).

If in the interpreter system that operates with twin interpreters there is such a language pair as well, which is interpreted by a single interpreter, then its own address should be the next odd number, and the subsequent even number has to be left out.

Step 2

If the setting described under step one has been executed on all the units, then programming is to be continued on the first interpreter unit by entering the service menu again by pressing buttons marked *„FLOOR+CALL+RELAY"* (1+4+12) simultaneously. Naturally in order to enter the service menu the microphone switch has to be in switched off status in this case as well.

On the display of the interpreter unit again the diagram introduced in step 1 of this section can be seen, however at the own address *("UNIT ADDRESS")* the value that has been previously set and saved is recorded. Subsequently button *„b"* (3) or *„RELAY" (4)* should be pressed, when next to the *„TWIN ADDRESS"* the twin address differing from the own address with one is displayed and at the same time in the second line of the display label *„TWIN MODE"* appears.

```
UNIT ADDRESS: 001    TWIN ADDRESS: 002
                TWIN MODE
```

In the case of those interpreter units, where the own address is odd, the twin address will be one higher. However, in the case of an even own address the twin address will be one less, which excludes the possibility of accidental "chain pairing", which would case failing operation.

Step 3

In the case of interpreter units that have odd own addresses, the contents of step 2-4 of Section 2.8.4 should be followed.

In the case of interpreter units that have even own addresses it is already not possible to enter the next menu item, in their case it is possible to exit the service menu by pressing press button „*CALL*" (4). In this case the additional settings are automatically uploaded from the twin unit.

2.8.6. *Using the interpreter unit*

After switching the system on the text „*System starting…*" appears on the display of the interpreter unit for a couple of seconds, then - after synchronising the system - the basic diagram of the interpreter unit appears.

After switching the interpreter unit on, output marked „*A*" will be automatically activated, which is indicated by the red LED located above the output selection button. However, the output of the interpreter unit is forwarded to this channel only if the microphone switching button is set to its middle position („*ON*"), in which case the green indicating light located at the end of the microphone arm is also lit.

If when switching on the switches of both of the twin units is in the middle position („*ON*" – microphone switched on), then from the two desks first the microphone of that unit will be active, which has a smaller address („*UNIT ADDRESS*"). On the front panel of this unit the LED located above the selected and switched on output selection button („*A*" or „*B*") and also the green indicating light located in the microphone arm are lit simultaneously. On its belonging twin unit the LED located above the same output selection button flashes, indicating that in spite of the fact that the microphone is switched on, right now it is not broadcasting, it is not active, but the active one is its pair. Naturally, in this case the green indicating light of the microphone arm is not lit either.

The non-active interpreter does transferring the word between the interpreters by pressing one of the outputs selecting buttons (marked „*A*" or „*B*") – practically the one -, above which the indicating light flashes. By this the interpreter takes over the word and replaces the interpreter, who talked till then, which is also indicated by the continuous lighting of the LED located above the output selection button and also by the lighting of the green indicating light located in the microphone arm. At the replaced interpreter the green indicating light of the microphone arm is going out, and the LED located above the output selection button starts to flash. Taking the word back by the replaced interpreter can be initiated by pressing output selection button that is on his/her own unit.

Transferring the word between the two interpreter units can be done by setting the microphone switch of the active unit to position switched off („*OFF*"), in this case the working interpreter gives the word himself to the other interpreter. In this case taking the word back can be done by switching on the switched off microphone again („*ON*" positions).

Selecting the output is completely parallel between the twins, which means that output changing is also indicated by the LED that is located above the output selection switches of the twin unit („*A*" and „*B*").

Important! The system allows the switching on of only the microphone of one of the twin units simultaneously at all times.

The interpreters may select a signal from among 4 different input signals (,,*FLOOR*", ,,*a*", ,,*b*" and ,,*RELAY*") with the aid of output selecting switches "INPUT SELECT" (1 – 4). Selecting the input − that is selecting the signal that is transmitted to the headset of the interpreters – is done separately, that is, it is not programmed as parallel.

If the interpreter understands the language of the speaker, then he selects the floor voice marked ,,*FLOOR*" for his own headset and interprets to output ,,*A*" or ,,*B*". If he selected output ,,*B*", this means that such a speaker speaks on the floor voice, who speaks the language selected for output ,,*A*". However, in this case no one interprets (talks) for the channel that belongs to output ,,*A*", for this reason the unit relays the floor voice automatically to output ,,*A*", in order to prevent the listeners of this language to have to switch to the floor voice with the channel selector. When selecting output ,,*B*" the unit switches the input selector ("INPUT SELECT") automatically to the floor voice (,,*FLOOR*").

If the interpreter does not understand the language of the speaker, then the common relay language of the interpretation has to appear on channel ,,*RELAY*". Therefore by pressing input selection button ,,*RELAY*" (4) the interpreter selects for his headset the relay language, simultaneously with which the output of the unit is automatically switched to channel ,,*A*", since in such cases he cannot talk to output ,,*B*" (RELAY), wince he is listening to that.

