

## Example 1: Speakerphone and Data Connection

Phase	Modem A-Side	Modem B-Side
0	Hardware Reset	Hardware Reset
Init	AT&F0 AT+FCLASS=8 AT+VSP=1 AT+VNH=1	AT&F0 AT+FCLASS=8 AT+VSP=1 AT+VNH=1 ATS0=2
Link Establish	ATDTxxxx  OK	R R OK
Voice Link	Send Voice / DTMF →	Send Voice / DTMF →
Switch to data	AT+FCLASS=0	AT+FCLASS=0
Make Data Link	Timing is important ! ATD must be issued before ATA: ATD CONNECT .....	ATA CONNECT .....
Data Link	Send Data →	Send Data →
Escape Sequence:	(1s +++ 1s) OK	(1s +++ 1s) OK
Switch	AT+FCLASS=8	AT+FCLASS=8
Voice Link	Send Voice / DTMF →	Send Voice / DTMF →
Switch	AT+FCLASS=0	AT+FCLASS=0
Make Data Link	Timing is important ! ATD must be issued before ATA: ATD CONNECT .....	ATA CONNECT .....
Data Link	Send Data →	Send Data →
Escape Sequence:	(1s +++ 1s) OK	(1s +++ 1s) OK
Hangup	ATH OK	ATH OK

VERSION	DATE	NAME	REMARKS	PROJECT
1	22.03.06	A.Bircher	Speakerphone Application Notes	AL4094S

### Example 2: Make at first a Data Link then switch Voice Link

Phase	Modem A-Side	Modem B-Side
0	Hardware Reset	Hardware Reset
Init	AT&F0	AT&F0 ATS0=2
Make Link	ATDTxxxxxx CONNECT .....	RING RING CONNECT .....
Data Link	Send Data →	Send Data →
Escape Sequence:	(1s +++ 1s) OK	(1s +++ 1s) OK
Switch at both sides together	AT+FCLASS=8	AT+FCLASS=8
Init	AT+VSP=1 AT+VNH=1	AT+VSP=1 AT+VNH=1
Make Link	ATD OK	ATD OK
Voice Link	Send Voice / DTMF →	Send Voice / DTMF →
Hangup	ATH OK	ATH OK

### Example 3: Enable Speakerphone and DTMF detection

DTE Sending	DCE Sending	Comment
AT+FCLASS=8	OK	Voice mode enable
AT+VSP=1	OK	Speakerphone enable
AT+VGM=xxx	OK	Set microphone gain (only if needed)
ATDTW=#####;		Dial a number Note: semicolon added to the end of a dial string (though it's voice mode and command state available)
	OK	After OK respond (modem to go online)
AT+VLS=3	OK	Enable DTMF detection and microphone

#### Example 4: Enable Speakerphone without AGC (disable AGC)

DTE Sending	DCE Sending	Comment
Reset		Reset Modem
AT+FCLASS=8	OK	Voice mode enable
AT+VSP=1	OK	Enable Speakerphone mode
AT+VGM=xxx	OK	Set microphone gain (only if needed)
AT+VSP=0	OK	Disable Speakerphone mode
ATDT#####		Dial a number
	OK	After OK respond (modem is online)
AT+VLS=13	OK	Enable Audio path
AT+VSP=0	OK	Disable Speakerphone
→ 0 ←		Speakerphone active

#### Example 5: Speakerphone without AGC

DTE Sending	DCE Sending	Comment
Reset		Reset Modem
AT+FCLASS=8	OK	Voice mode enable
ATDT#####		Dial a number
	OK	After OK respond (modem is online)
AT+VLS=13	OK	Enable Audio path
AT+VSP=0	OK	Disable Speakerphone
→ 0 ←		Speakerphone active