

WS 108/208/308

Types telephone minor exchange

FROM VERSION 1.4

APPROPRIATE FOR THE OPERATION OF A 4-BUTTON ENTRYPHONE

USER'S AND INSTALLATION MANUAL



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1. Introduction

Thank you for honouring us with your confidence when choosing our product.

We hope it will be a faithful friend and a helping hand for you in your work and your everyday life.

Programming and installing the WS x08 minor exchange is simple, but for a faultless operation a detailed knowledge of its programming and a flawlessly developed telephone network is indispensable.

We are asking you to carefully read the manual through before beginning to install or to call an expert qualified for the installation of the minor exchange.

2. The purpose of the equipment

General information

A WS x08-F and x08-D telephone minor exchange makes the connection of 1/2/3 analog two-wire telephone lines as well as eight telephone appliances possible, it can be supplemented with a DISA card, SMDR data forwarding. It is provided with a built-in door opener and an entryphone adapter. Any type of standard analogue, two-wire telephone apparatus and a FAX equipment can be connected to the extensions.

Functions available for the user

Calling an extension

The call numbers of the extensions are: 11, 12, 13, 14 15, 16, 17, 18.

Lift the handset, then after the dial tone dial (press) the call number of the desired extension. If the called extension is free, the apparatus of the called extension will give a ring (with a 0.4s ring – 0.2s interval – 0.2s ring – 1.6s interval timing) and the caller will hear a ringing echo in the receiver of the handset. The extension-extension talk connection is effected by lifting the handset of the called apparatus.

In case of a busy signal or when dialling an own extension, the caller will hear the busy tone.

Exchange line request

Pick up the handset and after the the dial tone dial (press) '0'. If the exchange line is not used by another extension, you should be able to hear the exchange line dial tone in a few seconds. Now you can dial the call number of the subscriber who you intend to call.

In case there is no free exchange line (all three exchange lines are busy), you receive a busy tone. You can request an exchange line by "dedication" too. In this case you dial number '81' to connect to exchange line number one, number '82' to connect to number two and number '83' for number three.

Call transfer

The incoming and outgoing exchange calls are transferrable to another extension. The call transfer (presuming an exchange line-extension speech contact) is possible by FLASH or dialling the number of the intended extension after the inner dial tone.

If the intended extension is free, the **transferring party will hear an extension ringing echo**. At this point, the transferring party has several possibilities:

- Wait until the targeted extension answers the call (picks up the handset of his/her telephone). In this case, an extension-extension speech contact is constituted. The call transfer is effected by putting down the transferring party extension (the exchange line-target extension connection).
- The transferring party extension puts the handset down in case of which the target extension remains in ringing condition. The exchange line-target extension contact is constituted by picking up the handset. If the target extension does not answer the transferred call in 30 seconds, the exchange will stop the ringing and free the exchange line (disconnect).
- The target extension does not answer the call and if the transferring party extension presses FLASH again now, he/she will get back the exchange line (the previous extension-exchange line speech contact builds up again).

During the process of the call transfer, the exchange line caller will hear "Exchange line holding music". The holding music can be provided by the built-in, inner source of music of the exchange, but there is also a possibility to connect an external source of music (e.g. radio, CD player etc.) through the 3.5 jack connecting point located on the side of the appliance.

Conference talk

The conference talk (supposing an exchange line-extension speech contact) can be initiated by FLASH or by dialling the number of the extension desired to be involved in the conference talk after the inside dial tone.

If the target extension is free, the conference originator extension will hear a ringing echo. With involving the target extension, an extension-extension speech contact builds up, after which the originator extension builds up the exchange line-extension-extension speech contact by the repeated issuing of a FLASH.

During the process of the conference talk development, the exchange line caller will hear the "Exchange line holding sound".

Shifting between daytime and night-time modes

The WS minor exchange is able to work according to two different types of programming (e.g. 'during daytime' and 'during night-time' different extensions ring in the eventuality of an exchange call).

The shift between modes can be effected from the first extension. Shifting to daytime mode is possible by entering the '#1' code after the arrival of the dial tone, and you can shift to night-time mode by entering the '#2' code. The actual mode is indicated by the 'NIGHT' LED (green) located on the side of the equipment. In case of daytime mode the LED is dark and in night-time mode it is on.