In the case of conference system **ICN 2005**, the interpreter can send a ,,*SLOWLY PLEASE*" indication to the speaker, if the speaker speaks to fast for him. This indication can be initiated by pressing button marked ,,*CALL*" (12) of the interpreter unit once, for a short time. In this case the green indicating light built-into the microphone arm of the delegate unit of the speaker starts to flash, together with the red LED located above press button ,,*CALL*" of the interpreter unit. At the same time on the display of the interpreter unit the text ,,SENDING *SLOWLY PLEASE*" appears. The signal automatically is terminated after about 5 seconds, but naturally the interpreter may restart it by repeatedly pressing button marked ,,*CALL*" (12). It is possible to stop the signal before its due termination time with button marked ,,*CALL*" (12).

In a system **ICN 2005** that is completed with conference controllers PEP 3002 or PEP 3004 the interpreters may also ask help (e.g.: technical problems, a glass of water, etc.). For this purpose button marked ,,*CALL*" (12) of the device has to be pressed down for about 3 seconds continuously. The relevant signal appears on the display of PEP 3002 or on the monitor of unit PEP 3004. At the same time on the display of the interpreter desk the text ,,*CALLING TECHNICAN*" also appears and the red LED located above button ,,*CALL*" is also continuously lit. For withdrawing the signal, button ,,*CALL*" has to be again pressed down for 3 seconds continuously.

2.8.7. *Technical data*

Height	:	86 mm
Width	:	310 mm
Depth (with connectors)	:	125 mm
Mass	:	1000 g

Parameter	Minimum	Nominal	Maximum	Measurement Unit
DC parameters				
Power voltage	10	48	55	V
Power uptake	-	1,5	3	W
Microphone parameters				
Frequency range (-3dB)	100	-	16000	Hz
Signal-noise relation (with short-circuited input, measuring the digital signal)	60	-	-	dB
Loudspeaker output parameters				
Power	-	0,3	1,2	W
Frequency range (-3dB)	45	-	22000	Hz
Signal-noise relation	70	-	-	dB
Headset output parameters				
Power	-	180	250	mW
Loading impedance	8	32	-	Ohm
Frequency range (-3dB)	45	-	22000	Hz
Signal-noise relation	70	-	-	dB

2.8.8. *Connectors*

Headset connector
Connector type: 6.3 mm stereo jack socket

Number of contacts	Function
1	GND
2	Right
3	Left

External microphone connector
Connector type: 3.5 mm stereo jack socket

Number of contacts	Function
1	GND
2	Right
3	Left

SYSTEM – system cable connector
Connector type: D-SUB9 socket, D-SUB9 plug

Number of contacts	Function
1	GND
2	CAN+
3	VCC
4	CAN-
5	GND
6	Returning Digital Data +
7	Returning Digital Data -
8	Forwarded Digital Data +
9	Forwarded Digital Data -

3. PLACING, CABLING AND SETTING UP THE UNITS OF THE SYSTEM

3.1. GENERAL INTRODUCTION

First the unpacked units of the conference system have to be put to their locations in the room and in the technical room, if there is such. The delegate and chairman units are installed on the table before the participants, while the central and the controlling units can be put to different places depending on the demands and the possibilities (at the chairman, in one of the corners of the room, in the technical room, etc). If the system includes interpreter desks as well, then the interpreter desks have to be put into the interpreter booth, 1 or 2 desks in each booth, depending on the requirements.

Connecting the units of the equipment – in a length and with the number of pieces that are ordered –with the aid of factory system cables delivered (type – DK 002-..) with serial, one-by-one concatenation. Cabling should be always started from the central unit or the power supply unit on the highest number of branches possible. During the cabling efforts should be made to have approximately the same number of units connected to each branch.

Important! 35 units can be connected to a branch at most, and the length of none of the branches can't exceed 100 meters. When establishing the number of the units each device (controlling unit, delegate unit, chairman unit, interpreter unit, channel decoder) has to be taken into consideration.

A closing element has to be inserted into the free connector of the last unit of each branch in all the cases. A closing element has to be inserted into the non-used system cable connector of central unit PEP 3001 and power supply unit ETP 370 as well. The connectors of the system cable have to be fixed by all means to the units of the system with their built-in – manually adjustable - screws in the interest of preventing incidental slipping off and secure contact.

Important! In the lack of closing elements the system will not synchronise itself and therefore it will be incapable of operation. In this case and when the system cables are improperly connected the following label appears on the displays of the units „*RING ERROR, CHECK CABLES!*" and at the same time all the indicating lights of the units are lit.

Important! Also „RING ERROR, CHECK CABLES!" text appears in the display when there is an addressing fault in system can be caused by an earlier made reinstallation. In this case you have to enter the service mode using one of the unit by pushing simultaneously the buttons 1+4+11, then set the self addresses one by one manually. (charter 2.5.2.5. „Fast addressing") To avoid this mistake mentioned above it is suggested to check the self code of the units (can be seen on the bottom side) and follow these codes during the setting and linking up procedures.

IMPORTANT! If the system is switched on, laying the cables should not be done. Disconnecting and connecting the cables under voltage may damage the device.

After connecting, fixing and checking all the system cables power supply unit ETP 370 of the system should be connected to the grid, and the device should be switched on with the power switch located on the device. It should be noted that in this case switch „*POWER*" (15) built-into the central unit does not operate, therefore with switching on the power switch the system is immediately switched on.

