

DESCRIPTION 44/1551-ANF 901 43 Uen M

# MiVoice MX-ONE Market Characteristics

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[illegible]

Market specific values for Australia

TRM-parameters		From line type	TRM-matrix																								
			To line type																								
0	Digital extension line, PBX operator line, IP extension lines		TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Analog extension line			0	2	3	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	Spare			1	4	5	2	4	4	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Digital trunks			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	Analog external line			3	2	3	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	2-wire tie line (TLU21, 23)			4	2	3	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	2-wire tie line (TLU23 LL)			5	2	3	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	4-wire tie line (TLU23 SL)			6	2	3	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	Spare			7	1	2	2	2	1	1	1	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	Spare			8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	Spare			9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	Spare			10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	Spare			11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	Spare			12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	Spare			13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	Spare			14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	Spare			15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	Spare			16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	Spare			17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	Spare			18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	Spare			19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	Spare			20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
22	Spare			21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	Spare			22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
				23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-4
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages					
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note
0	Pause (=silence)				
1	Dial tone	3/0	425, -10		Cont.
2	Special dial tone	3/0	425, -10	320-10	Rep.
3	Busy tone	-3/0	425, -10	375-375	Rep.
4	Congestion tone	-3/0	425, -10	375-375	Rep.
5	NU tone	-3/0	425, -10	2500-500	Rep.
6	Warning tone for intrusion	6/0	425, -10	80-14720	Rep.
8	Faultman's ringback	3/0	425, -10		Cont.
11	Call waiting tone	6/0	425, -4	200-200 200	Non rep.
13	Verification tone	6/0	400, -10	330-30	330-1000 330-1000
		6/0	450, -10		
		0/0	425, -20		
		0/0	425, -10		
14	Warning tone for conference	0/0	425, -10	80-14720	Rep.
15	Ring tone	0/0	400, -10	400-200	390-2010
		0/0	450, -10	400-200	
16	Call diversion message	0/0	DC, 0	100	Switch click
17	1st ring tone	0/0	400, -10	400-200	400
		0/0	450, -10	400-200	
18	Queue tone	0/0	400, -10	400-200	390-2010
		0/0	450, -10	400-200	
21	HW-test tone	3/0	425, -10		Cont.
22	Music on hold 1	0/0	Ext. input		Opt. Requires RVA
		0/0	Ext. input		
26	External dial tone	3/0	425, -10		Cont.
29	Call waiting tone from trunk	6/0	425, -10	200-200 200	Non rep.
31	Expensive route warning tone	0/0	1400, -17	250-750	Rep. 4 sec.
		3/0	425, -10	320-10	
32	Message waiting dial tone	3/0	425, -10		Rep.
33	Message waiting special dial tone	3/0	425, -10	320-10	Rep.
		3/0	425, -10		
41	Global dial reorder tone	3/0	425, -10		Cont.
42	Global ring tone	3/0	425, -10	1000-3000	Rep.
43	Global busy tone	3/0	425, -10	500-500	Rep.
44	Global interception tone	3/0	425, -10	200-200	Rep.

Note 1: The characters ' ' in a column in the table above implies that only the values within the two ' ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LHM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note	
Internal call	25 Hz	1000-2500		Rep.
External call	25 Hz	500-300 500-2500		Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Generated in the MX-ONE IP Telephone

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note	
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600 200		Non rep.
On hold tone	300, -10	10-150	10-5000 10-5000	Rep.
	400, -10	10-150		
Special information tone	1800, -10	333	333-1000	Rep.
	1400, -10			
	950, -10			

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note	
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300 350-5000		Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for Austria

TRM-parameters		From line type	TRM-matrix																								
			To line type																								
			TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
0	PBX operator line			0	2	2	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	Analog extension			1	3	3	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	Digital IP extension			2	2	2	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Spare			3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	BTU30 and TLU27 trunk line			4	2	2	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	Digital tie line, TLU27/6 and TLU27/6F			5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	2-wire tie line			6	2	2	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	4-wire tie line			7	3	3	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	Spare			8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	Spare			9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	Spare			10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	Spare			11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	Spare			12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	Spare			13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	Spare			14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	Spare			15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	Spare			16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	Spare			17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	Spare			18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	Spare			19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	Spare			20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	Spare			21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
22	Spare			22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	Spare			23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation values (dB)	
Attenuation positions D1	
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
0	Pause (=silence)					
1	Dial tone	0/0	425, -4			Cont.
2	Special dial tone	0/0	425, -4	320-10		Rep.
3	Busy tone	0/0	425, -4	330-330		Rep.
4	Congestion tone	0/0	425, -4	150-150		Rep.
5	NU tone	0/0	1800, -4 1400, -4 950, -4	330-30	330-1000	Rep.
6	Warning tone for intrusion	0/0	1400, -4	75-1520		Rep.
8	Faultman's ringback	0/0	1800, -4 1400, -4 950, -4	100-100	100-1000	Rep.
11	Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
13	Verification tone	0/0	425, -4	30-330	30-330	30-1980
14	Warning tone for conference	0/0	1400, -17	300-19840	10-19840	Rep.
15	Ring tone	0/0	425, -4	1000-4000		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	1200		Non rep.
18	Queue tone	0/0	425, -4	1000-4000		Rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input			Opt. Requires RVA
26	External dial tone	0/0	425, -4			Cont.
28	Call waiting tone from trunk	0/0	425, -4	100-1000	100	Non rep.
31	Expensive route warning tone	0/0	950, -4	320-10		Rep. 4 seq.
32	Message waiting dial tone	0/0	425, -4	320-10		Rep.
33	Message waiting special dial tone	0/0	425, -4	320-10		Rep.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Line not connected	turned off		Cont.	
Function on key activated	light		Cont.	
Line connected	1850-50	50-50	Rep.	
Parked call	500-500		Rep.	
Incoming call	300-300		Rep.	

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Tone Messages					
Tone Message		Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
Dial tone		425, -10			Cont.
Special dial tone		425, -10	500-50		Rep.
Busy tone		425, -10	500-500		Rep.
Ring tone		425, -10	1000-4000		Rep.
Congestion tone		425, -10	200-200		Rep.
Call waiting tone		425, -10	200-600	200	Non rep.
On hold tone		300, -10 400, -10	10-150 10-150	10-5000 5000	Rep.
Special information tone		1800, -10 1400, -10 950, -10	333	333	333-1000

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Free or non-requested function	turned off		Cont.	
Function on key activated	light		Cont.	
Line connected	1850-50	50-50	Rep.	
Parked call	500-500		Rep.	
Incoming call	300-300		Rep.	

Market specific values for Belgium

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix																									
	To line type	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
From line type	TRM	0	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	4	5	4	2	3	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	2	3	4	3	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4	1	2	1	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	5	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	6	1	2	1	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	7	3	4	3	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)					
1	Dial tone	0/0	425, -4			Cont.
2	Special dial tone	0/0	425, -4	1000-50		Rep.
3	Busy tone	0/0	425, -4	500-500		Rep.
4	Congestion tone	0/0	425, -4	250-250		Rep.
5	NU tone	0/0	1800, -4 1400, -4 950, -4	330-30	330-30	330-1000 Rep.
6	Warning tone for intrusion	0/-3	1400, -4	500-500	'10-500'	'Rep.'
8	Faultman's ringback	0/0	1800, -4 1400, -4 950, -4	330-30	330-30	330-1000 Rep.
11	Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
13	Verification tone	0/0	425, -4	45-45		Rep.
14	Warning tone for conference	0/0	1400, -4	1000-14720	'360-14720'	'Rep.'
15	Ring tone	0/0	425, -4	1000-3000		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	300		Non rep.
18	Queue tone	0/0	425, -4	1000-3000		Rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input			Opt. Requires RVA
26	External dial tone	0/0	425, -4			Cont.
28	Recall dial tone	0/0	425, -4	100-100	100-100	100 Non rep.
29	Call waiting tone from trunk	0/0	425, -4	100-1000	100	Non rep.
31	Expensive route warning tone	0/0	950, -17	4000		Non rep.
32	Message waiting dial tone	0/0	425, -4	45-45		Rep.
33	Message waiting special dial tone	0/0	425, -4	1000-250		Rep.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Generated in the MX-ONE IP Telephone

Tone Messages					
Tone Message		Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
Dial tone		425, -10			Cont.
Special dial tone		425, -10	500-50		Rep.
Busy tone		425, -10	500-500		Rep.
Ring tone		425, -10	1000-4000		Rep.
Congestion tone		425, -10	200-200		Rep.
Call waiting tone		425, -10	200-600	200	Non rep.
On hold tone		300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone		1800, -10 1400, -10 950, -10		333	333-1000 Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for Brazil

TRM-parameters		TRM-matrix	
0	Digital	From line type	To line type
1	Analog Extension		TRM
2	Analog Extension (long)		0
3	Spare		1
4	Analog external line		2
5	Digital external line		3
6	2-wire tie line		4
7	4-wire tie-line		5
8	Spare		6
9	Spare		7
10	Spare		8
11	Spare		9
12	Spare		10
13	Spare		11
14	Spare		12
15	Spare		13
16	Spare		14
17	Spare		15
18	Spare		16
19	Spare		17
20	Spare		18
21	Spare		19
22	Spare		20
23	Spare		21
			22
			23
			0
			1
			2
			3
			4
			5
			6
			7
			8
			9
			10
			11
			12
			13
			14
			15
			16
			17
			18
			19
			20
			21
			22
			23

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions D1	
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages					
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-ton	Note
0	Pause (=silence)				
1	Dial tone	0/0	425, -4	960-60	Rep.
2	Special dial tone	0/0	425, -4	125-125	Rep.
3	Busy tone	0/0	425, -4	250-250	Rep.
4	Congestion tone = Busy tone (No 3)	0/0	425, -4	250-250	Rep.
5	NU tone = Busy tone (No 3)	0/0	425, -4	250-250	Rep.
6	Warning tone for intrusion	0/-3	1400, -4	50-960	Rep.
8	Faultman's ringback = Busy tone (No 3)	0/0	425, -4	250-250	Rep.
11	Call waiting tone	0/0	425, -4	100-1000	100 Non rep.
13	Verification tone	0/0	425, -4	30-330	Rep.
14	Warning tone for conference	0/0	1400, -4	1000-14720	'360-14720' Rep.
15	Ring tone	0/0	425, -4	990-3990	Rep.
16	Call diversion message	0/0	DC, 0	100	Switch click
17	1st ring tone	0/0	425, -4	1000	Non rep.
18	Queue tone	0/0	425, -4	990-3990	Rep.
21	HW-test tone	0/0	425, -4		Cont.
22	Music on hold 1	0/0	Ext. input		Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input		Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input		Opt. Requires RVA
26	External dial tone	0/0	425, -4		Cont.
29	Call waiting tone from trunk	0/0	425, -4	100-1000	100 Non rep.
32	Message waiting dial tone	0/0	425, -4	125-125	Rep.
33	Message waiting special dial	0/0	425, -4	125-125	Rep.
41	Global dial reorder tone	0/0	425, -4		Cont.
42	Global ring tone	0/0	425, -4	1000-3000	Rep.
43	Global busy tone	0/0	425, -4	500-500	Rep.
44	Global interception tone	0/0	425, -4	200-200	Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note
Internal call	25 Hz	300-400	Rep.
External call	25 Hz	1000-4000	Rep.
Call back	25 Hz	300-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Generated in the MX-ONE IP Telephone

Tone Messages					
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone			Note
Dial tone	425, -10				Cont.
Special dial tone	425, -10	500-50			Rep.
Busy tone	425, -10	500-500			Rep.
Ring tone	425, -10	1000-4000			Rep.
Congestion tone	425, -10	200-200			Rep.
Call waiting tone	425, -10	200-600	200		Non rep.
On hold tone	300, -10 400, -10	10-150 150	10-5000 10-5000		Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000	Rep.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note
Internal call	Programmable	1000-5000	Rep.
External call	Programmable	350-300	350-5000 Rep.
Call back	Programmable	350-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Market specific values for Canada