Call transfer function

The extension programmed to receive incoming calls (an exchange call rings it) is the one entitled to program the call transfer.

Call transfer codes are: 41, 42, 43, 44, 45, 46, 47, 48, 4#.

The '41' code means a call transfer to extension 11, code '42' to 12 etc. With the '4#' code you can delete all the programmed transfers (this function is only available on extension 11).

Let's consider the following example:

Extension 11 can receive incoming calls (exchange call ringing extension 11), but we are going over into the room where extension 14 is located. Extension 14 is programmed not to be rung by incoming calls. The incoming exchange calls would be lost during this interval (while we are situated near extension 14).

The solution of the problem:

Before leaving the room with extension 11, forward the call to extension 14!

Pick up the handset of extension 11, then after the dial tone dial the '44' code (with this you forwarded the call from extension 11 to 14), then put down the handset. In case of an incoming exchange call, the telephone apparatus of extension 14 will also ring now.

The deletion of the programmed call transfer function is possible from the "transferring party" extension by entering its own code.

Delete the call transfer programmed in the previous example!

Lift the handset of extension 11 and then dial the "own code" – in the present case 41- then put down the handset. We have deleted the forwarding of the extension 11 call.

The own code of extension 11 is 41, that of 12 is 42, 13 has 43 ... etc.

With dialling the '4#' code you can delete all the programmed extension call transfers on extension 11).

Call catch function

In case of an incoming (exchange) call there may arise a situation in which there is nobody in the vicinity of the extension rung by the exchange line. When you hear the exchange call "from the distance", you don't have to rush to the extension which is ringing, instead, you have the possibility to answer the call from an extension which does not ring. Pick up the handset of the telephone and dial the code '21' after the inside dial tone. Thus, you get connected to the exchange line the incoming call arrived on.

Reaching the main exchange services (FLASH forwarding to the exchange line)

There are certain main exchange services to activate which we have to send a "short loop-cutting" (FLASH). The WS exchange is capable of sending a FLASH impulse on the exchange line. Press the FLASH button on the telephone appliance of the extension in speech contact with the exchange line, then after the dial tone press the '*' button. By this, the exchange will cut the exchange line loop for a 100ms interval (in accordance with the EU and the Hungarian Technical Regulations) that is to say send a FLASH. After sending the FLASH, the extension-exchange line will again get into speech contact.

Entryphone call reception

In case of entryphone signalling (pressing the outdoor unit pressbutton), the extensions programmed for entryphone ringing will give a ring of a 0.4s signal-0.4s interval time timing. By picking up the handset of either of the ringing telephones you immediately get into contact with the entryphone outdoor unit. Disconnecting may be realised by putting down the handset.

Calling the entryphone from an extension

Pick up the handset of either extension telephone and dial '19' after the inside dial tone. After dialling the call number, you immediately get into contact with the entryphone outdoor unit. Disconnecting may be realised by putting down the handset.

Door opening

Pressing the FLASH button of the telephone apparatus during the entryphone talk will activate the door opener or the same will happen by dialling call number '20'.

Emergency mode

In case of a power outage the exchange is not able to operate. At this time, the emergency circuit directly connects

the telephone appliance of extension 11 with exchange line number one

the telephone appliance of extension 12 with exchange line number two

the telephone appliance of extension 13 with exchange line number three

The built-in system timer will uninterruptedly carry on working on the inner battery! The daytime/night-time and the night-time/daytime shift during the time of the power outage will be effected when the power is turned back on and the actual daytime and night-time exchange condition will be saved!

