



- Model SP- 308C (3 CO lines + 8 extensions)**
- Model SP- 416C (4 CO lines + 16 extensions)**
- Model SP- 432 (4 CO lines + 32 extensions)**
- Model SP- 432C (4 CO lines + 32 extensions)**
- Model SP- 832C (8 CO lines + 32 extensions)**

## Automated Telephone System

SOHO-PBX is your ideal small or home office receptionist.

For more information please go to SOHO-PBX website at [www.soho-pbx.com](http://www.soho-pbx.com) or send email to [support@soho-pbx.com](mailto:support@soho-pbx.com)

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## Section 1 SYSTEM FEATURES

1. Three separate recorded greetings/announcements  
(SP-416C/432/SP832 only)
2. FSK/DTMF
3. Automated/manual attendant
4. CO line caller ID can be transferred from one extension to another
5. CO line monitor
6. Outgoing call restriction
7. Trunk line transfer to trunk line
8. Three party conference call
9. Call splitting and call forwarding
10. Call transfer when busy
11. Music on hold – built in melody
12. Optional external music on hold input (SP-416C/432/832)
13. Password protection (models SP-416C/432/832 only)
14. Toll restriction
15. Intelligent routing
16. Upgradeable (models SP-416C/432/832 only)
17. Alarm clock

## Section 2 INSTALLATION

### System Profiles



Front View



208C/308CRear View



416C/432/832 Rear View

### Important:

Please read the following before installation to avoid electrical shocks:

1. The telephone exchange should be placed indoor in a dry well ventilated location and avoid direct sunshine. Special telephone wire is preferable.
2. The unit can be wall mounted or placed on desk top.

3. Avoid placing the unit near equipment that generates electromagnetic disturbance such as (motor and transformer).
4. If electromagnetic disturbance is unavoidable special insulating extension wire should be used.
5. Do not bundle extension lines with power supply or antenna.
6. Do not move the unit and avoid touching any wiring while the unit is connected to the power.

## Section 3 SYSTEMS PROGRAMMING

### Notice:

- Using a DTMF phone, programming can be done at any one of extension 601-604 for models SP-308C/416B/416C/432.
- Instructions can be entered continuously and at the end of each instruction just press '#'. There is no need to press the hook on any mistakes.
- During programming, to redo or correct mistake just press '\*'. When a correct instruction is entered you will hear a single 'du' confirmation signal similar to a busy signal tone. When an incorrect instruction is entered you will hear three 'du'.
- Do not enter new instruction until the confirmation signal has ended otherwise the instruction may become invalid.
- When programming please note that the extension numbers are two digits (01-08) for SP-308C, (01-16) for SP-416B, (01-16) for SP-416C and (01-32) for SP-432. The CO lines are only one digit (1-4).
- All CO lines must be connected otherwise the system may not function properly and additional programming may be required.

### To Enter Programming mode:

In direct outgoing mode (access CO line without dialing '9')

Instruction: Press '\* # \* xxxx'

In indirect outgoing mode (access CO line by dialing '9' first)

Instruction: Press '# \* xxxx'

Explanation: xxxx = 4 digits programming password (factory default is 0000)

1. Restore factory default setting  
 Instruction: Press '0000 #'  
 Explanation: Factory default setting is restored once you hear the confirmation tone, see section on factory settings for more details.
2. Changing password  
 Instruction: Press '09 xxxx #'  
 Explanation: '0000' is the default password
3. Flash time - elapse time for call transfer  
 Instruction: 00 L#  
 Explanation: time elapsed can be set to between 0.8 to 1.5 seconds  
 L=1 -----0.8s  
 L=2 -----1.0s  
 L=3 -----1.2s  
 L=4 -----1.5s  
 L=5 -----1.8s  
  
 When a correct instruction is entered you will hear a single 'du' confirmation signal similar to a busy signal tone. When an incorrect instruction is entered you will hear three 'du'.
4. System date setting (Only for models SP-416C/432/832)  
 Instruction: Press '0 1 YYMMDD #'  
 Explanation: YY = year (00-99), MM = month (01-12), DD = day (01-31)
5. System time setting (Only for models SP-416C/432/832)  
 Instruction: Press '02 HHMM #'  
 Explanation: HH = hour (00-23) 24 hour clock setting, MM = minutes (00-59)
6. Alarm time setting for extensions (Only for models SP-416C/432/832)  
 Instruction: Press '05 N hhtt #'  
 Explanation: hh = hour (00-23), tt = minutes (00-59), N = 2 digits extension number  
 To clear alarm setting for all extensions