TRM-parameters		TRM-matrix	
0	Digital extension lines, PBX operator lines, IP extensions	From line	To line type
1	Special setup for 203 Phones	0	2 2 2 4 3 1 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
2	Analog on premise Extension (ONS)	1	2 2 2 4 3 1 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
3	Analog off premise Extension (OPS)	2	3 3 5 4 2 3 4 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
4	Analog tie Trunk (ATT)	3	2 2 2 4 3 1 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
5	Digital tie Trunk (DTT)	4	1 1 3 2 0 1 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
6	Analog external Trunk line (ACOL)	5	2 2 2 4 3 1 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
7	Digital ext	6	1 1 3 2 0 1 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
8	Spare	7	2 2 2 4 3 1 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
9	Spare	8	2 2
10	Spare	9	2 2
11	Spare	10	2 2
12	Spare	11	2 2
13	Spare	12	2 2
14	Spare	13	2 2
15	Spare	14	2 2
16	Spare	15	2 2
17	Spare	16	2 2
18	Spare	17	2 2
19	Spare	18	2 2
20	Spare	19	2 2
21	Spare	20	2 2
22	Spare	21	2 2
23	Spare	22	2 2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)
Attenuation positions
D1
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
	Pause (residence)		350, -7			
1	Dial tone	6/3	440, -7			Cont.
2	Special dial tone	0/0	350, -13.7 440, -13.7	300-15 300-15		Rep.
3	Busy tone	0/0	480, -24 620, -24	500-500 500-500		Rep.
4	Congestion tone	0/0	480, -24 620, -24	250-250 250-250		Rep.
5	Special ringback tone	0/0	440, -19 480, -19 400, -19	1000 1000 125-3500		Rep.
6	Warning tone for intrusion	3/3	440, -13.5	3000-15000 250-15000		Rep.
11	Call waiting tone	3/0	440, -13.5	100		Non rep.
13	Intercept on tone	0/0	425, -4			Cont.
14	Warning tone for conference	3/3	1400, -16	1500-1000-3000 1000-3000		Cont.
15	Ring tone	0/0	440, -19 480, -19	1000-3000 1000-3000		Rep.
16	Call diversion	0/0	0 Hz, 0	100		Switch
21	HW-test tone	6/0	440, -13.5			Cont.
	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
	Music on hold 3	0/0	Ext. input			Opt. Requires RVA
28	Recall dial tone	0/0	350, -13.7 440, -13.7	100-100 100-100	100-100 100-100	Rep.
29	Call waiting tone from trunk	0/0	350, -13.7 440, -13.7	100-1000 100-1000	100 100	Non rep.
30	Expendable route warning tone	0/0	440, -19 480, -19	4000 4000		Non rep.
32	Message waiting special dial tone	6/3	480, -24 620, -24			Cont.
33	Message waiting special dial tone	0/0	480, -24 620, -24	300-10 300-10		Rep.
36	Confirmation tone	0/0	350, -13.7 440, -13.7	100-100 100-100	100-100 100	Non rep.
41	Global dial reorder tone	6/0	440, -13.5			Cont.
42	Global ring tone	6/0	440, -13.5	1000-3000		Rep.
43	Global busy tone	6/0	440, -13.5	500-500		Rep.
44	Global intercept on tone	6/0	440, -13.5	200-200		Rep.

Note 1: The characters ' ' in a column in the table above implies that only the values within the two ' ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LTM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	20 Hz	1000-3000		Rep.
External call	20 Hz	1000-500	500-2000	Rep.
Call back	20 Hz	500-300		Rep.

Optical signals			
Signal	Cadence (ms)	light-pulse-light	Note
Line not connected	turned off		Cont.
Function on key active	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Generated in the IP Telephone

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms)    tone-pause-tone		Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion on tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000 Rep.
Off hook queuing tone	1400, -10	2000-990		Rep.
Connection in progress tone	425, -10	30-330		Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	Program mable	1000-5000		Rep.
External call	Program mable	350-300	350-5000	Rep.
Call back	Program mable	350-400		Rep.

Optical signals				
Signal	Cadence (ms)		light-pulse-light	Note
Free or non-requeste	turned off			Cont.
Function on key activ	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.



Market specific values for China

TRM-parameters	
0	Digital
1	Analog Ext.
2	Analog Ext.(long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																								
From line type	TRM	0	1	2	3	4	5	6	7	8	9	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	0	2	4	3	2	0	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	4	6	5	2	2	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	2	3	5	4	2	1	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4	1	3	2	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	5	2	4	3	2	0	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	6	0	2	1	2	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	7	3	5	4	2	1	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages							
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) <b>tone-pause-tone</b>			Note
0	Pause (=silence)						
1	Dial tone	0/0	450, -4				Cont.
2	Special dial tone	0/0	450, -4	400-40			Rep.
3	Busy tone	0/0	450, -4	350-350			Rep.
4	Congestion tone	0/0	450, -4	150-150			Rep.
5	NU tone	0/0	450, -4	100-100	100-100	100-100	400-400
6	Warning tone for intrusion	3/3	450, -4	75-1520			Rep.
11	Call waiting tone	0/0	450, -4	100-1000	100		Non rep.
13	Verification tone	6/6	450, -4	30-330	30-330	30-1980	Rep.
14	Warning tone for conference	3/3	1400, -10	1000-14720	360-14720		'Rep.'
15	Ring tone	0/0	450, -4	1020-4020			Rep.
16	Call diversion message	0/0	DC, 0	100			Switch click
17	1st ring tone	0/0	450, -4	1200			Non rep.
21	HW-test tone	0/0	425, -4				Cont.
22	Music on hold 1	0/0	Ext. input				Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input				Opt. Requires RVA
32	Dial tone for message waiting	0/0	450, -4	400-40			Rep.
41	Global dial reorder tone	0/0	450, -4				Cont.
42	Global ring tone	0/0	450, -4	1000-3000			Rep.
43	Global busy tone	0/0	450, -4	500-500			Rep.
44	Global interception tone	0/0	450, -4	200-200			Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals					
Signal	Frequency (Hz)	Cadence (ms) <b>signal-pause-signal</b>			Note
Internal call	25 Hz	1000-4000			Rep.
External call	25 Hz	300-400	300-4000		Rep.
Call back	25 Hz	300-400			Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Generated in the MX-ONE IP Telephone

Tone Messages					
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone			Note
Dial tone	425, -10				Cont.
Special dial tone	425, -10	500-50			Rep.
Busy tone	425, -10	500-500			Rep.
Ring tone	425, -10	1000-4000			Rep.
Congestion tone	425, -10	200-200			Rep.
Call waiting tone	425, -10	200-600	200		Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000		Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000	Rep.
Connection in progress tone	425, -10	30-300			Rep.

Ringing signals					
Signal	Frequency (Hz)	Cadence (ms) <b>signal-pause-signal</b>			Note
Internal call	Programmable	<b>1000-5000</b>			Rep.
External call	Programmable	<b>350-300</b>	<b>350-5000</b>		Rep.
Call back	Programmable	<b>350-400</b>			Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for Denmark

TRM-parameters			TRM-matrix																																	
			To line type																																	
			From line type																																	
0	PBX operator, digital extension, IP extension		TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23									
1	New analog extension, short line	From line type	0	2	3	2	2	1	1	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
2	New analog extension, long line		1	4	5	4	4	3	3	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
3	Old analog extension, short line		2	3	4	3	3	2	2	3	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
4	New analog trunk board, long line		3	3	4	3	3	2	2	3	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
5	Old analog trunk board, long line		4	1	2	1	1	0	0	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
6	Digital PSTN line, digital tie line		5	1	2	1	1	0	0	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
7	Analog tie line, 4 wires		6	2	3	2	2	1	1	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
8	Spare		7	3	4	3	3	2	2	3	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
9	Spare		8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
10	Spare		9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
11	Spare	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
12	Spare	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
13	Spare	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
14	Spare	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
15	Spare	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
16	Spare	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
17	Spare	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
18	Spare	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
19	Spare	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
20	Spare	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
21	Spare	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
22	Spare	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
23	Spare	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
		23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	4
0	-6
1	-5
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
0	Pause (=silence)					
1	Dial tone	6/6	425, -4			Cont.
2	Special dial tone	6/6	425, -4	320-10		Rep.
3	Busy tone	6/6	425, -4	250-250		Rep.
4	Congestion tone	6/6	425, -4	250-250		Rep.
5	NU tone	12/12	1800, -4 1400, -4 950, -4	330-30	330-1000	Rep.
6	Warning tone for intrusion	9/9	1400, -17	75-1520		Rep.
11	Call waiting tone	6/6	425, -4	100-1000	100	Non rep.
13	Verification tone	6/6	425, -4	320-10		Rep.
14	Warning tone for conference	9/9	1400, -17	1000-14720	360-14720	Rep.
15	Ring tone	6/6	425, -4	990-3990		Rep.
16	Call diversion message	6/6	DC, 0	100		Switch click
17	1st ring tone	6/6	425, -4	1000		Non rep.
18	Queue tone	6/12	1400, -17 950, -17	650-325	325-20	1320-2640
21	HW-test tone	6/6	425, -4			Cont.
22	Music on hold 1	6/6	Ext. input			Opt. Requires RVA
23	Music on hold 2	6/6	Ext. input			Opt. Requires RVA
24	Music on hold 3	6/6	Ext. input			Opt. Requires RVA
26	External dial tone	6/6	425, -4			Cont.
29	Call waiting tone from trunk	6/6	425, -4	100-1000	100	Non rep.
31	Expensive route warning tone	6/6	950, -17	4000		Non rep.
32	Message waiting dial tone	6/6	950, -4			Cont.
33	Message waiting special dial tone	6/6	950, -4	320-10		Rep.
41	Global dial reorder tone	6/6	425, -4			Cont.
42	Global ring tone	6/6	425, -4	1000-3000		Rep.
43	Global busy tone	6/6	425, -4	500-500		Rep.
44	Global interception tone	6/6	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	25 Hz	300-400	300-4000	Rep.
External call	25 Hz	1000-4000		Rep.
Call back	25 Hz	300-400		Rep.
Diverted call	25 Hz	300-400	300-4000	Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

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Tone Messages					
Tone Message		Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
Dial tone		425, -10			Cont.
Special dial tone		425, -10	500-50		Rep.
Busy tone		425, -10	500-500		Rep.
Ring tone		425, -10	1000-4000		Rep.
Congestion tone		425, -10	200-200		Rep.
Call waiting tone		425, -10	200-600	200	Non rep.
On hold tone		300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone		1800, -10 1400, -10 950, -10		333	333-1000