The summary of functions accesible for the user

Program code	Explanation	Notes
0	First free exchange line selection	
81	First exchange line request	
82	Second exchange line request	
83	Third exchange line request	
11	Call number of the first extension (extension 11)	
12	Call number of the second extension (extension 12)	
13	Call number of the third extension (extension 13)	
14	Call number of the fourth extension (extension 14)	
15	Call number of the fifth extension (extension 15)	
16	Call number of the sixth extension (extension 16)	
17	Call number of the seventh extension (extension 17)	
18	Call number of the eighth extension (extension 18)	
19	Calling the entryphone	Only in case of a built-in entryphone card
20	Door opening (with a fixed 6 seconds timing)	Only in case of built-in entryphone card
21	Exchange call "catch"	
4e	Call transfer programming to extension 'e'	Az e=1 in case of extension 11, e=2 for extension 12 etc.
4#	All calls forwarding deletion	Only available on extension 11!
#1	Shifting to daytime mode (manually)	Only available on extension 11!
#2	Shifting to night-time mode (manually)	Only available on extension 11!
FLASH	Holding a call, conference initiation	
FLASH	DOOR OPENING during entryphone talk	
FLASH*	Exchange line FLASH forwarding (100ms)	

3. Putting into operation

Preparing the exchange for the installation

Unpack the equipment and check carefully if it is free of mechanical damages.

Choosing the location of the installation

The following points should be considered when choosing the location of the minor exchange:

- The exchange can only be placed indoors,
- it is forbidden to expose it to direct sun or a strong heat source,
- the relative vapour content can be max. 80%,
- an adequate ventilation must be provided, the ventilating openings should not be covered,
- it must be fixed by screwing onto a stable, vibration-free, vertical wall surface or supporting block,
- there should be a 230V mains connection in the vicinity of the minor exchange in the interest of ensuring the power supply.

Cabling configuration

The exchange lines, the extensions can be connected to the exchange by standard RJ connectors. This type of connection determines the type of the cable, which means that such a two-core stranded copper-wire is applicable that would provide a safe, contact fail-safe connection by pressing an RJ11 connector on it. **Do not press an RJ connector on a compact wire because this doesn't provide a safe coupling! An unsecure, faulty coupling can be the source of much annoyance!**

The maximum length of the branch lines can be 100-150m. From causes of noise suppression, do not lead the cables parallelly with 230V or higher-voltage mains or with the cables of computer networks, alarm systems and other interference-causing systems.

If you cannot avoid the parallel cabling, leave the larger distance possible but **a minimum of 30cm** and use a shielded cable if necessary.

Choosing the appliances connected to the central telephone exchange

Any type of standard, two-wire, distance-powered analog telephone appliance, answering machine or FAX can be connected to the branch lines of the exchange. It is important that the appliance disposes of a HIF licence and corresponds to the Hungarian technical regulations. In case of a not standard appliance, it may occur that the developed speech contact is 'soft' and the call transfer is unstable or not possible.

*The initiation of the call transfer and the conference talk is done by **FLASH**. In case you want to make use of the above services, you must make sure that the appliances you use are capable of short-loop-cutting (FLASH) and its duration does not exceed **600ms (EU standard 100ms)**.*

4. Programming the equipment

Entering the programming mode

The operation characteristics of the WS minor exchange can be set according to the user's wish in the programming mode.

The minor exchange can be programmed from the extension 11 on a DTMF (TONE) operation, normal (analog, two-wire) telephone.

To enter the programming mode lift the handset of the extension 11 telephone, then dial the ##NNNN number after the dial tone. 'NNNN' is the four-digit entry password, which, according to the factory default setting, corresponds to the sequence '1234'. The entry password is of course modifiable in service mode, so the characteristics of the exchange remain protected from the interference of undue persons.

You can enter service mode by switching the service switch to ON position.

The exchange indicates the successful entry into service mode by the slow flickering of the 'SERVICE' LED, and you can hear the dial tone again on the extension 11 telephone. The exchange is now ready to receive the program codes.

Each program step (except the password modification and the default download) must be closed by the '*' button. In case of an accepted program code you will hear the dial tone again. Attention: in programming mode the normal functioning of the exchange is uninterrupted, however, the modification of certain system characteristics may cause a live speech contact to disconnect!

You can exit programming mode by putting down the handset of the extension 11 telephone apparatus (in case of password entry) and by switching the service switch to OFF position.

Attention! You must begin the programming by the factory default download (99 program step) for the correct operation of the system timer!

Programming the minor exchange

(The codes below can be reached on extension 11 exclusively in service mode!)