- Instruction: Press '05#'  
 To clear alarm setting for individual extensions  
 Instruction: Press '05N#' (N = 2 digits extension number)
7. Incoming CO line ring delay  
 Instruction: Press '0610#'  
 Explanation: No delay, extensions will ring at the same time as CO lines.  
 Instruction: Press '0611#'  
 Explanation: Extensions will delay one cycle before ringing.
  8. Automated attendant/operator  
 Instruction: Press '10# '  
 Explanation: All CO lines are answered by automated attendant.  
 Instruction: Press '10M#'  
 Explanation: CO line M is answered by automated attendant.  
 Instruction: Press '11M#'  
 Explanation: CO line M is answered by operator.  
 Instruction: Press '11#'  
 Explanation: All CO lines are answered by operator.  
 Under automated attendant the CO line caller would hear the recorded greeting and the line would connect to the requested extension after the caller dialed the extension number. If the caller dialed '0' the line would connect to the operator.
  9. Recording announcements or greetings (Only SP-416C/432/832 can have three different recordings – For other models omit 'M' in the instruction).  
 Instruction: In systems programming mode press '12M#'  
 (M=1,2,3 three separate announcements).  
 Explanation: The first announcement is 8 seconds in duration (M=1). The second announcement is 4 seconds in duration (M=2). The third announcement is 8 seconds in duration (M=3). The system will begin recording after a 'du' tone and end when the 'du' tone sound again.  
 In recording the announcements please note that they will be played under the following situations:
    - Caller's initial contact - announcement 1 will be played.

- If caller's requested extension is engaged - announcement 2 will be played.
- If caller's requested extension does not answer - announcement 3 will be played.

- To playback the recorded announcements/greetings  
Instruction: Press '13M#' (M=1,2,3 only for SP-416C/432/832).  
Explanation: In systems programming mode you can listen to the announcements and redo the recording if necessary.
- To playback music on hold  
Instruction: Press '14#'   
Explanation: In systems programming mode you can playback the music on hold (For SP-416C/432/832 to override default music just plug in external music source).
- Assigning designated operator/duty attendant extension  
Instruction: Press '15N#'   
Explanation: N = 2 digits extension assigned to be operator or duty attendant.
- Handling no response after announcement under automated attendant mode  
Instruction: Press '160#' (disconnect to release the CO line)  
Instruction: Press '161#' (transfer call to operator)  
Explanation: If the caller does not response or pressed an invalid key or extension number the system would transfer the call to the operator or hang up according to the above instructions.
- Setting direct/indirect CO line access  
Instruction: Press '2N0#' (direct access of CO Line, N = 2 digits extension number 01-32).  
Explanation: Extension N can make outgoing calls directly without first dialing '9'.  
Instruction: Press '2N1#' (Indirect access of CO line, N = 2 digits extension number 01-32).  
Explanation: Extension N will need to dial '9' first to make outgoing calls.

Instruction: Press '20#'   
Explanation: Set all extensions to have direct access.  
Instruction: Press '21#'   
Explanation: Set all extensions to have indirect access or to dial '9' first to make outgoing calls.

- Assigning extension as manual attendant  
Instruction: Press '3MN0#' (M = CO line and N = 2 digits extension number).  
Explanation: This would enable incoming call on line M to ring N extension at the same time as the operator under operator mode.  
Instruction: Press '3MN1#' (M = CO line and N = 2 digits extension number).  
Explanation: This would disable incoming call on line M from ringing N extension under operator mode.  
Instruction: Press '3M#' (M = CO line).  
Explanation: This would disable incoming call on line M from ringing all extensions under operator mode.
- Setting service levels  
Instruction: Press '40NL' (N = 2 digits extension number, L = service level).  
Explanation: N extension with service level L.  
Instruction: Press '40L#' (N = 2 digits extension number, L = service level).  
Explanation: All extensions with service level L.  
Service levels  
L = 1 (no call restrictions).  
L = 2 (no international long distance call)  
L = 3 (no international or domestic long distance calls).  
L = 6 (intercom calls only).
- Setting passwords to lock individual extensions (models SP-416C, SP-432 and SP-832 only)  
Instruction: Press '500#' (clears all individual passwords).  
Instruction: Press '5NWWWWL#' (N = 2 digits extension number 01-32, WWW = 4 digits password 0000 – 9999, L = service level).  
Instruction: Press '5N#' (clears the password for extension N).

Explanation: Please see appendix A on how to use the individual password).