In the case of power supply unit ETP 315 first its DC output should be connected to connector marked „*DC 30V*" (16) of the central unit, and the power supply unit should be connected to the grid only afterwards. Starting up the system in this case is done with switch marked „*POWER*" (15) of the central unit.

The fact that switching on took place is indicated by the green LED marked „*POWER*" (13) of unit PEP 3001. After switching on, for a couple of seconds – during the period of synchronisation – yellow LEDs named „*REMOTE*" and „*NOM LIMIT*" (13) flash alternatively on the front panel of the central unit, and after synchronisation both go out.

On the displays of the units starting with switching on till the completion of synchronisation the label „*System starting…*" can be seen, which disappears after the synchronisation period of a couple of seconds and instead of it the basic diagram of the units appears. This means that the system is ready to operate and the programming of the units can be started as it was described above, if it is needed at all, since when being switched on the units always operate according to the last programmed status.

The different versions of installing the cabling of conference system **ICN 2005** – depending on the composition of the equipment – are introduced by the cabling drawings included in the following sections.

3.2. MINIMAL CONFIGURATION

In this configuration the number of units included in the system cannot exceed 15, therefore power supply unit ETP 315 ensures the power supply of the system. For a system of this composition the recommended delegate units are type HEP 301 or HEP 301V units.

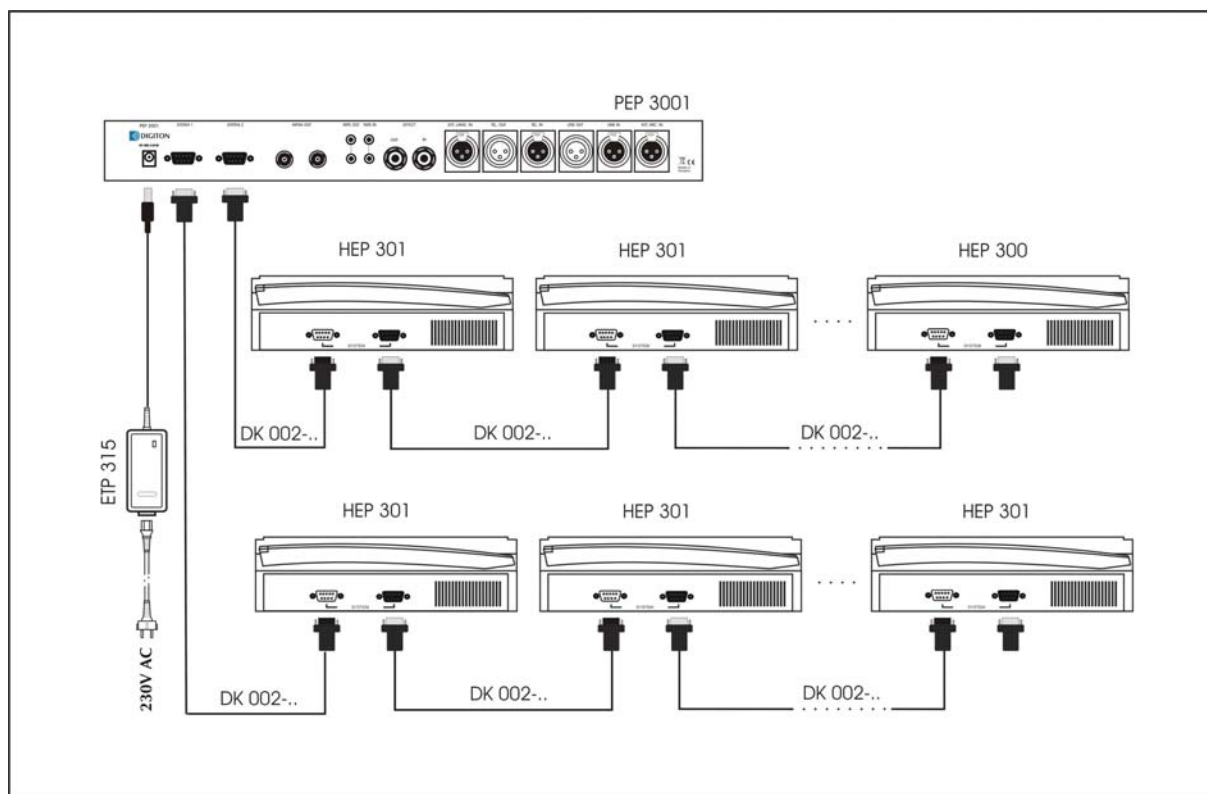The following Diagram 10 demonstrates one of the possible cabling drawings of this system.

Diagram 10 - Minimal configuration cabling drawing

3.3. MINIMAL CONFIGURATION EXTENDED WITH A CONTROL UNIT

In this case the version introduced in the previous 3.2 section is extended with a controlling unit PEP 3002, which extends the range of services that are provided by the system. Naturally the controlling unit can be concatenated to any arbitrary point of the two branches. For systems of this composition delegate units of type HEP 301 or HEP 301V are recommended.