Service entry password modification

The service entry password according to the factory default setting is 1234, to modify it dial the following:

##	NNNN	
----	------	--

The '##' refers to the program step, the 'NNNN' to the four-digit new entry password. The new entry password which figures in the program step is of a fixed length (four digits), therefore this program step must not be closed by '*'!

If you want to interdict the password entry, enter four double crosses instead of the 'NNNN' (that is dial the ##### code).

When setting the new valid password be careful because only numbers may figure in the 'NNNN' sequence!

Setting the minor exchange into factory default condition (DEFAULT download)

By entering the '99' the factory default download will be loaded into the configuration compartment of the exchange (it RESETs). During factory default download the speech contacts developed in the exchange will also be disconnected!

The parameters set by the factory default download:

(see summarising table and at programming call interdiction levels)

Setting the exchange call in daytime mode

First exchange line incoming call ringing the extensions

21	eeeeeeee	*
----	----------	---

Second exchange line incoming call ringing the extensions

22	eeeeeeee	*
----	----------	---

Third exchange line incoming call ringing the extensions

23	eeeeeeee	*
----	----------	---

If you don't give an extension number, you program the actual exchange line to DISA mode.

In case of a built-in DISA card!

Example: The incoming call arriving on the first exchange line should ring extensions 11, 13, 14 and 18! Enter the 211348 code sequence*

Setting exchange line ringing in night-time mode

First exchange line incoming call ringing the extensions

31	eeeeeeee	*
----	----------	---

Second exchange line incoming call ringing the extensions

32	eeeeeeee	*
----	----------	---

Third exchange line incoming call ringing the extensions

33	eeeeeeee	*
----	----------	---

In the above program steps, in 'eeeeeeee' you have to give the serial numbers of those extensions which should ring in case of an incoming (exchange) call. The serial number of extension 11 is 1, that of extension 12 is 2 etc.

If you don't give an extension number, you program the actual exchange line to DISA mode.

In case of a built-in DISA card!

Example: The incoming call arriving on the first exchange line should ring extension 17! Enter the 317 code sequence*

Exchange line interdiction from outgoing calls in daytime mode

If the number of exchange lines connected to the minor exchange is less than three, the exchange lines left empty (not connected) must be interdicted, so that in case of searching for a free exchange line (exchange line requested by 0) the empty exchange line would not be chosen.

This function can be used also in a case when you would like to use the given exchange line only from incoming calls

24	Ccc	*
----	-----	---

Example: Exchange line number two should only be able to receive incoming calls during daytime, and exchange line number three is not connected! Enter the 2423* code sequence
Attention! The exchange lines not connected must be interdicted both in daytime and in night-time modes!

Exchange line interdiction from outgoing calls in night-time mode

34	Ccc	*
----	-----	---

In the above program steps 'ccc' must indicate the serial numbers of those extensions which you intend to interdict from outgoing calls.

Example: Exchange lines number one and two can be used for both incoming and outgoing calls at night and exchange line number three is not connected! Enter the 343 code sequence!*

Attention! The exchange lines not connected must be interdicted both in daytime and in night-time modes!

Interdiction of extension to use given exchange line in daytime mode

Each of the extensions can be interdicted to use of any of the exchange lines ("city call") in daytime and night-time modes.

The interdiction of extensions to use exchange line number one

41	eeeeeeee	*
----	----------	---

The interdiction of extensions to use exchange line number two

42	eeeeeeee	*
----	----------	---

The interdiction of extensions to use exchange line number three

43	eeeeeeee	*
----	----------	---

Interdiction of extension to use given exchange line in night-time mode

The interdiction of extensions to use exchange line number one

51	eeeeeeee	*
----	----------	---

The interdiction of extensions to use exchange line number two

52	eeeeeeee	*
----	----------	---

The interdiction of extensions to use exchange line number three

53	eeeeeeee	*
----	----------	---

In the above program steps, in 'eeeeeeee' you have to give the serial numbers of those extensions which should be interdicted to use the given exchange line. The serial number of extension 11 is 1, that of extension 12 is 2 etc.