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for Finland

TRM-parameters		TRM-matrix	
0	Digital	From line type	To line type
1	Analog Extension (long)		TRM
2	Analog Extension		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
3	Spare		0 2 2 3 2 2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2
4	Digital PSTN		1 3 3 4 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
5	Analog PSTN line		2 4 4 5 2 4 3 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2
6	Analog PSTN, long line		3 2
7	2-wire tie line		4 2 2 3 2 2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2
8	Spare		5 2 2 3 2 2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2
9	Spare		6 2 2 3 2 2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2
10	Spare		7 2 2 3 2 2 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2
11	Spare		8 2
12	Spare		9 2
13	Spare		10 2
14	Spare		11 2
15	Spare		12 2
16	Spare		13 2
17	Spare		14 2
18	Spare		15 2
19	Spare		16 2
20	Spare		17 2
21	Spare		18 2
22	Spare		19 2
23	Spare		20 2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-5
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages					
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note
0	Pause (=silence)				
1	Dial tone	3/3	425, -4	200-300 200-300 200-800	Rep.
2	Special dial tone	3/3	425, -4	650-25	Rep.
3	Busy tone	3/3	425, -4	330-330	Rep.
4	Congestion tone	3/3	425, -4	250-250	Rep.
5	NU tone	12/12	1800, -4 1400, -4 950, -4	330-30	330-1000 Rep.
6	Warning tone for intrusion	12/12	425, -4	210-300	210-1290 Rep.
8	Faultman's ringback	6/6	425, -4	650-150	Rep.
11	Call waiting tone	9/9	425, -4	200-200	200-8000 Rep. 2 seq.
13	Verification tone	6/6	425, -4	650-150	Rep.
14	Warning tone for conference	0/0	1400, -17	480-14720	Rep.
15	Ring tone	3/3	425, -4	990-3990	Rep.
16	Call diversion message	0/0	DC, 0	100	Switch click
17	1st ring tone	3/3	425, -4	1000	Non rep.
18	Queue tone	0/0	1400, -17 950, -17	650-325	325-20 1320-2640 Rep.
21	HW-test tone	3/3	425, -4		Cont.
22	Music on hold 1	0/0	Ext. input		Opt. Requires RVA
26	External dial tone	3/3	425, -4		Cont.
29	Call waiting tone from trunk	9/9	425, -4	200-200	200-8000 Rep. 2 seq.
32	Message waiting dial tone	3/3	425, -4	650-25	Rep.
33	Message waiting special dial tone	3/3	425, -4	650-25	Rep.
41	Global dial reorder tone	3/3	425, -4		Cont.
42	Global ring tone	3/3	425, -4	1000-3000	Rep.
43	Global busy tone	3/3	425, -4	500-500	Rep.
44	Global interception tone	3/3	425, -4	200-200	Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note
Internal call	25 Hz	1000-4000	Rep.
External call	25 Hz	300-400 300-4000	Rep.
Call back	25 Hz	300-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

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Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note	
Dial tone	425, -10		Cont.	
Special dial tone	425, -10	500-50	Rep.	
Busy tone	425, -10	500-500	Rep.	
Ring tone	425, -10	1000-4000	Rep.	
Congestion tone	425, -10	200-200	Rep.	
Call waiting tone	425, -10	200-600 200	Non rep.	
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000 Rep.	
Special information tone	1800, -10 1400, -10 950, -10	333 333	333-1000 Rep.	

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note
Internal call	Programmable	1000-5000	Rep.
External call	Programmable	350-300 350-5000	Rep.
Call back	Programmable	350-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Market specific values for France

TRM-parameters		TRM-matrix	
0	Digital	From line type	To line type
1	Analog Ext.		TRM
2	Analog Ext.(long)		0
3	Spare		1
4	Analog external line		2
5	Digital external line		3
6	2-wire tie line		4
7	4-wire tie line		5
8	Spare		6
9	Spare		7
10	Spare		8
11	Spare		9
12	Spare		10
13	Spare		11
14	Spare		12
15	Spare		13
16	Spare		14
17	Spare		15
18	Spare		16
19	Spare		17
20	Spare		18
21	Spare		19
22	Spare		20
23	Spare		21
			22
			23

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
0	Pause (=silence)					
1	Dial tone	0/0	330, -8			Cont.
2	Special dial tone	0/0	440, -11	750-750	750-750	Cont. Rep.
3	Busy tone	0/0	440, -11	500-500		Rep.
4	Congestion tone	0/0	440, -11	500-500		Rep.
6	Warning tone for intrusion	0/0	440, -11	200-200	200-1400	Rep.
7	Call progress tone	0/0	440, -11	50-50		Rep.
11	Call waiting tone	0/0	440, -11	300-2500		Rep.
13	Verification tone	0/0	440, -11			Cont.
	Warning tone for conference	0/0	440, -11	200-9800		Rep.
15	Ring tone	0/0	440, -11	1500-3500		Rep.
16	Call diversion message	0/0	1700, -16	2000		Non rep.
17	1st ring tone	0/0	440, -11	1500		Non rep.
21	HW-test tone	0/0	425, -4			Cont.
	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
26	External dial tone	6/6	440, -11 330, -8			Cont.
32	Message waiting dial tone	0/0	440, -11 330, -8	500-100 500-100		Rep.
	Message waiting special dial tone	0/0	440, -11 330, -8	500-100 500-100		Rep.
40	Waiting progress tone	0/0	440, -11	200-200	200-5000	Rep.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	50 Hz	500-500	500-3500	Rep.
External call	50 Hz	1500-3500		Rep.
Call back	50 Hz	300-400		Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

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Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000 Rep.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	
Internal call	Programmable	1000-5000	Rep.
External call	Programmable	350-300	350-5000
Call back	Programmable	350-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Market specific values for Germany

TRM-parameters	
0	OPI, DBC 500
1	DBC 600
2	D3, ISDN
3	Analog
4	Digital external line, IP extension
5	Analog trunk line
6	Spare
7	Spare
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																							
From line type	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	0	2	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	2	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	2	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	4	4	4	5	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	2	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions D1	
0	-4
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)					
1	Dial tone	0/0	425, -4	200-300	200-300	200-800
2	Special dial tone	0/0	425, -4	320-10		
3	Busy tone	0/0	425, -4	250-250		
4	Congestion tone	-3/-3	425, -4	500-500		
5	NU tone	0/0/0	1800, -4 1400, -4 950, -4	330-30	330-30	330-1000
6	Warning tone for intrusion	12/12	425, -4	210-300	210-1290	
8	Faultman's ringback = NU tone (number 5)	-3/-3	425, -4	500-500		
11	Call waiting tone	-3/-3	425, -4	100-1900		
13	Verification tone	0/0	425, -4	320-10		
14	Warning tone for conference	15/15	425, -4	120-300	120-7650	
15	Ring tone	-3/-3	425, -4	990-3990		
17	1st ring tone	0/0	425, -4	1000		
18	Queue tone	-3/-3	425, -4	990-3990		
21	HW-test tone	0/0	425, -4			
22	Music on hold 1	0/0	Ext. input			
23	Music on hold 2	0/0	Ext. input			
24	Music on hold 3	0/0	Ext. input			
26	External dial tone	-3/-3	425, -4			
29	Call waiting tone from trunk	9/9	425, -4	100-1900		
31	Expensive route warning tone	0/0	950, -17	4000		
32	Message waiting dial tone	0/0	950, -4	200-300	200-300	200-800
33	Message waiting special dial tone	0/0	950, -4	320-10		
41	Global dial reorder tone	-3/-3	425, -4			
42	Global ring tone	-3/-3	425, -4	1000-3000		
43	Global busy tone	-3/-3	425, -4	500-500		
44	Global interception tone	-3/-3	425, -4	200-200		

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal
Internal call	25 Hz	1000-4000	
External call	25 Hz	1000-500	500-3000
Call back	25 Hz	300-400	

Optical signals			
Signal	Cadence (ms) light-pause-light		
Line not connected	turned off		
Function on key activated	light		
Line connected	1850-50	50-50	
Parked call	500-500		
Incoming call	300-300		

Generated in the MX-ONE IP Telephone

Tone Messages					
Tone Message	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note	
Dial tone	425, -10			Cont.	
Special dial tone	425, -10	500-50		Rep.	
Busy tone	425, -10	500-500		Rep.	
Ring tone	425, -10	1000-4000		Rep.	
Congestion tone	425, -10	200-200		Rep.	
Call waiting tone	425, -10	200-600	200	Non rep.	
On hold tone	300, -10	10-150	10-5000	Rep.	
	400, -10	10-150	10-5000		
Special information tone	1800, -10		333	333-1000	
	1400, -10	333			

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal
Internal call	Programmable	1000-5000	
External call	Programmable	350-300	350-5000
Call back	Programmable	350-400	

Optical signals			
Signal	Cadence (ms) light-pause-light		
Free or non-requested function	turned off		
Function on key activated	light		
Line connected	1850-50	50-50	
Parked call	500-500		
Incoming call	300-300		

Market specific values for Hong-Kong, A-law PCM Coding

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																							
From line type	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	0	2	3	2	2	3	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	4	5	4	2	5	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	2	3	4	3	2	4	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4	1	2	1	2	2	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	5	2	3	2	2	3	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	6	1	2	1	2	2	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	7	3	4	3	2	4	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)					
1	Dial tone	-6/-6	350, -13.7 440, -13.7			Cont.
2	Special dial tone	-6/-6	350, -13.7 440, -13.7	300-15 300-15		Rep.
3	Busy tone	-6/-6	480, -24 620, -24	500-500 500-500		Rep.
4	Congestion tone	-6/-6	480, -24 620, -24	250-250 250-250		Rep.
5	NU tone	-6/-6	480, -24 620, -24			Cont.
6	Warning tone for intrusion	-6/-6	480, -24 620, -24	75-1520 75-1520		Rep.
11	Call waiting tone	-6/-6	480, -24 620, -24	200-4700 200-4700		Rep.
12	Interception tone	-6/-6	480, -24 620, -24			Cont.
13	Verification tone	-6/-6	440, -13.7	30-300 30-300	30-2010 30-2010	Rep.
14	Warning tone for conference	-6/-6	480, -24 620, -24	1000-14720 1000-14720	360-14720 360-14720	Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	-6/-6	440, -19 480, -19	400 400		Non rep.
21	HW-test tone	0/0	425, -4			Cont.
21	HW-test tone	-6/-6	480, -24 620, -24			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
26	External dial tone	-6/-6	350, -13.7 440, -13.7			Cont.
32	Message waiting dial tone	-6/-6	350, -13.7 440, -13.7	300-15 300-15		Rep.
33	Message waiting special dial tone	-6/-6	350, -13.7 440, -13.7	300-15 300-15		Rep.
39	Confirmation tone	-6/-6	350, -13.7 440, -13.7	100-100 100-100	100-100 100-100	100 100 Non rep.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	20 Hz	1000-3000		Rep.
External call	20 Hz	400-200	400-3000	Rep.
Call back	20 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

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Tone Messages					
Tone Message		Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
Dial tone		425, -10			Cont.
Special dial tone		425, -10	500-50		Rep.
Busy tone		425, -10	500-500		Rep.
Ring tone		425, -10	1000-4000		Rep.
Congestion tone		425, -10	200-200		Rep.
Call waiting tone		425, -10	200-600	200	Non rep.
On hold tone		300, -10 400, -10	10-150 150	10-5000 10-5000	Rep.
Special information tone		1800, -10 1400, -10 950, -10		333	333-1000 Rep.
Connection in progress tone		425, -10	30-330		Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for Hong-Kong, My-law PCM coding

TRM-parameters	
0	Digital
1	Analog Ext.
2	Analog Ext.(long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																									
From line type	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
	0	2	3	2	2	3	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	1	4	5	4	2	5	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	2	3	4	3	2	4	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	4	1	2	1	2	2	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	5	2	3	2	2	3	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	6	1	2	1	2	2	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	7	3	4	3	2	4	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions D1	
0	-6
1	-3
2	0
3	+2
4	+3
5	+6
6	+9
7	+12
8	+15
9	+18
10	+21
11	+24
12	+27
13	+30
14	+33
15	+36