18. Setting time limit on outgoing calls  
Instruction: Press '6NTT#' (N = 2 digits extension number, TT = 2 digits time in minutes 00-99).  
Instruction: Press '6N00#' (no time limit for N extension).
19. Grouping CO lines to extensions  
Instruction: Press '7MN0#' (N = 2 digits extension number, M = 1 digit CO line number).  
Explanation: Enable extension N to access CO line M.  
Instruction: Press '7MN1#' (N = 2 digits extension number, M = 1 digit CO line number).  
Explanation: Disable extension N to access CO line M.  
Instruction: Press '7M#' (M = 1 digit CO line number).  
Explanation: Enable all extension to access CO line M.
20. Setting Door Phone extension port (for SP-416C or SP-832C only)  
Instruction: Press '80N#' (N = 2 digits extension number from 01 to 08)  
Explanation: Set the extension N as the Door Phone extension port where a Door Phone or a Speakerphone is attached to.  
Instruction: Press '8000#'  
Explanation: The extension N ceases to be the Door Phone extension port.
21. Setting Door Phone Ringing extension port(s) (for SP-416C or SP-832C only)  
Instruction: Press '82#'  
Explanation: No extension is set to ring when the Door Phone attached to the Door Phone extension port is off hook.  
Instruction: Press '82N#' (N = 2 digits extension number from 01 to 08)  
  
Explanation: Set extension N to ring when the Door Phone attached to the Door Phone extension port is off hook.

## Section 4 OPERATING INSTRUCTIONS

### Notice:

Extensions under indirect access mode does not need to press '\*' for the following instructions.

1. Incoming calls
  - a) Answering calls under operator mode (operator's extension will ring). Extension programmed to be the operator can just pick up to answer.
  - b) Answering calls under automated attendant mode (no extensions will ring at this time). Caller will hear one of three greetings according to the following situations:
    - Caller's initial contact – announcement 1 will be played.
    - If caller's requested extension is engaged - announcement 2 will be played.
    - If caller's requested extension does not answer – announcement 3 will be played.
2. Call pick up (CO lines and intercom)  
Instruction: Press '\*#9'.  
Explanation: Extension that is not ringing can pick up to answer. Calls will be answered in the following priority - 1. CO line. 2. CO line on hold. 3. Intercom call.
3. Outgoing calls  
Instruction: Dial phone number directly after you hear dial tone.  
Explanation: Extensions programmed to have direct access can dial number directly.  
Instruction: First dial '9' then phone number after you hear dial tone.  
Explanation: Extensions programmed to have indirect access will need to dial '9' first.
4. Reserving a CO line  
Instruction: Press '#0' then hang up.  
Explanation: Your extension will ring when a CO line becomes available. The CO line will be reserved for 10 seconds. Press the hook to cancel.

5. Selecting a specific CO line to make outgoing calls  
 Instruction: Press ‘\*#1M’ (M = 1 digit CO line).  
 Explanation: Extensions under indirect access mode does not need to included ‘\*’.
6. How to use password to unlock individual extension (models SP-416C, SP-432 and SP-832 only)  
 Instruction: Press ‘\*#5NWWWW9’ (N = 2 digits extension number 01-32, WWW = 4 digits password 0000 - 9999).  
 Explanation: After dialing the password you will hear an internal dial tone, then dial ‘9’ to get a CO line and then continue to dial the phone number.
7. Secretary assisted dialing  
 Instruction: After the outgoing call is connected press the hook and dial the extension number (N) within 5 seconds.  
 Explanation: Allows CO line to be transferred to another extension. The assisted extension can just pick up when the phone rings.
8. Call transfer  
 Instruction: Extension A answers the CO line, then press the hook and dial the extension number (N) within 5 seconds. (To reconnect the CO line before extension B picks up the call, extension A can press ‘\*#9’). The ‘\*’ can be omitted under indirect access mode.  
 Explanation: Allows extension A to first answer a call then transfer it to extension B.
  - If the extension A does not hang up after extension B picks up the CO line will be put on ‘hold’ and caller will hear music on hold. Then if either extension hangs up the other extension will connect to the CO line.
  - If extension A does not hang up and extension B does not answer within 25 seconds then extension A will reconnect to the CO line and extension B will stop ringing.
  - If extension A hangs up and extension B answers then the CO line will connect to extension B.