The following Diagram 11 introduces a possible cabling drawing of this system.
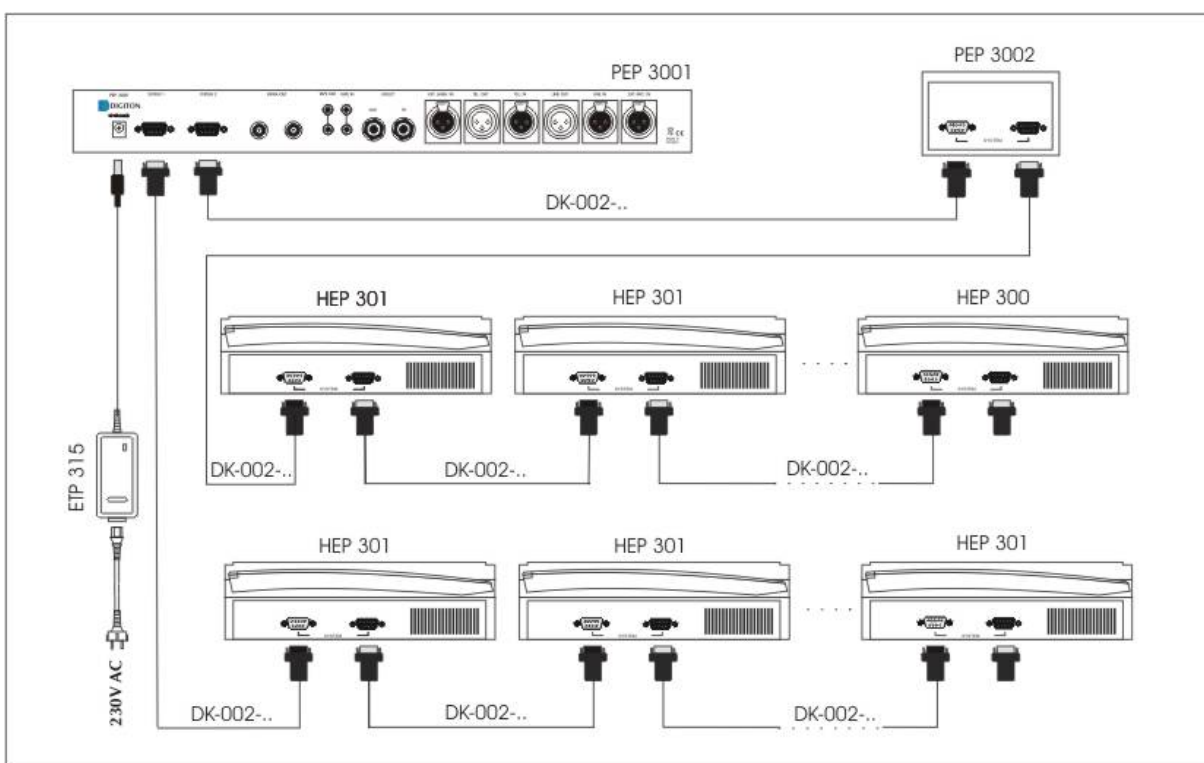
Diagram 11 - Cabling drawing of the minimal configuration extended with a controll unit

3.4.   NORMAL CONFIGURATION

In case of normal configuration ETP 370 power supply unit can be used, which has a higher output, and which allows the connection of 70 units into a system. This version contains a controlling unit (PEP 3002) and channel decoder (PEP 3006) as well, but normally these units are not essentially parts of the system, since the system is capable of operating without it. The type of the delegate unit recommended for a system of this kind of composition is HEP 301 or HEP 301V.