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)					
1	Dial tone	-6/-6	350, -13.7 440, -13.7			Cont.
2	Special dial tone	-6/-6	350, -13.7 440, -13.7	300-15 300-15		Rep.
3	Busy tone	0/-6	480, -24 620, -24	500-500 500-500		Rep.
4	Congestion tone	0/-6	480, -24 620, -24	250-250 250-250		Rep.
5	NU tone	-6/-6	480, -24 620, -24			Cont.
6	Warning tone for intrusion	-6/-6	480, -24 620, -24	75-1520 75-1520		Rep.
8	Faultman 's ringback = NU tone (number 5)	-6/-6	480, -24 620, -24			Cont.
11	Call waiting tone	-6/-6	480, -24 620, -24	200-4700 200-4700		Rep.
12	Interception tone	-6/-6	480, -24 620, -24			Cont.
13	Verification tone	-6/-6	440, -13.7	30-300	30-300	30-2010 Rep.
14	Warning tone for conference	-6/-6	480, -24 620, -24	1000-14720 1000-14720	'360-14720' '360-14720'	'Rep.'
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	-6/-6	440, -19 480, -19	400 400		Non rep.
21	HW-test tone	-6/-6	480, -24 620, -24			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
26	External dial tone	-6/-6	350, -13.7 440, -13.7			Cont.
32	Message waiting dial tone	-6/-6	350, -13.7 440, -13.7	300-15 300-15		Rep.
33	Message waiting special dial tone	-6/-6	350, -13.7 440, -13.7	300-15 300-15		Rep.
39	Confirmation tone	-6/-6	350, -13.7 440, -13.7	100-100 100-100	100-100 100-100	100 100 Non rep.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' ' in a column in the table above implies that only the values within the two ' ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms)		light-pause-light	Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

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Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10	333	333	333-1000 Rep.
Connection in progress tone	425, -10	30-330		Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms)		light-pause-light	Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for the India market

TRM-parameters		TRM-matrix	
0	Digital	From line	To line type
1	Analog Extension		To line type
2	Analog Extension (long)		
3	Spare		
4	Analog external line		
5	Digital external line		
6	2-wire te line		
7	4-wire te line		
8	Spare		
9	Spare		
10	Spare		
11	Spare		
12	Spare		
13	Spare		
14	Spare		
15	Spare		
16	Spare		
17	Spare		
18	Spare		
19	Spare		
20	Spare		
21	Spare		
22	Spare		
23	Spare		

TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
0	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	4	5	4	2	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	3	4	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	1	2	1	2	1	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	3	4	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)
Attenuation positions
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-ton		Note
0	Pause (=silence)					
1	Dial tone	0/0	425, -4			Cont.
2	Special dial tone	0/0	425, -4	320-10		Rep.
3	Busy tone	0/0	425, -4	330-330		Rep.
4	Congestion tone	0/0	425, -4	150-150		Rep.
5	NU tone	0/0	1800, -4 1400, -4 950, -4	330-30	330-1000	Rep.
6	tone for intrusion	3/3	1400, -4	75-1520		Rep.
11	Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
13	Verification tone	0/0	425, -4	30-330	30-330	30-1980
14	Warning tone for conference	3/3	1400, -17	1000-1472	360-14720	'Rep.'
15	Ring tone	0/0	425, -4	990-3990		Rep.
16	Call diversion	0/0	DC, 0	100		Switchclick
17	1st ring tone	0/0	425, -4	1200		Non rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requi res RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requi res RVA
24	Music on hold 3	0/0	Ext. input			Opt. Requi res RVA
31	Expensive route warning tone	0/0	950, -4	320-10		Rep. 4 sec.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' ' in a column in the table above implies that only the values within the two ' are repeated.

Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-si		Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Line not connected	turned off			Cont.
Function on key active	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

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Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-ton		Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-si		Note
Internal call	Program mable	1000-5000		Rep.
External call	Program mable	350-300	350-5000	Rep.
Call back	Program mable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Free or non-requested	turned off			Cont.
Function on key active	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.



Market specific values for Indonesia

TRM-parameters		TRM-matrix	
0	Digital	From line type	To line type
1	Analog Ext.		TRM
2	Analog Ext.(long)		0
3	Spare		1
4	Analog external line		2
5	Digital external line		3
6	2-wire tie line		4
7	4-wire tie line		5
8	Spare		6
9	Spare		7
10	Spare		8
11	Spare		9
12	Spare		10
13	Spare		11
14	Spare		12
15	Spare		13
16	Spare		14
17	Spare		15
18	Spare		16
19	Spare		17
20	Spare		18
21	Spare		19
22	Spare		20
23	Spare		21
			22
			23

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions D1	
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	F-frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
	0 Pause (=silence)					
	1 Dial tone	0/0	425, -4			Cont.
	2 Special dial tone	0/0	425, -4	320-10		Rep.
	3 Busy tone	0/0	425, -4	330-330		Rep.
	4 Congestion tone	0/0	425, -4	150-150		Rep.
			1800, -4 1400, -4 950, -4		330-30	330-1000
	5 NU tone	0/0		330-30		Rep.
	6 Warning tone for intrusion	3/3	1400, -4	75-1520		Rep.
	11 Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
	13 Verification tone	0/0	425, -4	30-330	30-330	30-1980
	Warning tone for conference	3/3	1400, -17	1000-14720	360- 14720	
	15 Ring tone	0/0	425, -4	990-3990		'Rep.'
	16 Call diversion message	0/0	DC, 0	100		Rep.
	17 1st ring tone	0/0	425, -4	1200		Switch click
	21 HW-test tone	0/0	425, -4			Non rep.
						Cont.
	22 Music on hold 1	0/0	Ext. input			Opt. Requires RVA
	23 Music on hold 2	0/0	Ext. input			Opt. Requires RVA
	41 Global dial reorder tone	0/0	425, -4			Cont.
	42 Global ring tone	0/0	425, -4	1000-3000		Rep.
	43 Global busy tone	0/0	425, -4	500-500		Rep.
	44 Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Line not connected	turned off		Cont.	
Function on key activated	light		Cont.	
Line connected	1850-50	50-50	Rep.	
Parked call	500-500		Rep.	
Incoming call	300-300		Rep.	

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Tone Messages					
Tone Message		Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
Dial tone		425, -10			Cont.
Special dial tone		425, -10	500-50		Rep.
Busy tone		425, -10	500-500		Rep.
Ring tone		425, -10	1000-4000		Rep.
Congestion tone		425, -10	200-200		Rep.
Call waiting tone		425, -10	200-600	200	Non rep.
On hold tone		300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone		1800, -10 1400, -10 950, -10	333	333	333-1000
Connection in progress tone		425, -10	30-330		Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Free or non-requested function	turned off		Cont.	
Function on key activated	light		Cont.	
Line connected	1850-50	50-50	Rep.	
Parked call	500-500		Rep.	
Incoming call	300-300		Rep.	

Market specific values for Ireland

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

From line type

TRM-matrix		To line type																						
TRM	0	1	2	3	4	5	6	7	8	9	#	#	#	#	#	#	#	#	#	#	#	#	#	#
0	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	4	5	4	2	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	3	4	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	1	2	1	2	1	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	3	4	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
	0 Pause (=silence)					
	1 Dial tone	0/0	425, -4			Cont.
	2 Special dial tone	0/0	425, -4	320-10		Rep.
	3 Busy tone	0/0	425, -4	500-500		Rep.
	4 Congestion tone	0/0	425, -4	150-150		Rep.
	5 NU tone	0/0	1800, -4 1400, -4 950, -4	330-30	330-30	330-1000 Rep.
	6 Warning tone for intrusion	3/3	1400, -4	75-1520		Rep.
	11 Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
	13 Verification tone	0/0	425, -4	30-330	30-330	30-1980 Rep.
	Warning tone for conference	3/3	1400, -17	1000-14720	360-14720	Rep.
	15 Ring tone	0/0	425, -4	990-3990		Rep.
	16 Call diversion message	0/0	DC, 0	100		Switch click
	17 1st ring tone	0/0	425, -4	1200		Non rep.
	21 HW-test tone	0/0	425, -4			Cont.
	22 Music on hold 1	0/0	Ext. input			Opt. Requires RVA
	23 Music on hold 2	0/0	Ext. input			Opt. Requires RVA
	25 Special ring tone	0/0	440, -7 480, -7	400-200 400-200	390-2010 390-2010	Rep.
	41 Global dial reorder tone	0/0	425, -4			Cont.
	42 Global ring tone	0/0	425, -4	1000-3000		Rep.
	43 Global busy tone	0/0	425, -4	500-500		Rep.
	44 Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Line not connected	turned off		Cont.	
Function on key activated	light		Cont.	
Line connected	1850-50	50-50	Rep.	
Parked call	500-500		Rep.	
Incoming call	300-300		Rep.	

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Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000 Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for Italy

TRM-parameters		TRM-matrix	
0	Digital	From line type	To line type
1	Analog Ext.		TRM
2	Analog Ext.(long)		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
3	Spare		0 2 3 2 2 1 2 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
4	Analog external line		1 4 5 4 2 3 4 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
5	Digital external line		2 3 4 3 2 2 3 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
6	2-wire tie line		3 2
7	4-wire tie line		4 2 3 2 2 1 2 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
8	Spare		5 2 3 2 2 1 2 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
9	Spare		6 2 3 2 2 1 2 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
10	Spare		7 3 4 3 2 2 3 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
11	Spare		8 2
12	Spare		9 2
13	Spare		10 2
14	Spare		11 2
15	Spare		12 2
16	Spare		13 2
17	Spare		14 2
18	Spare		15 2
19	Spare		16 2
20	Spare		17 2
21	Spare		18 2
22	Spare		19 2
23	Spare		20 2
			21 2
			22 2
			23 2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
0	Pause (=silence)					
1	Dial tone	0/0	350, -7 440, -7			Cont.
2	Special dial tone	0/0	350, -7 440, -7	320-10 320-10		Rep.
3	Busy tone	0/-3	425, -4	500-500		Rep.
4	Congestion tone	0/-3	425, -4	200-200		Rep.
5	Dissuasion tone	0/-3	425, -4	100-100		Rep.
6	Warning tone for intrusion	6/6	425, -4	200-200	200-1400	Rep.
8	Faultman's ringback	0/0	425, -4	100-100	100-100	100-1500 Rep.
11	Call waiting tone	6/2	425, -4	100-1400		Rep. 5 seq.
13	Verification tone	0/-3	425, -4	100-100	100-100	100-1500 Rep.
14	Warning tone for conference	6/2	425, -4	200-9800		Rep.
15	Ring tone	0/-3	425, -4	1000-4000		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	1000		Non rep.
18	Queue tone	0/0	425, -4	200-200	200-3400	Rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input			Opt. Requires RVA
26	External dial tone	0/0	425, -4	200-200	600-1000	Rep.
29	Call waiting tone from trunk	6/6	425, -4	100-4900		Rep. 5 seq.
32	Message waiting dial tone	0/0	950, -4	100-100	100-100	100-1500 Rep.
33	Message waiting special dial tone	0/0	350, -7 440, -7	320-10 320-10		Rep.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	25 Hz	600-200	200-4000	Rep.
External call	25 Hz	1000-4000		Rep.
Call back	25 Hz	200-200	200-4000	Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Line not connected	turned off		Cont.	
Function on key activated	light		Cont.	
Line connected	1850-50	50-50	Rep.	
Parked call	500-500		Rep.	
Incoming call	300-300		Rep.	

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Tone Messages					
Tone Message		Frequency (Hz, dBm0)	Cadence (ms) <b>tone-pause-tone</b>		Note
Dial tone		425, -10			Cont.
Special dial tone		425, -10	500-50		Rep.
Busy tone		425, -10	500-500		Rep.
Ring tone		425, -10	1000-4000		Rep.
Congestion tone		425, -10	200-200		Rep.
Call waiting tone		425, -10	200-600	200	Non rep.
On hold tone		300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone		1800, -10 1400, -10 950, -10	333	333	333-1000 Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Free or non-requested function	turned off		Cont.	
Function on key activated	light		Cont.	
Line connected	1850-50	50-50	Rep.	
Parked call	500-500		Rep.	
Incoming call	300-300		Rep.	