- If extension A hangs up and extension B does not answer within 25 seconds then extension A will ring for 30 seconds. If extension A is busy at the time or extension A does not pick up after 30 seconds the CO line will automatically cut off. (if extension B is busy or the extension number is invalid you will hear three ‘du’. To continue with the transfer just press the hook/flash).  
 (If anytime during the transfer you hear two ‘du’ just press the hook/flash until you no longer hear the two ‘du’).
9. Conference calls (three-way)  
 Instruction: During a CO line call extension A press the hook/flash then press ‘\*’ and dial extension B. (you need to press ‘\*’ regardless of direct or indirect access mode).  
 Explanation: This is similar to call transfer except you need to press ‘\*’ before dialing extension B. Three-way conference call is enabled once extension B picks up the call. If one extension hang up the other stays connected to the CO line.
  10. To put a call on hold  
 Instruction: Press hook then press ‘##’.  
 Explanation: During a CO line call you can put the call on hold for up to 2 minutes and the caller will hear music on hold. To answer another incoming call just press ‘#9’ and to transfer the call just follow the instruction on call transfer. If you need to connect back to CO line that was on hold just press ‘\*#9’.
  11. Call transfer to a CO line (models SP-416C, SP-432 and SP-832 only)  
 Incoming call can be forwarded to another CO line or form three way conference call (2 CO lines and one extension).  
 Instruction: When extension A and CO line B is connected, extension A presses the hook and “##” to put CO line B on hold. Then extension A dials ‘9’ to get CO line C and then dials the phone number (if the number is busy you can hang up and dial the phone number again). Once CO line C connects and extension A can enable either three way conference call or call transfer.

- To enable three way conference call  
Instruction: Press the hook and then press ‘\*\*’ (if extension A hangs up all lines will be cut off).
- To transfer the call  
Instruction: Press the hook and then press ‘#9’ (at this time all three parties will be connected and if extension A hangs up CO line B and C remain connected but extension A will ring every 20 seconds for 0.5 second to remind you the call forward is still active. To disable the call forward just press the hook. (During an active call forward extension A can not perform other functions plus CO line B and C remain engaged even after the two parties hang up).

12. Call alert

Instruction: Press ‘#89’

Explanation: While an extension is engaged on a CO line with party A and party B calls the same CO line, the person at the extension will hear a special warning tone to alert him of the incoming call. After performing the above instruction, party A will be put on hold and party B will connect to the extension. After party B hangs up party A will connect back to the extension.

13. Intercom calls

Instruction: Press ‘\*’ then dial the extension number N (direct access mode).

Instruction: Press the extension number N (indirect access mode).

14. Transferring intercom calls

Instruction; Press the hook then dial the extension number.

15. Setting alarm clock

Instruction: Press ‘\*#4hhtt’ (hh = hours in 00-23, tt = minutes in 00-59).

Explanation: The extension with alarm set will ring at hhtt. Pick up the handset to cancel. (a power failure will cancel the setting).

16. Monitor calls on CO lines

Instruction: Press ‘\*#7M’ (M = 1 digit CO line).

17. Call forward to another extension

Instruction: Press ‘\*#81N’ (N = 2 digits extension number).

Explanation: If the instruction is entered correctly a special dial tone will come on and the phone at the extension will not ring. All calls will be forwarded to the new extension until the call forward is cancelled.

Instruction: To cancel press ‘\*#81#’.

18. Forward when busy

Instruction: Press ‘\*#82N’ (N = 2 digits extension number).

Explanation: With this feature turned on, calls to this extension will be directed to the new extension if the line is busy on another call or after the phone rang for 25 seconds.

19. Do not disturb

Instruction: Press ‘\*#83’.

Explanation: If the instruction is entered correctly a special dial tone will come on. All calls to this extension will not ring.

Instruction: Pick up the handset to cancel

20. Call all extensions

Instruction: Press ‘\*#88’.

21. Door Phone operation

When the Door Phone attached to the Door Phone extension port is off hook, music will be provided to the Door Phone by the PBX and all the configured Door Phone Ringing extensions will ring. The call can be picked up by any one of the ringing extensions directly or by a non ringing extension by the pick up code.

## Section 6 FACTORY DEFAULT SETTINGS

- All CO lines set as operator/manual attendant mode
- Extension number on the back of the unit (SP-308C - 601 to 608, SP-416B, SP-416C- 601 to 616 and SP-432 – 601 to 632)
- Operator's extension - 602
- Indirect access for all extensions (press 9 to access CO line)
- All CO lines will ring extensions 601 and 602
- All extensions can access all CO lines
- No time limits on calls for all extensions
- Service level 2 for all extensions
- Individual extension password not activated.
- The password for extensions 601 to 604 (programming extensions) is set as '0000'.