A possible cabling drawing of this system is on Diagram 12.
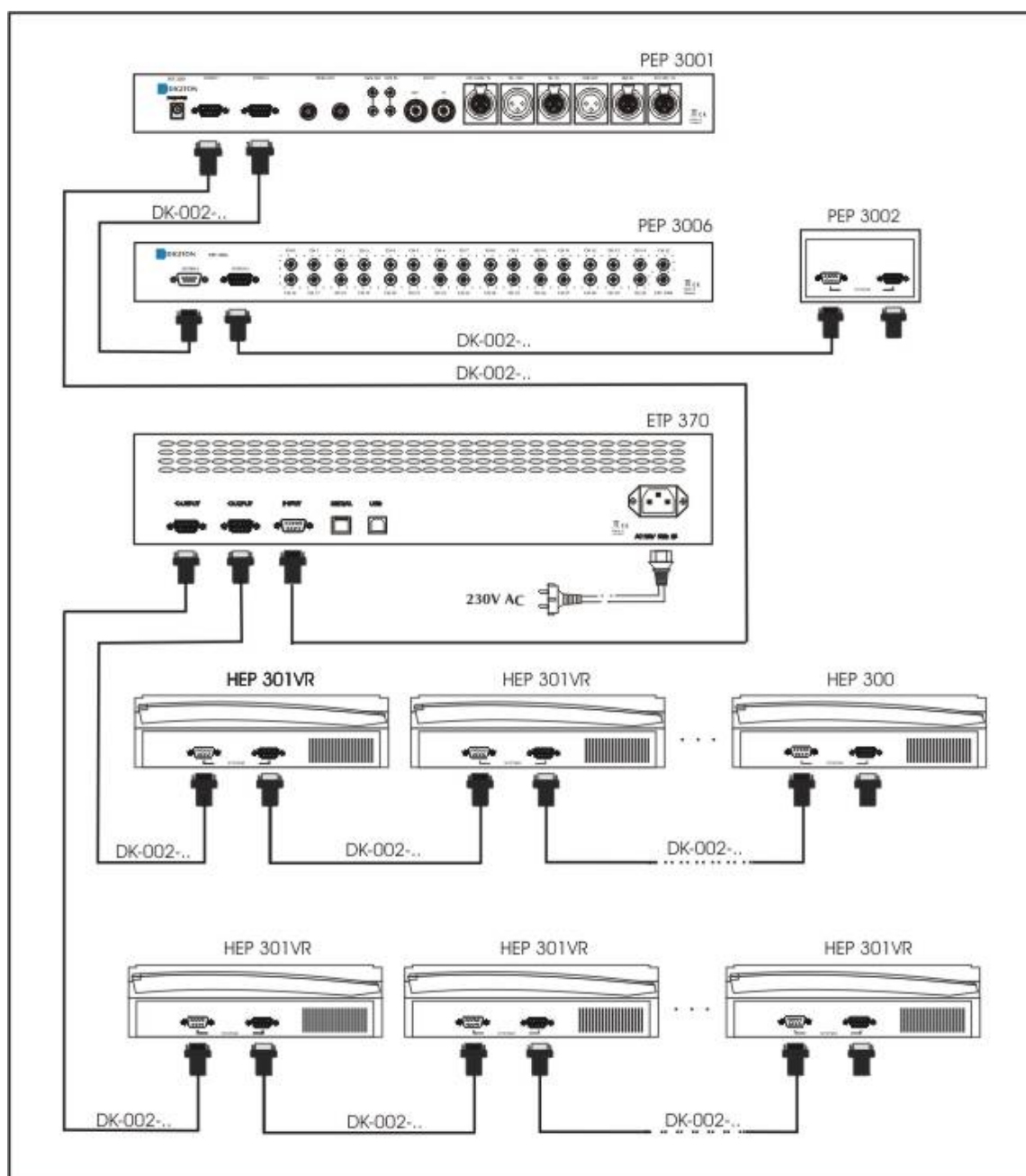
Diagram 12 - Cabling drawing of normal configuration

3.5.   COMPUTER CONTROLLED NORMAL CONFIGURATION

It is the same as the version that was described in section 3.4. above, the only difference is that controlling the system is done instead of unit PEP 3002 by unit PEP 3004, which will result in the significant extension of range of the services of the system. Controlling can be done through the „SERIAL" or „USB" inputs of power supply unit ETP 370.

For exploiting the functional possibilities that are offered by the computer in this configuration it is recommended to use delegate units of types HEP 301V and HEP 301VR.

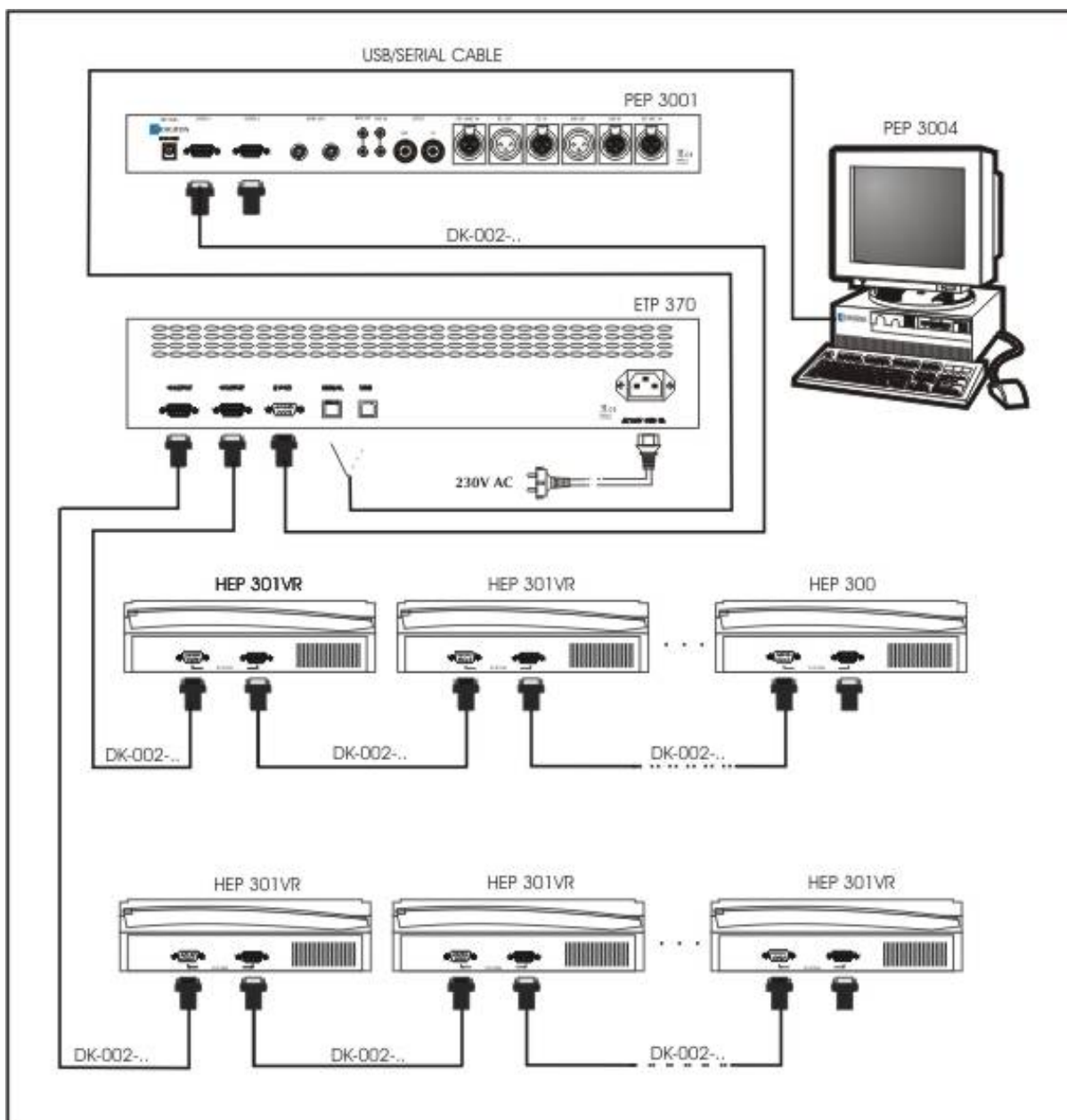A possible cabling drawing of this system is shown on Diagram 13.