Eight-level call limitation in daytime mode

With the help of the program step below, you can give eight such directions (interdiction levels) in the direction of which the extension rendered to the given level cannot initiate a call. The "depth" of the direction can be constituted of four digits maximum.

Let's take a look at the programming of the **interdiction** levels first!

(The digit compartments of the interdiction levels are valid in both night-time and daytime modes.)

9L	nnnn	*
----	------	---

'L' refers to the number of the interdiction level digit compartment between 1 and 8.

The 'nnnn' sequence refers to the maximum four-digit direction, which you would like to store into the 'L'th memory compartment.

Example: Program the PGSM direction into the first memory compartment!

Enter the following code: '910620'.*

The following directions figure in the memory compartments according to the factory default setting:

1. 06 (local call direction)
2. 0620 (PGSM direction)
3. 0630 (W900 direction)
4. 0660 (W450 direction)
5. 0690 (raised fee calls direction)

6. 00 (international calls direction)
7. empty
8. empty

The *given* extension can be rendered to the interdiction levels during daytime in the following way:

7e	LLLLLLLL	*
----	----------	---

In the above program steps, in 'e' you must give the serial number of the extension which you would like to interdict from the call in the direction stored in the memory compartment given in 'LLLLLLLL'. The serial number of extension 11 is 1, that of 12 is 2 etc.

Eight-level call interdiction in night-time mode

With the help of the program step below, you can give eight such directions in the direction of which the extension rendered to the given level cannot initiate a call. The "depth" of the direction can be constituted of four digits maximum.

The given extension can be rendered to the interdiction levels during night-time in the following way:

8e	LLLLLLLL	*
----	----------	---

'LLLLLLLL' refers to the number of the interdiction level digit compartment which can fall between 1 and 8.

In the above program steps, in 'e' you must give the serial number of the extension which you would like to interdict from the call in the direction stored in the memory compartment given. The serial number of extension 11 is 1, that of 12 is 2 etc.

Setting the exchange line mode

(this system parameter does not depend on the time of day!)

25	ccc	*
----	-----	---

In the above program steps, in 'ccc' you must give the serial number of those exchange lines which you would like to set for impulse operation dialling.

Example: Exchange line number two should operate in pulse mode while number one and number three in "transparent" mode. Enter the 252 code sequence.*

The exchange line impulse dialling of the minor exchange has a 33/67 completion time, but there is a possibility to program the 40/60 impulse time too. In the latter case you must close the above program step with the '4*' code (2524* according to the previous example).

Setting the FLASH detection time of the extension

(this system parameter does not depend on the time of day!)

60	eeeeeee	*
----	---------	---

In the above program steps, in 'eeeeeee' you must give the serial numbers of those extensions on which you would like to keep the FLASH 600ms detection time while you set a 100ms FLASH time on the extensions *NOT* selected.

The serial number of extension 11 is 1, that of 12 is 2 etc.

E.g. if the telephone apparatuses of extensions 11 and 12 are of 600ms FLASH time and the one of the rest of the apparatuses is 100ms, program the following: '6012'.
The above program sequence has set the extensions of the minor exchange in the following way: extensions 11 and 12 to a 600ms FLASH time and the rest of the apparatuses to 100ms. We can set the FLASH time of each apparatus to 100ms with the '60*' program sequence!*

Setting the exchange call knocking-in function

(this system parameter does not depend on the time of day!)

61	eeeeeee	*
----	---------	---

In the above program steps, in 'eeeeeee' you must give the serial numbers of those extensions on which you would like to allow the 'knocking-in'.

The serial number of extension 11 is 1, that of 12 is 2 etc.

The 'knocking-in' is a short signalling sound, which connects to those extensions (authorised by the above program step) which you have programmed for exchange line ringing and are in speech contact.

Setting the exchange timer (setting the correct time)

(this system parameter does not depend on the time of day!)

In case you have just turned on the battery of the timer, you must begin the programming with the default download (code '99') (timer CHIP system setting).

65	ÓÓPP	*
----	------	---

In the above program step the 'ÓÓ' parameter refers to the hour and 'PP' to the minutes. The timer circuit works in a 24-hour operation mode.

