CHAPTER 3

Argentina 2 Tone Plan

This chapter details the modifications to the Digital Tone Generator (DTG or DTG-2) and Call Progress Analyzer (CPA) cards, and Service Platform Card (SPC)-CPA service circuits to support the supervision tones specific to the Argentina telephone network.

The information in this chapter supersedes the information in the following manuals:

- *Cisco VCO/4K System Administrator's Guide*
- *Cisco VCO/4K Standard Programming Reference*
- *Cisco VCO/4K Extended Programming Reference*
- *Cisco VCO/4K Supervision and Call Progress Tone Detection*

Tone Characteristics

Table 3-1 summarizes the characteristics of the most frequently used supervision tones in the Argentina network.

Table 3-1 Argentina 2 Digital Tone Generator Supervision Tones

Tone	Frequencies (Hz)	Amplitude (dBm)	Cadence	Detected by CPA?
Dial	425	–10	Continuous	Yes
Ringing	425	–10	1 second on, 4.5 seconds off, REPEATED	Yes
Busy	425	–10	0.3 seconds on, 0.3 seconds off, REPEATED	Yes

Table 3-1 Argentina 2 Digital Tone Generator Supervision Tones (continued)

Tone	Frequencies (Hz)	Amplitude (dBm)	Cadence	Detected by CPA?
Reorder	425	–9	0.3 seconds on, 0.4 seconds off, REPEATED	Yes
Number Unobtainable	425	–9	0.2 seconds on, 0.3 seconds off, 0.2 seconds on, 0.6 seconds off, 0.2 seconds on, 0.1 seconds off, REPEATED	Yes

Tone Detection

CPA and SPC-CPA processing is modified to support the Argentina network requirements. Use the system administration answer supervision templates function to control tone detection for the tones listed in Table 3-1. Supervision template processing is described in the *Cisco VCO/4K System Administrator's Guide*.

Answer Supervision Template Screen Terminology

The supervision events and tones listed in the Answer Supervision Template screen use standard North American network terminology. Table 3-2 shows the Answer Supervision Template screen terms to use with the Argentina 2 country feature package.

Table 3-2 Answer Supervision Template Screen Terminology for Argentina 2

Answer Supervision Template Event and Tone Names	Argentina 2 Tone Names
Dial	Dial
Ringback	Ringing
Busy	Busy
Reorder	Reorder
SIT Tones	Number Unobtainable
Ring Cess.[1]	Not Applicable
Voice Det.[1]	Not Applicable
Voice Cess.[1]	Not Applicable
Wink[1]	Not Applicable
Answer[1]	Not Applicable
Time[1]	Not Applicable
Hook Flash[1]	Not Applicable

Table 3-2 Answer Supervision Template Screen Terminology for Argentina 2 (continued)

Answer Supervision Template Event and Tone Names	Argentina 2 Tone Names
Pager Cue	Not Available
ISUP Tone	Not Available
ISUP Cess.[1]	Not Applicable

1. Not a tone.

Tone Generation

Tone generation is performed through DTG outpulse and static tone channels. The allocation of these tones is controlled via inpulse rules, Voice Path Control ($66), and DTMF Collection Control ($67) commands.

Table 3-3 supersedes the tone generation table listed in the *Cisco VCO/4K Standard Programming Reference* and the *Cisco VCO/4K Extended Programming Reference*. It also supersedes the tone output level specifications found in the *Cisco VCO/4K Card Technical Descriptions*. For more information on generating tones, refer to the *Cisco VCO/4K System Administrator's Guide*.

The tones and their corresponding output levels, decimal values, hexadecimal values, and port addresses are summarized in Table 3-3.