Market specific values for Malaysia

TRM-parameters		TRM-matrix	
0	Digital	From line type	To line type
1	Analog Ext.		TRM 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
2	Analog Ext.(long)		0 2 3 2 2 2 2 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
3	Spare		1 4 5 4 2 4 4 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
4	Analog external line		2 3 4 3 2 3 3 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
5	Digital external line		3 2
6	2-wire tie line		4 2 3 2 2 2 2 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
7	4-wire tie line		5 2 3 2 2 2 2 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
8	Spare		6 1 2 1 2 1 1 0 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
9	Spare		7 3 4 3 2 3 3 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
10	Spare		8 2
11	Spare		9 2
12	Spare		10 2
13	Spare		11 2
14	Spare		12 2
15	Spare		13 2
16	Spare		14 2
17	Spare		15 2
18	Spare		16 2
19	Spare		17 2
20	Spare		18 2
21	Spare		19 2
22	Spare		20 2
23	Spare		21 2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
0	Pause (=silence)					
1	Dial tone	3/0	425, -4			Cont.
3	Busy tone	6/3	425, -4	500-500		Rep.
4	Congestion tone = Busy tone (No 3)	6/3	425, -4	500-500		Rep.
5	NU tone	6/3	425, -4	2500-500		Rep.
6	Warning tone for intrusion	12/9	425, -4	200-200	200-5000	Rep.
8	Faultman's ringback = NU tone (No 5)	6/3	425, -4	2500-500		Rep.
11	Call waiting tone	3/0	425, -4	100-1000	100	Non rep.
13	Verification tone	3/0	425, -4	400-200	400-2000	Rep.
14	Warning tone for conference	12/9	425, -4	1000-14720	360-14720'	Rep.'
15	Ring tone	3/0	425, -4	400-200	400-2000	Rep.
16	Call diversion message	6/3	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	400-200	400	Non rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note
Internal call	25 Hz	1000-4000	Rep.
External call	25 Hz	400-200	400-2000
Call back	25 Hz	300-400	

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Generated in the MX-ONE IP Telephone

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10	10-150	10-5000	Rep.
	400, -10	10-150	10-5000	
	1800, -10		333-1000	
Special information tone	1400, -10	333	333	Rep.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	
Internal call	Programmable	1000-5000	Rep.
External call	Programmable	350-300	350-5000
Call back	Programmable	350-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Market specific values for Market Group 2 markets

Market Group 2 = the market that was earlier called Export

TRM-parameters	
0	Digital/IP phone
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																									
From line type	TRM	0	1	2	3	4	5	6	7	8	9	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	0	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	4	5	4	2	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	2	3	4	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	5	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	6	1	2	1	2	1	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	7	3	4	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions D1	
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		
0	Pause (=silence)					
1	Dial tone	0/0	425, -4			Cont.
2	Special dial tone	0/0	425, -4	320-10		Rep.
3	Busy tone	0/0	425, -4	330-330		Rep.
4	Congestion tone	0/0	425, -4	150-150		Rep.
			1800, -4 1400, -4	330-30	330-1000	
5	NU tone	0/0	950, -4	330-30		Rep.
6	Warning tone for intrusion	-6/-6	425, -4	250-250	250-1240	Rep.
11	Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
13	Verification tone	0/0	425, -4	30-330	30-330	30-1980
	Warning tone for conference	-6/-6	425, -4	120-4960		Rep.
14						
15	Ring tone	0/0	425, -4	990-3990		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	1200		Non rep.
21	HW-test tone	0/0	425, -4			Cont.
						Opt.
22	Music on hold 1	0/0	Ext. input			Require s RVA
						Opt.
23	Music on hold 2	0/0	Ext. input			Require s RVA
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' ' in a column in the table above implies that only the values within the two ' ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

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Tone Messages				
Tone Message		Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	
Dial tone		425, -10		Cont.
Special dial tone		425, -10	500-50	Rep.
Busy tone		425, -10	500-500	Rep.
Ring tone		425, -10	1000-4000	Rep.
Congestion tone		425, -10	200-200	Rep.
Call waiting tone		425, -10	200-600	200
		300, -10	10-150	10-5000
On hold tone		400, -10	10-150	10-5000
Special information tone		1800, -10 1400, -10 950, -10	333	333-1000
Connection in progress tone		425, -10	30-330	Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for Mexico

TRM-parameters		TRM-matrix	
0	Digital	From line type	To line type
1	Analog Ext.		TRM
2	Analog Ext.(long)		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
3	Spare		0 2 3 2 2 1 2 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
4	Analog external line		1 4 5 4 2 3 4 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
5	Digital external line		2 3 4 3 2 2 3 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
6	2-wire tie line		3 2
7	4-wire tie line		4 1 2 1 2 0 1 0 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
8	Spare		5 2 3 2 2 1 2 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
9	Spare		6 1 2 1 2 0 1 0 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
10	Spare		7 3 4 3 2 2 3 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
11	Spare		8 2
12	Spare		9 2
13	Spare		10 2
14	Spare		11 2
15	Spare		12 2
16	Spare		13 2
17	Spare		14 2
18	Spare		15 2
19	Spare		16 2
20	Spare		17 2
21	Spare		18 2
22	Spare		19 2
23	Spare		20 2
			21 2
			22 2
			23 2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-4
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)					
1	Dial tone	0/0	425, -4			Cont.
2	Special dial tone	0/0	425, -4	320-10		Rep.
4	Congestion tone	0/0	425, -4	150-150		Rep.
5	NU tone	0/0	1800, -4 1400, -4 950, -4	330-30	330-1000	Rep.
6	Warning tone for intrusion	3/3	1400, -4	75-1520		Rep.
11	Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
13	Verification tone	0/0	425, -4	30-330	30-330	30-1980
14	Warning tone for conference	3/3	1400, -17	1000-14720	360-14720'	Rep.'
15	Ring tone	0/0	425, -4	990-3990		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	1200		Non rep.
18	Queue tone	0/0	425, -4	990-3990		Rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal
Internal call	25 Hz	1000-4000	
External call	25 Hz	300-400	300-4000
Call back	25 Hz	300-400	

Optical signals			
Signal	Cadence (ms)		light-pause-light
Line not connected	turned off		
Function on key activated	light		
Line connected	1850-50	50-50	
Parked call	500-500		
Incoming call	300-300		

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Tone Messages					
Tone Message	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note	
Dial tone	425, -10				Cont.
Special dial tone	425, -10	500-50			Rep.
Busy tone	425, -10	500-500			Rep.
Ring tone	425, -10	1000-4000			Rep.
Congestion tone	425, -10	200-200			Rep.
Call waiting tone	425, -10	200-600	200		Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000		Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000	Rep.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal
Internal call	Programmable	1000-5000	
External call	Programmable	350-300	350-5000
Call back	Programmable	350-400	

Optical signals			
Signal	Cadence (ms)		light-pause-light
Free or non-requested function	turned off		
Function on key activated	light		
Line connected	1850-50	50-50	
Parked call	500-500		
Incoming call	300-300		

Market specific values for The Netherlands

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																							
From line type	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	0	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	4	5	4	4	3	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	2	3	4	3	3	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4	1	2	1	1	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	5	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	6	1	2	1	1	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	7	3	4	3	3	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages					
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note
0	Pause (-silence)				
1	Dial tone	6/0	425, -4		Cont.
2	Special dial tone	6/0	425, -4	320-10	Rep.
3	Busy tone	6/0	425, -4	500-500	Rep.
4	Congestion tone	6/0	425, -4	250-250	Rep.
5	Information tone	3/0	425, -4	60-60	Rep.
6	Warning tone for intrusion	6/6	1400, -4	75-1440 75-1440	Rep.
8	Faultman's ringback	3/0	425, -4	60-60	Rep.
11	Call waiting tone	4/3	425, -4	200-4700	Rep. 5 seq.
13	Verification tone	6/0	425, -4	30-300 30-300	Rep. 30-2010
14	Warning tone for conference	6/6	425, -4	100-19840	Rep.
15	Ring tone	6/0	425, -4	990-3990	Rep.
17	1st ring tone	6/0	425, -4	1200	Non rep.
21	HW-test tone	0/0	425, -4		Cont.
22	Music on hold 1	0/0	Ext. input		Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input		Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input		Opt. Requires RVA
26	External dial tone	6/0	425, -4		Cont.
29	Call waiting tone from trunk	12/0	425, -4	200-4700	Rep. 5 seq.
31	Expensive route warning tone	6/0	1400, -4	4000	Non rep.
32	Message waiting dial tone	10/6	950, -4	65-330	Rep.
33	Message waiting special dial tone	10/6	950, -4	2000-1000	Rep.
40	Dial tone	0/0	950, -17		Cont.
41	Global dial reorder tone	0/0	425, -4		Cont.
42	Global ring tone	0/0	425, -4	1000-3000	Rep.
43	Global busy tone	0/0	425, -4	500-500	Rep.
44	Global interception tone	0/0	425, -4	200-200	Rep.

Note 1: The characters ' ' in a column in the table above implies that only the values within the two ' ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400 300-4000		Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal		Cadence (ms) light-pause-light		Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Generated in the MX-ONE IP Telephone

Tone Messages				
Tone Message		Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note
Dial tone		425, -10		Cont.
Special dial tone		425, -10	500-50	Rep.
Busy tone		425, -10	500-500	Rep.
Ring tone		425, -10	1000-4000	Rep.
Congestion tone		425, -10	200-200	Rep.
Call waiting tone		425, -10	200-600 200	Non rep.
On hold tone		300, -10 400, -10 1800, -10 1400, -10 950, -10	10-150 10-5000 150 10-5000 333 333-1000	Rep.
Special information tone			333	Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300 350-5000		Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal		Cadence (ms) light-pause-light		Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

[illegible]

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	D2
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	*Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)					
1	Dial tone	3/0	400, -10			Cont.
			350, -10			
2	Special dial tone	0/0	440, -10	200-400	2010-390	Rep.
3	Busy tone	0/0	400, -10	200-400	2010-390	Rep.
4	Congestion tone	0/0	400, -10	500-500		Rep.
5	ANU tone	3/0	400, -10	250-250		Rep.
6	Intrusion	3/3	1400, -17	75-100	75-100	75-400
7	Faultman's ringback	0/0	400, -10	300-4000		Cont.
11	Call waiting tone	0/0	440, -16	200-3000		Rep. 3 seq.
13	Verification tone	0/0	1400, -17			Cont.
	Warning tone for conference	3/3	1400, -17	1000-14720	360-14720	Rep.
			400, -10	400-200	400-2000	
15	Ring tone	3/0	450, -10	400-200	400-2000	Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
			400, -10	400-200	400	
17	1st ring tone	0/0	450, -10	400-200	400	Non rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
	*Message waiting dial tone part 1	0/0	400, -10	100-100	100	Rep. 1 sec.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.
	*Message waiting dial tone part 2	0/0	400, -10	100-100	100	Rep. 1 sec.
46	*Call holding tone part 1	0/0	400, -10	500-500		Rep.
			400, -10	500-2500		
47	*Call holding tone part 2	0/0	450, -10	500-2500		Rep.

**Note 1:** The characters ' ' in a column in the table above implies that only the values within the two ' ' are repeated.

**Note 2:** The tone levels for External lines are not valid in a Media Gateway LHM.

- 1) Dial tone with message waiting is achieved by using tone message 32 (100 on/100 off) to begin with for one second, then switch to tone message 45 (100 on/100 off) for another second, and then continue with tone message 8.
- 2) Call holding tone is achieved by using the tone message 46, then switching to tone message 47, and then back to message 46, repeatedly.
- 3) Devices designed to respond to particular ring cadences may not respond when used with this equipment.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) <b>signal-pause-signal</b>		Note
Internal call	25 Hz	<b>1000-3000</b>		Rep.
External call	25 Hz	<b>400-200</b>	<b>400-2000</b>	Rep.
Call back	25 Hz	<b>500-500</b>	<b>500-600</b>	Rep.

Optical signals		
Signal	Cadence (ms) <b>light-pause-light</b>	
Line not connected	turned off	Cont.
Function on key activated	light	Cont.
Line connected	<b>1850-50</b> <b>50-50</b>	Rep.
Parked call	<b>500-500</b>	Rep.
Incoming call	<b>300-300</b>	Rep.