Example: To set the correct time at 23:15, enter the 652315 code sequence!*

Automatic daytime ⇒ night-time shifting authorisation and time setting

66	ÓÓPP	*
----	------	---

In the above program step the 'ÓÓ' parameter refers to the hour and 'PP' to the minutes. The timer circuit works in a 24-hour operation mode.

Example: To set the daytime ⇒ night-time shifting time to 16:30, enter the 661630 code sequence!*

By programming real time, you have parallelly authorised automatic daytime ⇒ night-time shifting. If you want to interdict again (interdicted according to factory default setting), enter the 663200* code sequence!

Automatic night-time ⇒ daytime shifting authorisation and time setting

67	ÓÓPP	*
----	------	---

In the above program step the 'ÓÓ' parameter refers to the hour and 'PP' to the minutes. The timer circuit works in a 24-hour operation mode.

Example: To set the night-time ⇒ daytime shifting time to 8:00, enter the 670800 code sequence!*

By programming real time, you have parallelly authorised automatic night-time ⇒ daytime shifting. If you want to interdict again (interdicted according to factory default setting), enter the 673200* code sequence!

Entryphone ringing in daytime modeKaputelefon csengetés nappali üzemmódban

Which extensions should ring during daytime in case of entryphone signalling

1st pressbutton	44	eeeeeeee	*
2nd pressbutton	45	eeeeeeee	*
3rd pressbutton	46	eeeeeeee	*
4th pressbutton	47	eeeeeeee	*

Example: The first button entryphone signalling should ring extensions 11,12,13,14. during daytime! Enter the 441234 code sequence.*

Kaputelefon csengetés éjszakai üzemmódban

Which extensions should ring in night-time mode in case of entryphone signalling

1st pressbutton	54	eeeeeeee	*
2nd pressbutton	55	eeeeeeee	*
3rd pressbutton	56	eeeeeeee	*
4th pressbutton	57	eeeeeeee	*

In the above program steps, in 'eeeeeeee' you must give the serial numbers of those extensions which should ring in case of an incoming entryphone call (signalling).

The serial number of extension 11 is 1, that of 12 is 2 etc.

Example: The second button entryphone signalling should ring extensions ,12,13,16 during night-time! Enter the 55236 code sequence.*

THE PROGRAM STEPS BELONGING TO THE DISA MODE ARE ONLY APPLICABLE IN CASE OF A BUILT-IN CARD!

Recording outgoing messages (OGM1, OGM2)

In case of using the DISA function, the recording, modification of the messages can be done in service mode, on the appliance of extension 11. After entering the password, the recording of the message will start instantaneously, the duration of which is maximum 13 seconds for OGM1 and 7 seconds for OGM2. Kódszó billentyűzése után azonnal elkezdődik az üzenet rögzítése, mely időtartama maximálisan OGM1-nél 13 másodperc, OGM2-nél pedig 7 másodperc. You are signalling the end of the 'OGM' recital by putting down the handset of the (extension 11) telephone.

If you have stepped into programming mode with password, putting down the handset will also mean exiting from programming mode!

OGM1 recording:

11		
----	--	--

OGM2 recording:

12		
----	--	--

Listening to outgoing messages (OGM1, OGM2)

OGM1 listening:

13		
----	--	--

OGM2 listening:

14		
----	--	--

Setting DISA operator (operators) during daytime

In DISA mode you must indicate the number of the extension or extensions which work as operators.

28	eeeeeee	*
----	---------	---

Setting DISA operator (operators) during night-time

38	eeeeeee	*
----	---------	---

In the above program steps, in 'eeeeeee' you must give the serial numbers of those extensions which should ring in case of selection mode when "no selection" or by '*' the operator is requested. The serial number of extension 11 is 1, that of 12 is 2 etc.

Setting DISA FAX extension during daytime

In DISA mode you must indicate the number of the extension or extensions on which you have installed a FAX equipmentwork as operators.