Diagram 13 - Cabling drawing of a computer controlled normal configuration

3.6. COMPUTER CONTROLLED SPECIAL CONFIGURATION

This version is needed if the number of units included in the system is more than 70.. The number of power supply units ETP 370 included in the system is determined by the number of units that are operated in the system, with taking into consideration that the maximum number of units that may be connected to one branch (35) and the greatest allowable length of a branch (100 m). In the case of computer-controlled instalation the „SERIAL" or „USB" connection of the power supply unit can be used.

In this configuration in order to exploit the functional possibilities that are ensured by the computer it is recommended to use delegate units of types HEP 301V and HEP 301VR.

One of the possible cabling drawings of this system is introduced in Diagram 14.
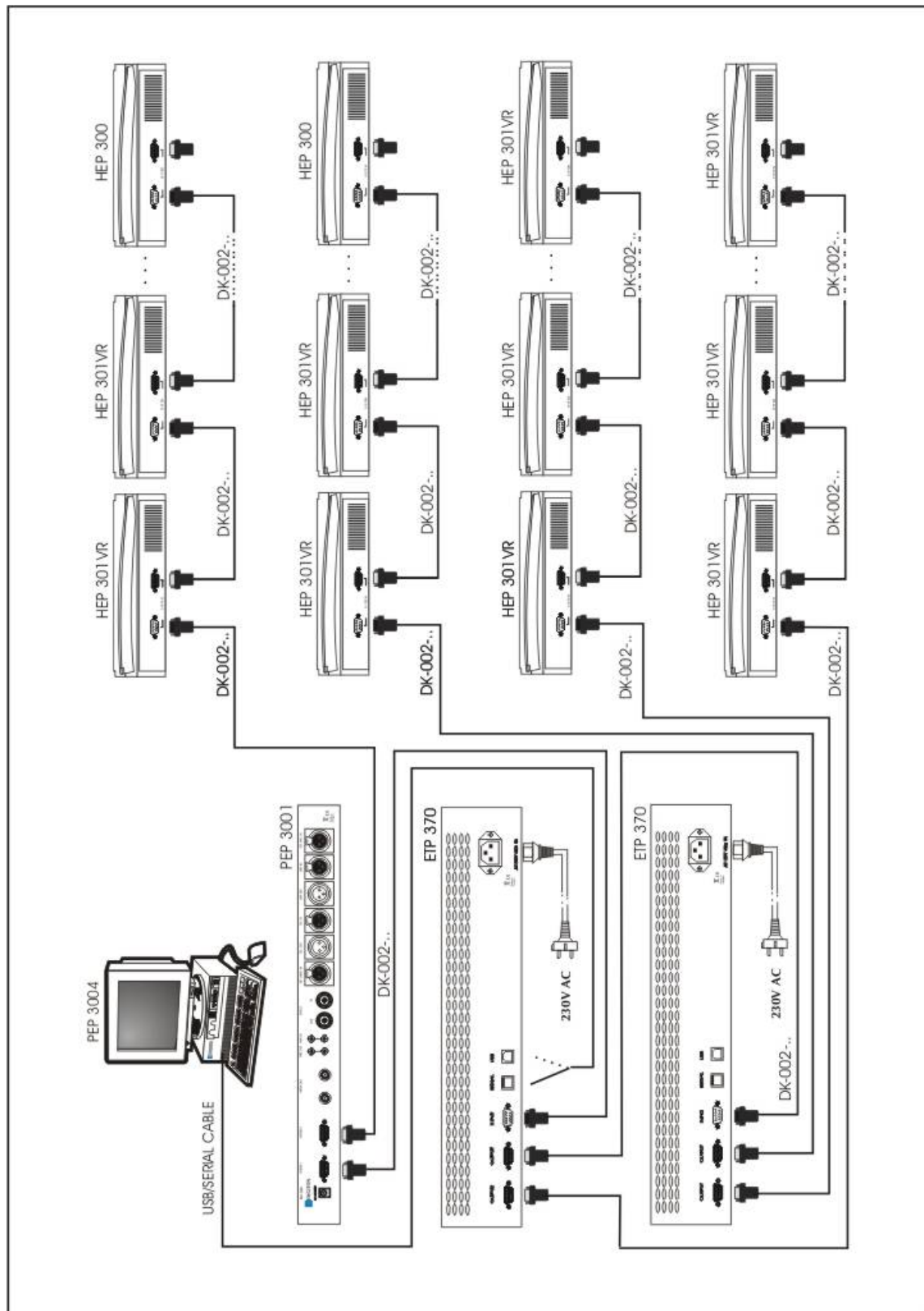
Diagram 14 - Cabling drawing of a computer controlled special configuration