Tone Messages					
Tone Message	Frequency (Hz, dBm)	Cadence (ms)	tone-pause-tone		Note
Dial tone	425, -10				Cont.
Special dial tone	425, -10	500-50			Rep.
Busy tone	425, -10	500-500			Rep.
Ring tone	425, -10	1000-4000			Rep.
Congestion tone	425, -10	200-200			Rep.
Call waiting tone	425, -10	200-600	200		Non rep.
On hold tone	300, -10	10-150	10-500	333-1000	Rep.
	400, -10	10-150	10-5000		
	1800, -10				
Special information tone	1400, -10	333	333		Rep.
	950, -10				

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) <b>signal-pause-signal</b>		Note
Internal call	Programmable	<b>1000-5000</b>		Rep.
External call	Programmable	<b>350-300</b>	<b>350-5000</b>	Rep.
Call back	Programmable	<b>350-400</b>		Rep.

Optical signals			
Signal	Cadence (ms) <b>light-pause-light</b>		Note
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	<b>1850-50</b>	<b>50-50</b>	Rep.
Parked call	<b>500-500</b>		Rep.
Incoming call	<b>300-300</b>		Rep.



Market specific values for North America

TRM-parameters		TRM-matrix																								
		To line type																								
		TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
0	Digital extension lines, PBX operator lines, IP extensions		0	2	2	4	3	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	Special setup for 203 Phones		1	2	2	4	3	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	Analog on premise Extension (ONS)	From line type	2	2	2	4	3	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Analog off premise Extension (OPS)		3	2	2	4	3	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	Analog tie Trunk (ATTT)		4	1	1	3	2	0	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	Digital tie Trunk (D/TTT)		5	2	2	4	3	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	Analog external Trunk line (A/CO)		6	1	1	3	2	0	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	Digital external Trunk line (		7	2	2	4	3	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	Spare		8	1	1	3	2	0	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	Spare		9	2	2	4	3	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	Spare		10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	Spare		11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	Spare		12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	Spare		13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	Spare		14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	Spare		15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	Spare		16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	Spare		17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	Spare		18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	Spare		19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	Spare		20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	Spare		21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
22	Spare		22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	Spare		23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	-
0	-6
1	-3
2	0
3	+2
4	+3
5	+6
6	+5
7	+12
8	+15
9	+18
10	+21
11	+24
12	+27
13	+30
14	+33
15	+36

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)		350, -7			
1	Dial tone	6/3	440, -7			Cont.
2	Special dial tone	0/0	350, -13.7 440, -13.7	300-15 300-15		Rep.
3	Busy tone	0/0	480, -24 620, -24	500-500 500-500		Rep.
4	Congestion tone	0/0	480, -24 620, -24	250-250 250-250		Rep.
5	Special ringback tone	0/0	440, -19 480, -19 400, -19	1000 1000	125-3500	Rep.
6	Warning tone for intrusion	3/3	440, -13.5	3000-15000	250-15000	'Rep.'
11	Call waiting tone	3/0	440, -13.5	100		Non rep.
13	Interception tone	0/0	425, -4			Cont.
14	Warning tone for conference	3/3	1400, -16	1500		Cont.
15	Ring tone	0/0	440, -19 480, -19	1000-3000 1000-3000		Rep.
16	Call diversion message	0/0	1500, 0	100		Switch click
21	HW-test tone	6/0	440, -13.5			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input			Opt. Requires RVA
28	Recall dial tone	0/0	350, -13.7 440, -13.7	100-100 100-100	100-100 100-100	Rep.
29	Call waiting tone from trunk	0/0	350, -13.7 440, -13.7	100-1000 100-1000	100 100	Non rep.
31	Expensive route warning tone	0/0	440, -19 480, -19	4000 4000		Non rep.
32	Message waiting dial tone	6/3	480, -24 620, -24			Cont.
33	Message waiting special dial tone	0/0	480, -24 620, -24	300-10 300-10		Rep.
39	Confirmation tone	0/0	350, -13.7 440, -13.7	100-100 100-100	100-100 100	Non rep.
41	Global dial reorder tone	6/0	440, -13.5			Cont.
42	Global ring tone	6/0	440, -13.5	1000-3000		Rep.
43	Global busy tone	6/0	440, -13.5	500-500		Rep.
44	Global interception tone	6/0	440, -13.5	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LTM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	20 Hz	1000-3000		Rep.
External call	20 Hz	1000-500	500-2000	Rep.
Call back	20 Hz	500-500		Rep.

Optical signals				
Signal	Cadence (ms)	light-pause-light		Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Generated in the MX-ONE IP Telephone

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10		333 333	333-1000 Rep.
Off hook queuing tone	1400, -10	2000-990		Rep.
Connection in progress tone	425, -10	30-330		Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms)	light-pause-light		Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for Norway

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																								
From line type	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
From line type	0	2	4	3	2	1	2	0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	3	5	4	2	2	3	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	2	2	4	3	2	1	2	0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4	1	3	2	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	5	2	4	3	2	1	2	0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	6	0	2	1	2	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	7	1	3	2	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
0	Pause (=silence)					
1	Dial tone	0/0	425, -4			Cont.
2	Special dial tone	0/0	425, -4	320-10		Rep.
3	Busy tone	0/0	425, -4	500-500		Rep.
4	Congestion tone	0/0	425, -4	250-250		Rep.
5	NU tone	0/0	1800, -17 1400, -17 950, -17	330-30	330-1000	Rep.
6	Warning tone for intrusion	6/6	1400, -17	600-2000		Rep.
11	Call waiting tone	12/12	425, -4	100-1000	100	Non rep.
13	Verification tone	3/3	950, -17	320-10		Rep.
14	Warning tone for conference	6/6	1400, -17	60-2000		Rep.
15	Ring tone	0/0	425, -4	990-3990		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	1000		Non rep.
18	Queue tone	0/0	1400, -17 450, -4	990-1980	60-900	Rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	
Internal call	25 Hz	300-400	300-4000
External call	25 Hz	1000-4000	
Call back	25 Hz	300-400	

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Generated in the MX-ONE IP Telephone

Tone Messages					
Tone Message		Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
Dial tone		425, -10			Cont.
Special dial tone		425, -10	500-50		Rep.
Busy tone		425, -10	500-500		Rep.
Ring tone		425, -10	1000-4000		Rep.
Congestion tone		425, -10	200-200		Rep.
Call waiting tone		425, -10	200-600	200	Non rep.
On hold tone		300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone		1800, -10 1400, -10 950, -10	333	333	333-1000 Rep.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	
Internal call	Programmable	1000-5000	
External call	Programmable	350-300	350-5000
Call back	Programmable	350-400	

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Market specific values for the Republic of Korea

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																							
From line type	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	0	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	4	5	4	2	4	4	3	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	3	4	3	2	3	3	2	1		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	2	3	2	2	2	2	1	0		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	2	3	2	2	2	2	1	0		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	1	2	1	2	1	1	0	0		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	3	4	3	2	3	3	2	1		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-4
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)					
1	Dial tone	0/0	350, -7 440, -7	1000-250 1000-250		Rep.
2	Special dial tone	0/0	425, -4	320-10		Rep.
3	Busy tone	0/0	480, -18 620, -18	500-500 500		Rep.
4	Congestion tone	0/0	480, -18 620, -18	150-150 150		Rep.
5	NU tone	0/0	1800, -4 1400, -4 950, -4	330-10	330-1000	Rep.
6	Warning tone for intrusion	3/3	1400, -4	75-1520		Rep.
11	Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
13	Verification tone	0/0	425, -4	30-330	30-330	30-1980
14	Warning tone for conference	3/3	1400, -17	1000-14720	25-14720	Rep.
15	Ring tone	0/0	440, -16 480, -16	1000-2000 1000-2000		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	440, -16 480, -16	1000-2000 1000-2000		Rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
26	External Dial Tone	0/0	350, -4 440, -4	500-10		Rep.
31	Expensiv route warning tone	6/6	950, -4	320-10		Rep. 4 sec
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	25 Hz	1000-2000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals			
Signal	Cadence (ms)		Note
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

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Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal
Internal call	Programmabl e	1000-5000	
External call	Programmabl e	350-300	350-5000
Call back	Programmabl e	350-400	

Optical signals			
Signal	Cadence (ms)		Note
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Market specific values for Saudi Arabia

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																							
From line type	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	#	#	#	#	#	#	19	20	21	22	23
	0	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	4	5	4	2	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	2	3	4	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	5	2	3	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	6	1	2	1	2	1	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	7	3	4	3	2	3	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
0	Pause (=silence)					
1	Dial tone	0/0	425, -4			Cont.
2	Special dial tone	0/0	425, -4	320-10		Rep.
3	Busy tone	0/0	425, -4	500-500		Rep.
5	NU tone	6/6	1800, -4 1400, -4 950, -4	330-10	330-1000	Rep.
6	Warning tone for intrusion	15/12	425, -4	520-170	170-170	Rep.
8	Faultman's ringback = NU tone (number 5)	6/6	1800, -4 1400, -4 950, -4	330-10	330-1000	Rep.
11	Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
13	Verification tone	6/6	425, -4	30-330	30-330	30-1980
14	Warning tone for conference	3/3	1400, -17	1000-14720	360-14720	Rep.
15	Ring tone	0/0	425, -4	1200-4650		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	1200		Non rep.
21	HVV-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	
Internal call	25 Hz	1000-4000	Rep.
External call	25 Hz	300-400	300-4000
Call back	25 Hz	300-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Generated in the MX-ONE IP Telephone

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	
Internal call	Programmable	1000-5000	Rep.
External call	Programmable	350-300	350-5000
Call back	Programmable	350-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Market specific values for Singapore

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																									
	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
From line type	0	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	1	4	5	4	2	3	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	2	3	4	3	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	4	1	2	1	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	5	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	6	1	2	1	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	7	3	4	3	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)					
1	Dial tone	0/0	350, -10 440, -10			Cont.
2	Special dial tone	0/0	350, -10 440, -10	750-750		Rep.
3	Busy tone	0/0	400, -10	500-500		Rep.
4	Congestion tone	0/0	400, -16 400, -10	400-350		Rep.
5	NU tone	0/0	400, -10			Cont.
6	Warning tone for intrusion	3/3	400, -10 1400, -17	75-1520		Rep.
8	NU tone (number 5)	0/0	400, -10			Cont.
11	Call waiting tone	0/0	400, -10	100-900	100-5000	Rep. 2 seq.
13	Verification tone	6/6	425, -4	30-330	30-330 30-1980	Rep.
14	Warning tone for conference	3/3	1400, -17	1000-14720	360-14720	Rep.
15	Ring tone	0/0	400, -10 450, -10	400-200 400-200	390-2010 390-2010	Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	400, -10 450, -10	400-200 400-200	400-200 400-200	Non rep.
18	Queue tone	0/0				
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals			
Signal	Cadence (ms)		Note
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Generated in the MX-ONE IP Telephone

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000 Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals			
Signal	Cadence (ms)		Note
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

[illegible]

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	
0	-4
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm)	Cadence (ms)	tone-pause-tone	Note
0	Pause (=silence)		350, -7 440, -7			
1	Dial tone	0/0	350, -7 440, -7	200-300 200-300	200-300 200-800	Cont.
2	Special dial tone	0/0	350, -7 440, -7	200-300 200-300	200-800 200-800	Rep.
3	Busy tone	-6/-6	400, -7	500-500		Rep.
4	Congestion tone	-3/-3	400, -7	250-250		Rep.
5	NU tone	-6/-6	400, -7	2500-500		Rep.
6	Warning tone for intrusion	15/15	400, -7	150-250	150-1440	Rep.
7	Faultman's ringback = Cong. tone (No 4)	-3/-3	400, -7	250-250		Rep.
11	Call waiting tone	-6/-6	350, -7 440, -7	100-900	100-5000	Rep. 2 seq.
12	Verification tone =		350, -7	200-300	200-300	200-800
13	Special dial tone (No 2)	0/0	440, -7	200-300	200-300	200-900
14	Warning tone for conference	15/15	400, -7	150-250	150-8000	Rep.
15	Ring tone	-3/-3	400, -7	400-200	400-2000	Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	-6/-6	400, -7	1000		Non rep.
18	Queue tone = Ring tone (No 15)	-3/-3	400, -7	400-200	400-2000	Rep.
21	HW-test tone	-6/-6	350, -7 440, -7			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
26	External dial tone	-6/-6	350, -7 440, -7			Cont.
29	Call waiting tone from trunk	6/6	425, -4	100-1900		Rep. 5 seq.
31	Expensive route warning tone	0/0	480, -7 350, -7	320-10		Rep. 4 sec.
32	Message waiting dial tone	0/0	350, -7 440, -7	200-300 200-300	200-300 200-300	200-800
33	Message waiting special dial tone	0/0	350, -7 440, -7	200-300 200-300	200-300 200-300	200-800
40	Hold tone	0/0	400, -7	30-60	30-1860	Rep.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

**Note 1:** The characters ' in a column in the table above implies that only the values within the two ' are repeated.

**Note 2:** The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) <b>signal-pause-signal</b>		Note
Internal call	25 Hz	<b>1000-4000</b>		Rep.
External call	25 Hz	<b>300-400</b>	<b>300-4000</b>	Rep.
Call back	25 Hz	<b>300-400</b>		Rep.