29	Eeeeeeee	*
----	----------	---

Setting DISA FAX extension during night-time

39	eeeeeee	*
----	---------	---

In the above program steps, in 'eeeeeee' you must give the serial numbers of those extensions which operate as FAX exetensions. In case you do not use a FAK equipment, with the help of this program step you can determine a second operator group, which will ring if the caller enters '###' (double cross twice). The serial number of extension 11 is 1, that of 12 is 2 etc.

Summary of program codes

Daytime parameter Code	Factory default setting	Explanation	Night-time parameter Code	Factory default setting
21e*	211234*	Exchange line number one to ring the extensions	31e*	3112*
22e*	221234*	Exchange line number two to ring the extensions	32e*	3212*
23e*	231234*	Exchange line number three to ring the extensions	33e*	3312*
24c*	24*	Interdiction of exchange line from outgoing calls	34c*	34*
41e*	41*	Interdiction of extension to use exchange line number one	51e*	51*
42e*	42*	Interdiction of extension to use exchange line number two	52e*	52*
43e*	43*	Interdiction of extension to use exchange line number three	53e*	53*
44e*	441*	Entryphone button 1. to ring the extensions	54e*	542*
45e*	451*	Entryphone button 2. to ring the extensions	55e*	552*
46e*	461*	Entryphone button 3. to ring the extensions	56e*	562*
47e*	471*	Entryphone button 4. to ring the extensions	57e*	572*
71L*	71*	Interdiction level rendered to the 1st extension	81L*	81*
72L*	72*	Interdiction level rendered to the 2nd extension	82L*	82*
73L*	73*	Interdiction level rendered to the 3rd extension	83L*	83*
74L*	74*	Interdiction level rendered to the 4th extension	84L*	84*
75L*	75*	Interdiction level rendered to the 5th extension	85L*	85*
76L*	76*	Interdiction level rendered to the 6th extension	86L*	86*
77L*	77*	Interdiction level rendered to the 7th extension	87L*	87*
78L*	78*	Interdiction level rendered to the 8th extension	88L*	88*
256*	255*	DISA selection one-digit	256*	255*
255*	255*	DISA selection two-digit	255*	255*
28e*	2812*	DISA operator daytime	38e*	3812*
29e*	294*	DISA FAX extension	39e*	394*

General system parameters (valid both in daytime and night-time modes)

Code	Explanation	Factory default setting	Programmed parameters (reminder)
99	Factory default setting (Default download)		
##NNNN*	Entry password modification	##1234	
25ccc{4}*	Setting of exchange line dialling	25*	
60e*	Programming of extension FLASH detection time	6012345678*	
61e*	Programming of knocking-in function	61*	
65óp*	Setting the correct time	-	
66óp*	Daytime⇒nighttime shifting time	663200*	
67óp*	Night-time⇒daytime shifting time	673200*	
9Ln*	The programming of interdiction directions	Lásd a 4.x-ben	
11	Recording of first outgoing message (OGM1)		
12	Recording of second outgoing message (OGM2)		
13	Listening to first outgoing message (OGM1)		
14	Listening to second outgoing message (OGM2)		

SMDR port***In case of a built-in DISA card!***

The SMDR port makes call data collection possible. The data transfer between the call data collector (for instance computer) and the exchange is done in a serial asynchronous mode. The characteristics of the asynchronous transfer: 2400Bd, 8data bit, no parity, 1 stop bit, unidirectional (exchange-> data collector).

The format of the data transfer: c ss pp óó e = = = = = ss pp óó CR LF
(number of exchange line, start time, number of extension, numbering scheme, stop time, 'carriage back' controller character, 'line feed' controller character)

The meaning of the above signs are:

- c - number of the extension line on which the call was made (in ASCII code)
- ss -seconds (in ASCII code)
- pp -minutes (in ASCII code)
- óó -hours (in ASCII code)
- e -number of extension (in ASCII code)
- = -call number or empty field (in ASCII code)

The call number numbering scheme can record the first seven digits maximum (the fee of the call can be determined from here), but only in a case when the extension or the exchange line used is operating in PULSE mode.

If you want to record the numbers called by the given extension in DTMF mode too, the given extension must be rendered to an interdiction level! However, if you do not wish to limit the given extension, you must program an ordering to the 'empty' interdiction level.