## Section 7 TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Power light malfunction	Power off	Check the power socket and Power supply
No dial tones	Loose wiring or telephone malfunctioning	Reconnect the wiring or replace the telephone
No caller ID	CO line does not support caller ID or 'do not disturb' feature is not properly programmed	Check with your phone company or cancel the 'do not disturb' feature
Bad dial tone	Incompatible telephone set (non standard telephone set used)	Switch to a standard telephone
Only able to make outgoing calls but no incoming calls	'Do not disturb' or 'call forward' feature turned on. The ringer of phone set turned off or malfunctioning	Cancel 'call forward' or 'do not disturb' feature
Cannot make outgoing calls	CO lines not connected	Check the CO lines
Dial-out malfunction	Exterior line is not connected well	Check whether the line is connected well
CO lines disconnect automatically	'Time limit restriction' feature turned on	Cancel the 'time limit restriction'
Cannot program the system	Make sure programming is done at the correct extension and make sure the instruction is correct	Redo programming at the appropriate extension

## Section 8 SYSTEMS PROGRAMMING INSTRUCTION QUICK GUIDE

INDEX	FEATURE	CODING
1	Restore the default setting	0000#
2	Change password	09 XXXX#
3	System date time setting	year/month/date
		hour/minutes
4	Flash time setting	00 L# L = 1 (0.8 sec.) L = 2 (1.0 sec.) L = 3 (1.2 sec.) L = 4 (1.5 sec.) L = 5 (1.8 sec.)
5	System date setting (Only for models SP-416C/432/832)	02 HHMM #
6	Alarm time setting for extensions	Clears settings for all extensions
		Clear alarm time setting for extension N
		Set alarm time for extension N
7	Incoming CO line ring delay	0610#

8	Automated or operator mode	All CO lines in operator mode	11#
		M CO line in operator mode	11M#
		All CO lines in Automated attendant mode	10#
		M CO line in Auto-attendant mode	10M#
9	Record announcement 1		121#
	Record announcement 2		122#
	Record announcement 3		123#
10	Playback announcement 1		131#
	Playback announcement 2		132#
	Playback announcement 3		133#
11	Playback music on hold		14#
12	Assigning attendant on duty or operator		15N#
13	Handling no response in automated attendant mode	Disconnect to release CO line	160#
		Transfer to operator	161#
14	Setting direct/indirect CO line access	N extension direct access	2N0#

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		N extension first dial 9 to access	2N1#
14	Setting direct/indirect CO line access	All extension direct access	20#
14	Setting direct/indirect CO line access	All extensions first dial 9 to access	21#
15	Assigning manual attendant	Enable CO line M from ringing extension N in operator mode	3MN0#
		Disable CO line M from ringing extension N in operator mode	3MN1#
		Disable CO line M from ringing all extensions in operator mode	3M#
16	Setting service level	N extension with service level L	40NL#
		All extension with service level L	40L#
17	Setting passwords for individual extensions	Extension N with service level L and 4 digits password	5NWWWL#

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		Clears password for all extensions	500#
18	Setting time limit on outgoing calls	Time limit on extension N	6NTT#
		Clear time limit on extension N	6N00#
19	Grouping CO lines to extensions	Enables extension N to access CO line M	7MN0#
		Disables extension N to access CO line M	7MN1#
		Enables all extensions to access CO line M	7M#

20	Door Phone	Configure Extension N (01 to 08) as a Door Phone extension	80N#
		Cancel the Door Phone Extension	81N#
		Extension N ceases to be a Door Phone ringing extension	82#
		Configure Extension N (01 to 08) as a Door Phone ringing extension	82N#

Section 9 OPERATING INSTRUCTIONS QUICK GUIDE

INDEX	FEATURE		CODING
1	Incoming calls	Operator/manual attendant mode	
		Automated attendant mode (three different announcements)	
2	Call pick up (CO lines and intercom)		*#9
3	Outgoing calls (direct and indirect access)		9 (indirect access)
4	Reserving a CO line		#0 then hang up
5	Selecting a specific CO line to make outgoing calls		*#1M
6	Use password to unlock individual extension		*#5NWWWW + 9
7	Secretary assisted dialing		Press hook + N
8	Call transfer		*#9 + N
9	Conference calls		Press hook + * + N
10	To put a call on hold		Press hook + ##
11	Call forward to CO line (models SP-416C and 832 only)	Three-way conference call	Press hook + # + *
		Transfer to CO line	Press hook + # + 9

12	Call alert	Put one party on hold to talk to another	#89
13	Intercom calls	Direct access mode	N
		Indirect access mode	*N
14	Transferring intercom call		Press hook + N
15	Setting alarm clock	hh = hours, tt = minutes	*#4hhtt
		Clears the alarm	Pick up handset
16	Monitor calls on CO line		*#7M
17	Call forward to another extension	Forward to extension N	*#81N
		To clear the forward	*#81#
18	Forward when busy		*#82N
19	Do not disturb	Enables extension N to access CO line M	*#83
		To cancel	Pick up handset
20	Call all extensions		*#88