Optical signals			
Signal	Cadence (ms) <b>light-pause-light</b>		Note
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	<b>1850-50</b>	<b>50-50</b>	Rep.
Parked call	<b>500-500</b>		Rep.
Incoming call	<b>300-300</b>		Rep.

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone	Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-1000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10	10-150	10-5000	Rep.
	400, -10	10-150	10-5000	
	1800, -10 1400, -10 950, -10	333	333	
Special information tone			333-1000	Rep.
Connection in progress tone	425, -4	30-330		Rep.

Ringing signals					
Signal	Frequency (Hz)	Cadence (ms) <b>signal-pause-signal</b>			Note
Internal call	Programmable	<b>1000-5000</b>			Rep.
External call	Programmable	<b>350-300</b>	<b>350-5000</b>		Rep.
Call back	Programmable	<b>350-400</b>			Rep.

Optical signals		
Signal	Cadence (ms) <b>light-pause-light</b>	Note
Free or non-requested function	turned off	Cont.
Function on key activated	light	Cont.
Line connected	1850-50    50-50	Rep.
Parked call	500-500	Rep.
Incoming call	300-300	Rep.

Market specific values for Spain

TRM-parameters	
0	Digital
1	Analog Extension
2	Analog Extension (long)
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																							
	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
From line type	0	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	4	5	4	2	3	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	2	3	4	3	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4	1	2	1	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	5	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	6	1	2	1	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	7	3	4	3	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	-1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ex/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		
0	Pause (silence)	0/0	425, -4			Cont.
1	Dial tone	0/0	425, -4	1000-100		Rep.
2	Special dial tone	0/0	425, -4	200-200		Rep.
3	Busy tone	0/0	425, -4	200-200	200-600	Rep.
4	Congestion tone	0/0	425, -4	200-200	200-600	Rep.
5	NU tone	0/0	425, -4	200-200	200-600	Cont.
6	Warning tone for intrusion	0/0	1400, -17	400-5000		Rep.
8	Faultman's ringback	0/0	425, -4	200-200	200-200	200-600
11	Call waiting tone	0/0	425, -4	200-200	200	Non rep.
12	Special information tone	0/0	1800, -17 1400, -17 950, -17	330-5	330-5	330-1000
13	Verification tone	0/0	425, -4			Cont.
14	Warning tone for conference	0/0	1400, -17	1000-14720	'360-14720'	'Rep.'
15	Ring tone	0/0	425, -4	1500-3000		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	1200		Non rep.
18	Queue tone	0/0	425, -4	1500-3000		Rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input			Opt. Requires RVA
26	External dial tone	0/0	425, -4			Cont.
28	Recall dial tone	0/0	425, -4	100-100	100-100	100
29	Call waiting tone from trunk	0/0	425, -4	200-200	200	Non rep.
31	Expensive route warning tone	0/0	1400, -17	2000-990		Rep. 4 seq.
32	Message waiting dial tone	0/0	425, -4	320-10		Rep.
33	Message waiting special dial tone	0/0	425, -4	320-10		Rep.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

**Note 1:** The characters ' ' in a column in the table above implies that only the values within the two ' ' are repeated.  
**Note 2:** The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals					
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal			Note
Internal call	25 Hz	1000-4000			Rep.
External call	25 Hz	600-400	600-4000		Rep.
Call back	25 Hz	300-400			Rep.
Diverted call	25 Hz	300-400	300-400	300-4000	Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Generated in the MX-ONE IP Telephone

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light			Note
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for Standard markets

TRM-parameters		
0	Digital	
1	Analog Extension	
2	Analog Extension (long)	
3	Spare	
4	Analog external line	
5	Digital external line	
6	2-wire tie line	
7	4-wire tie line	
8	Spare	
9	Spare	
10	Spare	
11	Spare	
12	Spare	
13	Spare	
14	Spare	
15	Spare	
16	Spare	
17	Spare	
18	Spare	
19	Spare	
20	Spare	
21	Spare	
22	Spare	
23	Spare	

		TRM-matrix																							
		To line type												To line type											
From line type	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	0	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	4	5	4	2	3	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	2	3	4	3	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	4	1	2	1	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	5	2	3	2	2	1	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	6	1	2	1	2	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	7	3	4	3	2	2	3	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-4
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
0	Pause (=silence)					
1	Dial tone	0/0	425, -4			Cont.
2	Special dial tone	0/0	425, -4	320-10		Rep.
3	Busy tone	0/0	425, -4	330-330		Rep.
4	Congestion tone	0/0	425, -4	150-150		Rep.
5	NU tone	0/0	1800, -4 1400, -4 950, -4	330-30	330-1000	Rep.
6	Warning tone for intrusion	3/3	1400, -4	75-1520		Rep.
11	Call waiting tone	0/0	425, -4	100-1000	100	Non rep.
13	Verification tone	0/0	425, -4	30-330	30-1980	Rep.
14	Warning tone for conference	3/3	1400, -17	1000-14720	'360-14720'	'Rep.'
15	Ring tone	0/0	425, -4	990-3990		Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	425, -4	1200		Non rep.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input			Opt. Requires RVA
31	Expensive route warning tone	0/0	950, -4	320-10		Rep. 4 sec.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400	300-4000	Rep.
Call back	25 Hz	300-400		Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Line not connected	turned off		Cont.
Function on key acti	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Generated in the MX-ONE IP Telephone

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000 Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal		Note
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300	350-5000	Rep.
Call back	Programmable	350-400		Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light		Note
Free or non-request	turned off		Cont.
Function on key acti	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.



Market specific values for Sweden

TRM-parameters		TRM-matrix	
0	Analog extension	From line type	To line type
1	Digital extension (not POTS), operator, IP extension		TRM
2	Spare		0
3	Spare		1
4	Analog PSTN		2
5	Digital PSTN		3
6	Spare		4
7	4-wire tie line		5
8	Spare		6
9	Spare		7
10	Spare		8
11	Spare		9
12	Spare		10
13	Spare		11
14	Spare		12
15	Spare		13
16	Spare		14
17	Spare		15
18	Spare		16
19	Spare		17
20	Spare		18
21	Spare		19
22	Spare		20
23	Spare		21
			22
			23

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions DT	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages					
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note
0	Pause (=silence)				
1	Dial tone	6/6	425, -4		Cont.
2	Special dial tone	0/6	425, -4	320-10	Rep.
3	Busy tone	3/6	425, -4	250-250	Rep.
4	Congestion tone	6/6	425, -4	250-750	Rep.
5	NU tone	10/10 0/0	1800, -17 1400, -17 950, -17	330-30 330-30	330-1000 Rep.
6	Warning tone for intrusion	10/10	1400, -17	80-1520	'75-1520'
8	Faultman's ringback	6/6	425, -4	250-750	Rep.
11	Call waiting tone	6/6	425, -4	200-500	200
13	Verification tone	0/0	425, -4	30-330	30-330
14	Warning tone for conference	10/15	1400, -17	1000-14720	420-14720'
15	Ring tone	3/6	425, -4	990-4710	Rep.
16	Call diversion message	10/10	DC, 0	100	Switch click
17	1st ring tone	3/6	425, -4	1000	Non rep.
18	Queue tone	3/6	425, -4	990-4710	Rep.
21	HW-test tone	6/6	425, -4		Cont.
22	Music on hold 1	0/0	Ext. input		Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input		Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input		Opt. Requires RVA
26	External dial tone	6/6	425, -4		Cont.
29	Call waiting tone from trunk	6/6	425, -4	200-500	200
31	Expensive route warning tone	6/6	950, -17	4000	Non rep.
32	Message waiting dial tone	0/6	425	320-10	Rep.
33	Message waiting special dial tone	0/6	425	320-10	Rep.
41	Global dial reorder tone	6/6	425, -4		Cont.
42	Global ring tone	6/6	425, -4	1000-3000	Rep.
43	Global busy tone	6/6	425, -4	500-500	Rep.
44	Global interception tone	6/6	425, -4	200-200	Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note
Internal call	25 Hz	1000-5000	Rep.
External call	25 Hz	400-200	400-5000
Call back	25 Hz	300-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light	Note	
Line not connected	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Generated in the MX-ONE IP Telephone

Tone Messages				
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note	
Dial tone	425, -10			Cont.
Special dial tone	425, -10	500-50		Rep.
Busy tone	425, -10	500-500		Rep.
Ring tone	425, -10	1000-4000		Rep.
Congestion tone	425, -10	200-200		Rep.
Call waiting tone	425, -10	200-600	200	Non rep.
On hold tone	300, -10 400, -10	10-150 10-150	10-5000 10-5000	Rep.
Special information tone	1800, -10 1400, -10 950, -10	333	333	333-1000 Rep.

Ringing signals			
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note
Internal call	Programmable	1000-5000	Rep.
External call	Programmable	350-300	350-5000
Call back	Programmable	350-400	Rep.

Optical signals			
Signal	Cadence (ms) light-pause-light	Note	
Free or non-requested function	turned off		Cont.
Function on key activated	light		Cont.
Line connected	1850-50	50-50	Rep.
Parked call	500-500		Rep.
Incoming call	300-300		Rep.