If the limited extension "is endeavoring" in the wrong direction, the exchange will send two records. The first record contains the number of the exchange line, start time, extension identifier, direction, stop time parameter while the second record sends the lay-down time of the endeavoring extension's handset in the stop time position.

5 Fault finding, checking the installation

We are describing some fault phenomena and the way to clear the fault. If we cannot avert the problem, turn to our services with confidence!

After the installation, check the dial tone on the telephones of each extension and initiate at least one trial call from each extension! Ask for an exchange line with the codes '81' (Co1), '82' (Co2) and '83' (Co3). The exchange lines not connected must be interdicted in programming mode. You should hear a busy tone when asking for an interdicted exchange line!

Fault phenomena

1. The exchange line connection releases at call transfer and conference origination (see FLASH problems).
2. Minor exchange in night-time mode starts in daytime mode after a power outage (see Built-in timer problems). Attention! If there was a shifting from night-time mode to daytime mode (and vice-versa) during the time of the power outage, the exchange will execute it even in no power condition!
3. In programming mode the exchange does not receive DTMF codes: the DTMF code acceptor which has not been used for a long time will mark the time and become usable for other extensions. It is practical to collect the codes wished to program when programming and then start the programming itself. In case of timing, step out of service mode and step into it again.
4. In case of an exchange call the "city" talk is soft: Only use 600Ohm impedance telephone apparatuses with standard loudness parameters (RLR, SLR, STMR)!

FLASH problems

To reach the services of the minor exchange (call transfer, conference, exchange line FLASH forwarding, door opening), it is indispensable to harmonise the telephone fitted on the extension and the FLASH time of the extension. The WS308 minor exchange detects a short-loop-cutting falling into the 85ms-650ms time range (in accordance with the EU and Hungarian standards). In case of applying a longer FLASH-time telephone apparatus (e.g. 900ms USA standard), the short-loop cutter (FLASH) button will cause the speech contact to disconnect. In this case the telephone apparatus must be reset!

The FLASH detection can be checked in the following way: Pick up the handset of the extension and as you hear the inside dial tone press the FLASH button as a result of which you should hear a busy tone! In case you get back the dial tone, the FLASH time of the apparatus is "too long". Try to extend the FLASH time of the given extension or reset the apparatus.

Problems with the built-in timer

An inside battery protects the operation of the built-in, real-time timer circuit. When beginning the programming, set the factory default settings first (with code '99'). This is when the timer circuit is set for the system. (In the following, the battery will provide the operation of the built-in timer in case of a power outage.)

If we skip the above sequence, the saving of the daytime-nighttime shifting and the last (daytime and night-time) condition becomes uncertain. Keep the above order even in the case when you interdict the automatic shifting (or you intend to leave it in interdicted condition).

6 Technical parameters

Operation characteristics

The WS minor exchange is a telecommunication terminal equipment working on a microcontroller guided Stored Program Control principle.

The programmed parameters are stored in EEPROM, therefore the parameters will be saved in case of a power outage! The uninterrupted operation of the timer working within the exchange is provided by the battery built into the exchange.

Electric parameters

Supply voltage necessity 220/230V 50/60Hz

Maximum rate of power consumption: 35VA

The dynamic ratio of the DTMF detection: 30dB

Line terminating impedance: 600Ohm

Return loss in the 300-3400Hz range better than 18dB

The characteristics of the tones

Dial tone 400Hz – continuous.

Ringing echo

With a 400Hz – 0.4s signal time, 0.2s interval time, 0.2s signal time, 1.6s interval time timing.

Busy tone

With a 400Hz – 0.4s signal time, 0.4s interval time timing.

Exchange line holding tone

With a 400Hz – 0.4s signal time, 0.2s interval time, 0.2s signal time, 1.6s interval time timing.

Exchange line ringing signal (50Hz 60V RMS)

With a 0.4s signal time, 2s interval time timing.

Branch line call ringing signal (50Hz 60V RMS)

With 0.4s signal time, 0.2s interval time, 0.2s signal time, 1.6s interval time timing.

Environmental characteristics

Operation temperature range 0-60°C

Relative vapour content 0-80%