4. CO-OPERATION WITH INTERPRETATION SYSTEM INFRAPLEX 2005

In case of using **ICN 2005** and **INFRAPLEX 2005** systems interconnected the floor voice and the translated languages generated by the conference system do appear automatically in the infra control coaxial output driving the infrared radiators.

This way the central unit PEP 3001 and the interpreter units are common devices for both systems. This way on the same channel the same language can be heard.

When listening to the interpreted languages through the delegate units, the delegate units have to be complemented with headsets, which have to be connected to the headset outputs of the devices.

If the total number of interpreter and delegate units exceeds 15, ETP 370 power supply has to be installed.

Information concerning the installation, cabling and commissioning of interpretation system **INFRAPLEX 2005** are included in the User Manual of the system.

One of the possible layout versions of the units of conference and interpretation systems **ICN 2005** and **INFRAPLEX 2005** is presented in Diagram 15, while the drawing of the complete cabling of a system of such an arrangement is presented in Diagram 16.
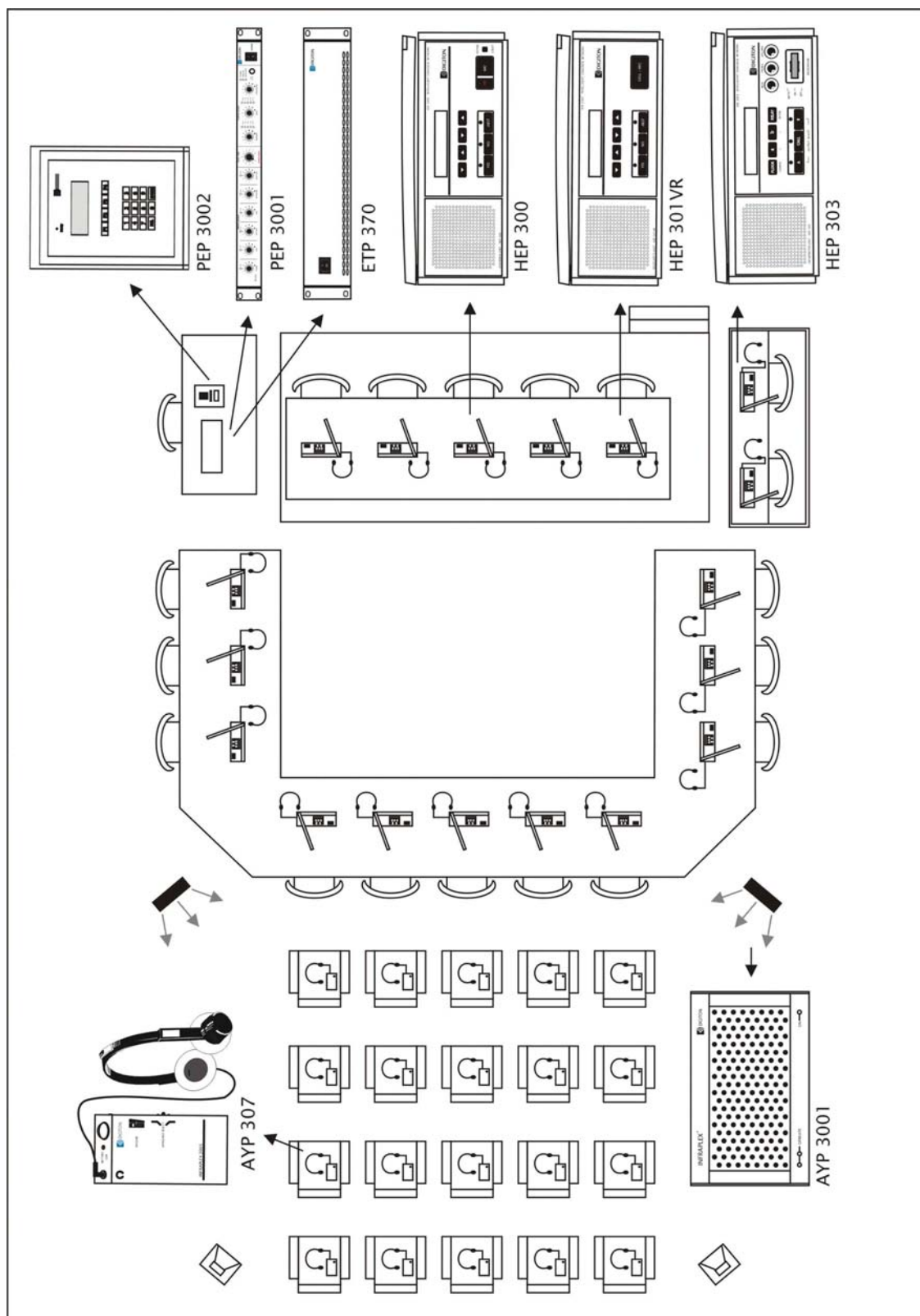
Diagram 15 - Installation drawing of conference and interpretation systems
ICN 2005** and **INFRAPLEX 2005
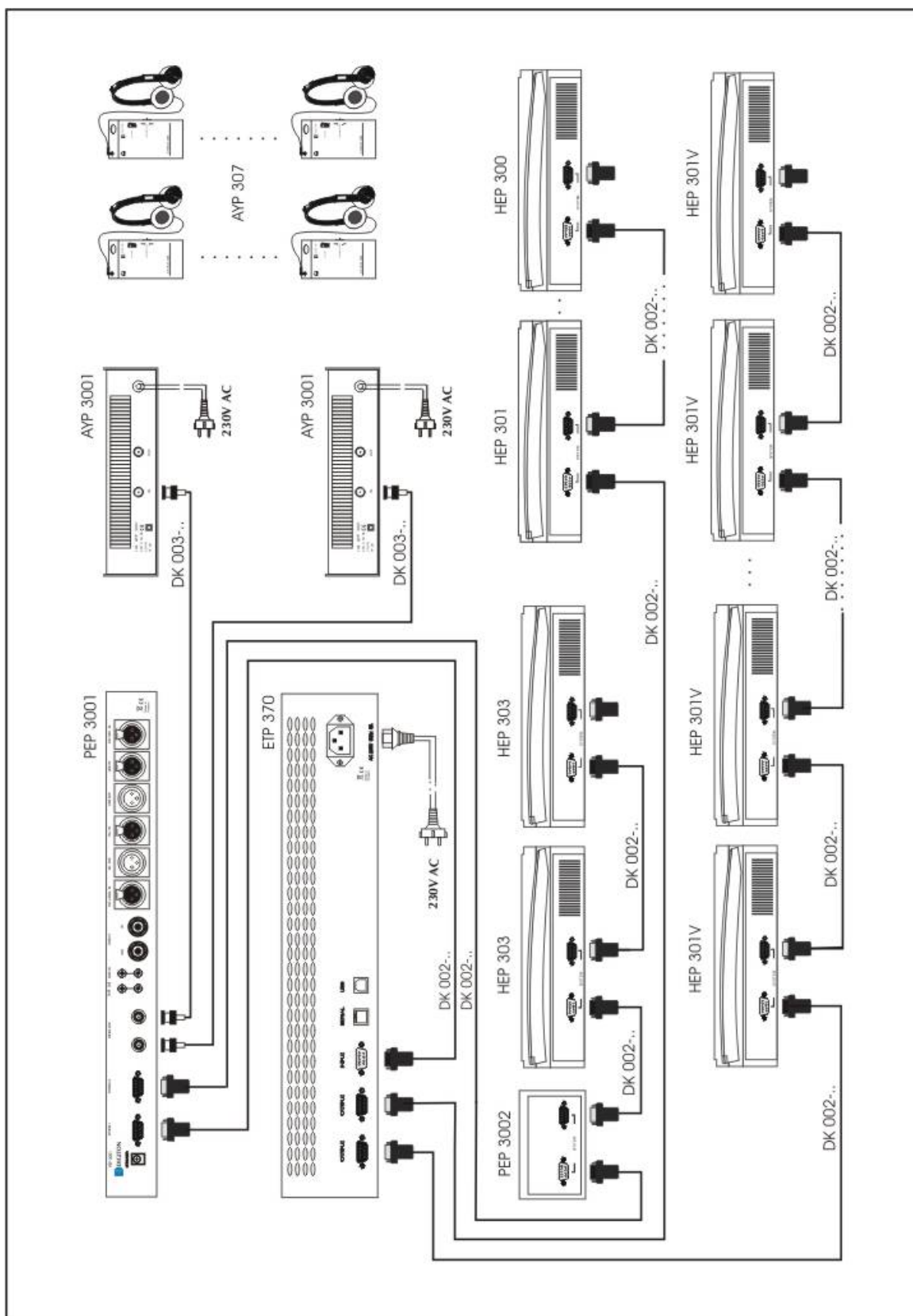
Diagram 16 - Cabling drawing of conference and interpretation systems
ICN 2005 *and* **INFRAPLEX 2005**