Market specific values for Switzerland

TRM-parameters	
0	Digital extension line , PBX operator line, IP extension
1	Analog extension lines
2	Spare
3	Spare
4	Analog external line
5	Digital external line
6	2-wire tie line
7	4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix		To line type																							
From line type	TRM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	0	2	3	2	2	2	2	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1	4	5	2	2	4	4	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	2	3	2	2	2	2	0	0		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	2	3	2	2	2	2	0	0		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	0	1	2	2	0	0	0	0		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	3	4	2	2	3	3	1	1		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
22	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions D1	
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages					
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note
0	Pause (=silence)				
1	Dial tone	0/0	425, -4		Cont.
2	Special dial tone	0/0	425, -4	320-10	Rep.
3	Busy tone	0/0	425, -4	500-500	Rep.
4	Congestion tone	0/0	425, -4	150-150	Rep.
5	NU tone	0/0	1800, -4 1400, -4 950, -4	330-30 330-30	330-1000 Rep.
6	Warning tone for intrusion	0/0	1400, -4	75-1520	Rep.
11	Call waiting tone	0/0	425, -4	100-1000 100	Non rep.
13	Verification tone	0/0	425, -4	30-330 30-330	30-1980 Rep.
14	Warning tone for conference	0/0	1400, -17	1000-19840 25-19840	'Rep.'
15	Ring tone	0/0	425, -4	990-3990	Rep.
16	Call diversion mess	0/0	DC, 0	100	Switch click
17	1st ring tone	0/0	425, -4	1200	Non rep.
18	Queue tone	0/0	425, -4	990-3990	Rep.
21	HW-test tone	0/0	425, -4		Cont.
22	Music on hold 1	0/0	Ext. input		Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input		Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input		Opt. Requires RVA
28	External dial tone	0/0	425, -4		Cont.
29	Call waiting tone from trunk	0/0	425, -4	100-1000 100	Non rep.
32	Message waiting dial tone	0/0	425, -4		Cont.
33	Message waiting special dial tone	0/0	425, -4	320-10	Rep.
41	Global dial reorder tone	0/0	425, -4		Cont.
42	Global ring tone	0/0	425, -4	1000-3000	Rep.
43	Global busy tone	0/0	425, -4	500-500	Rep.
44	Global interception tone	0/0	425, -4	200-200	Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note	
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	300-400 300-4000		Rep.
Call back	25 Hz	300-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Generated in the MX-ONE IP Telephone

Tone Messages					
Tone Message	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone	Note		
Dial tone	425, -10				Cont.
Special dial tone	425, -10	500-50			Rep.
Busy tone	425, -10	500-500			Rep.
Ring tone	425, -10	1000-4000			Rep.
Congestion tone	425, -10	200-200			Rep.
Call waiting tone	425, -10	200-600 200			Non rep.
On hold tone	300, -10 400, -10	10-150 10-5000 10-150 10-5000			Rep.
Special information tone	1800, -10 1400, -10 950, -10	333 333 333-1000			Rep.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms) signal-pause-signal	Note	
Internal call	Programmable	1000-5000		Rep.
External call	Programmable	350-300 350-5000		Rep.
Call back	Programmable	350-400		Rep.

Optical signals				
Signal	Cadence (ms) light-pause-light		Note	
Free or non-requested function	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Market specific values for the United Kingdom

TRM-parameters	
0	Analog extension
1	Digital extension, ISDN, CAS/POTS, IP extension
2	Spare
3	Analog PSTN line (TLU74 only)
4	Analog PSTN line (BTU1 & BTU2 only)
5	Digital PSTN line, Digital tie line
6	Analog 2-wire tie line
7	Analog 4-wire tie line
8	Spare
9	Spare
10	Spare
11	Spare
12	Spare
13	Spare
14	Spare
15	Spare
16	Spare
17	Spare
18	Spare
19	Spare
20	Spare
21	Spare
22	Spare
23	Spare

TRM-matrix	
From line type	To line type
	TRM 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
0	5 3 2 3 3 3 3 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
1	4 2 2 2 2 2 2 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
2	2 2
3	1 2 1 1 1 1 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
4	3 1 2 1 1 1 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
5	4 2 2 2 2 2 2 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
6	3 1 2 1 1 1 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
7	3 1 2 1 1 1 1 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
8	2 2
9	2 2
10	2 2
11	2 2
12	2 2
13	2 2
14	2 2
15	2 2
16	2 2
17	2 2
18	2 2
19	2 2
20	2 2
21	2 2
22	2 2
23	2 2

The attenuation position values in the TRM-matrix refer to the amplification/attenuation position below

Attenuation Values (dB)	
Attenuation positions	
D1	1
0	-6
1	-3
2	0
3	+3
4	+6
5	+9
6	+12
7	+15
8	+18
9	+21
10	+24
11	+27
12	+30
13	+33
14	+36
15	+39

Tone Messages						
Number	Name	Attenuation Ext/Int	Frequency (Hz, dBm0)	Cadence (ms) tone-pause-tone		Note
0	Pause (=silence)					
1	Dial tone	0/0	350, -10 440, -10			Cont.
2	Special dial tone	0/0	350, -10 440, -10	750-750		Rep.
3	Busy tone	0/0	400, -10	375-375		Rep.
4	Congestion tone	0/0	400, -16 400, -10	225-525		Rep.
5	NU tone	0/0	400, -10			Cont.
6	Warning tone for intrusion	3/3	1400, -17	1000-400	'100-400'	'Rep.'
8	Faultman's ringback	0/0	400, -10			Cont.
11	Call waiting tone	0/0	400, -10	100-900	100-5000	Rep. 2 seq.
13	Verification tone	0/0	400, -10	200-400	2010-390	Rep.
14	Warning tone for conference	3/3	1400, -17	1000-14720	'360-14720'	'Rep.'
15	Ring tone	0/0	400, -10 450, -10	400-200 400-200	390-2010 390-2010	Rep.
16	Call diversion message	0/0	DC, 0	100		Switch click
17	1st ring tone	0/0	400, -10 450, -10	400-200 400-200	400 400	Non rep.
18	Queue tone	0/0	400, -10	400-200	390-2010	Rep. 2 seq.
21	HW-test tone	0/0	425, -4			Cont.
22	Music on hold 1	0/0	Ext. input			Opt. Requires RVA
23	Music on hold 2	0/0	Ext. input			Opt. Requires RVA
24	Music on hold 3	0/0	Ext. input			Opt. Requires RVA
26	External dial tone	0/0	350, -10 450, -10			Cont.
29	Call waiting tone from trunk	0/0	400, -10	100-900	100-5000	Rep.
32	Message waiting dial tone	0/0	350, -10 440, -10	750-750		Rep.
33	Message waiting special dial tone	0/0	350, -10 440, -10	750-750		Rep.
41	Global dial reorder tone	0/0	425, -4			Cont.
42	Global ring tone	0/0	425, -4	1000-3000		Rep.
43	Global busy tone	0/0	425, -4	500-500		Rep.
44	Global interception tone	0/0	425, -4	200-200		Rep.

Note 1: The characters ' in a column in the table above implies that only the values within the two ' are repeated.  
Note 2: The tone levels for External lines are not valid in a Media Gateway LIM.

Ringing signals				
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note
Internal call	25 Hz	1000-4000		Rep.
External call	25 Hz	400-2000	400-2000	Rep.
Call back	25 Hz	500-500	500-500	Rep.
Optical signals				
Signal	Cadence (ms)		light-pause-light	Note
Line not connected	turned off			Cont.
Function on key activated	light			Cont.
Line connected	1850-50	50-50		Rep.
Parked call	500-500			Rep.
Incoming call	300-300			Rep.

Generated in the MX-ONE IP Telephone

Tone Messages					
Tone Message	Frequency (Hz, dBm0)	Cadence (ms)	tone-pause-tone		Note
Dial tone	425, -10				Cont.
Special dial tone	425, -10	500-50			Rep.
Busy tone	425, -10	500-500			Rep.
Ring tone	425, -10	1000-4000			Rep.
Congestion tone	425, -10	200-200			Rep.
Call waiting tone	425, -10	200-600	200		Non rep.
On hold tone	300, -10 400, -10	10-150 150	10-5000 10-5000		Rep.
Special information tone	1800, -10 1400, -10 950, -10		333	333-100	Rep.
Ringing signals					
Signal	Frequency (Hz)	Cadence (ms)	signal-pause-signal	Note	
Internal call	Programmable	1000-5000			Rep.
External call	Programmable	350-300		350-500	Rep.
Call back	Programmable	350-400			Rep.
Optical signals					
Signal	Cadence (ms)		light-pause-light	Note	
Free or non-requested function	turned off				Cont.
Function on key activated	light				Cont.
Line connected	1850-50	50-50			Rep.
Parked call	500-500				Rep.
Incoming call	300-300				Rep.

Line types per application system

		TL60/ SL60	TL60/ SL63	TL1	TL4	TL11	TL12	TL19	TL22	TL25	TL26	TL30	TL35	TL37	TL38	TL45	TL49	TL50	TL51	TL65	TL66/ SIPL	TL72	TL81	TL95			
<a href="#">Australia</a>		x				x	x	x	x			x	x	x				x		x	x						
<a href="#">Austria</a>		x				x	x	x	x	x		x		x				x		x	x						
<a href="#">Belgium</a>		x				x	x	x	x	x		x	x	x				x		x	x						
<a href="#">Brazil</a>		x				x	x	x	x	x		x		x				x		x	x						
<a href="#">Canada</a>		x	x	x		x			x			x				x		x		x	x						
<a href="#">China</a>		x				x	x	x	x	x				x			x	x	x	x	x		x				
<a href="#">Denmark</a>		x				x		x	x	x		x		x					x	x	x						
<a href="#">Finland</a>		x				x	x	x	x	x		x	x	x				x		x	x						
<a href="#">France</a>		x				x			x			x		x				x		x	x						
<a href="#">Germany</a>		x						x	x	x		x	x	x				x		x	x						
<a href="#">Hong-Kong, A-law</a>		x				x	x	x	x	x		x		x				x		x	x						
<a href="#">Hong-Kong, My-law</a>		x	x	x		x	x		x	x						x		x		x	x						
<a href="#">India</a>		x				x	x	x	x	x		x	x	x				x		x	x						
<a href="#">Indonesia</a>		x				x	x	x	x	x		x	x	x				x		x	x						
<a href="#">Ireland</a>		x				x	x		x	x		x		x				x		x	x						
<a href="#">Italy</a>		x				x		x	x	x		x	x	x				x		x	x						
<a href="#">Malaysia</a>		x				x	x	x	x	x		x		x				x		x	x						
<a href="#">Market Group 2</a>		x				x	x	x	x	x		x	x	x			x	x		x	x			x			
<a href="#">Mexico, standard</a>		x				x	x	x	x	x		x	x	x				x		x	x						
<a href="#">The Netherlands</a>		x						x	x	x	x	x	x	x				x		x	x						
<a href="#">New Zealand</a>		x		x		x	x		x	x		x		x				x		x	x						
<a href="#">North America</a>		x	x	x			x		x			x				x		x		x	x						
<a href="#">Norway</a>		x				x		x	x	x		x		x				x		x	x						
<a href="#">Republic of Korea</a>		x				x	x		x	x		x		x				x		x	x						
<a href="#">Saudi Arabia</a>		x		x		x	x	x	x	x		x	x	x			x	x		x	x						
<a href="#">Singapore</a>		x				x	x	x	x	x		x	x	x				x		x	x						
<a href="#">South Africa</a>		x				x		x	x	x		x	x	x				x		x	x						
<a href="#">Spain</a>		x				x			x			x		x	x			x		x	x						
<a href="#">Standard</a>		x				x	x	x	x	x		x	x	x				x		x	x						
<a href="#">Sweden</a>		x			x			x	x	x		x		x				x		x	x						
<a href="#">Switzerland</a>		x					x	x	x	x		x		x				x		x	x						
<a href="#">United Kingdom</a>		x		x			x	x	x	x		x		x				x		x	x	x					

For explanation of line program unit names, see parameter UNIT



	CTL	EL6	EL7	IPL	ITL	ITLB	KL1	OL	PG1	PG3	RA1	REL		
<a href="#">Australia</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Austria</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Belgium</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Brazil</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Canada</a>	x	x	x	x	x	x	x	x			x			
<a href="#">China</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Denmark</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Finland</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">France</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Germany</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Hong-Kong, A-law</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Hong-Kong, My-law</a>	x	x	x	x	x	x	x	x	x	x	x	x		
<a href="#">India</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Indonesia</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Ireland</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Italy</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Malaysia</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Market Group 2</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Mexico, standard</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">The Netherlands</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">New Zealand</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">North America</a>	x	x	x	x	x	x	x	x			x			
<a href="#">Norway</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Republic of Korea</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Saudi Arabia</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Singapore</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">South Africa</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Spain</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Standard</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Sweden</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">Switzerland</a>	x	x	x	x	x		x	x	x	x	x	x		
<a href="#">United Kingdom</a>	x	x	x	x	x		x	x	x	x	x	x		