Table 3-3 Tone Levels, Values, and Port Addresses

Tone	Output Level	Decimal Value	Hex Value	Port Addresses
Beep	—	0	00	None
Quiet (PCM idle pattern 01010100)	—	1	01	04C0
1 KHz	0 dBm	2	02	04C1
Dial	**–10 dBm**	**3**	**03**	**04C2**
380 Hz	–10 dBm	4	04	04C3
Beep (425 Hz)	–13 dBm	5	05	04C4
480 Hz	–17 dBm	6	06	04C5
1400 Hz	–10 dBm	7	07	04C6
1000 Hz @max CODEC output	—	8	08	04C7
920 Hz	–13 dBm	9	09	04C8
404 Hz	0 dBm	10	0A	04C9
1004 Hz	0 dBm	11	0B	04CA
2804 Hz	0 dBm	12	0C	04CB
Steady Ringback	–10 dBm	13	0D	04CC
1760 Hz	–10 dBm	14	0E	04CD
Digital Test Pattern	—	15	0F	04CE
425 Hz	–10 dBm	16	10	04CF

Table 3-3 Tone Levels, Values, and Port Addresses (continued)

Tone	Output Level	Decimal Value	Hex Value	Port Addresses
Ringing	**–10 dBm**	**17**	**11**	**04D0**
Busy	**–10 dBm**	**18**	**12**	**04D1**
Reorder	**–10 dBm**	**19**	**13**	**04D2**
380 Hz	–10 dBm	20	14	04D3
Reserved	—	21	15	04D4
425 Hz	–10 dBm	22	16	04D5
Reserved	—	23	17	04D6
Number Unobtainable	**–9 dBm**	**24**	**18**	**04D7**
Reserved	—	25 to 32	19 to 20	04D8 to 04DF
DTMF digit 0 (steady)	–9/–11 dBm/freq	33	21	04E0
DTMF digit 1 (steady)	–9/–11 dBm/freq	34	22	04E1
DTMF digit 2 (steady)	–9/–11 dBm/freq	35	23	04E2
DTMF digit 3 (steady)	–9/–11 dBm/freq	36	24	04E3
DTMF digit 4 (steady)	–9/–11 dBm/freq	37	25	04E4
DTMF digit 5 (steady)	–9/–11 dBm/freq	38	26	04E5
DTMF digit 6 (steady)	–9/–11 dBm/freq	39	27	04E6
DTMF digit 7 (steady)	–9/–11 dBm/freq	40	28	04E7
DTMF digit 8 (steady)	–9/–11 dBm/freq	41	29	04E8
DTMF digit 9 (steady)	–9/–11 dBm/freq	42	2A	04E9
DTMF digit A (steady)	–9/–11 dBm/freq	43	2B	04EA
DTMF digit B (steady)	–9/–11 dBm/freq	44	2C	04EB
DTMF digit C (steady)	–9/–11 dBm/freq	45	2D	04EC
DTMF digit D (steady)	–9/–11 dBm/freq	46	2E	04ED
DTMF digit * (steady)	–9/–11 dBm/freq	47	2F	04EE
DTMF digit # (steady)	–9/–11 dBm/freq	48	30	04EF
MF digit 0 (steady)	–7 dBm/freq	49	31	04F0
MF digit 1 (steady)	–7 dBm/freq	50	32	04F1
MF digit 2 (steady)	–7 dBm/freq	51	33	04F2
MF digit 3 (steady)	–7 dBm/freq	52	34	04F3
MF digit 4 (steady)	–7 dBm/freq	53	35	04F4
MF digit 5 (steady)	–7 dBm/freq	54	36	04F5
MF digit 6 (steady)	–7 dBm/freq	55	37	04F6
MF digit 7 (steady)	–7 dBm/freq	56	38	04F7
MF digit 8 (steady)	–7 dBm/freq	57	39	04F8
MF digit 9 (steady)	–7 dBm/freq	58	3A	04F9

Table 3-3 Tone Levels, Values, and Port Addresses (continued)

Tone	Output Level	Decimal Value	Hex Value	Port Addresses
MF digit KP (steady)	–7 dBm/freq	59	3B	04FA
MF digit ST (steady)	–7 dBm/freq	60	3C	04FB
MF digit ST3P	–7 dBm/freq	61	3D	04FC
MF digit STP	–7 dBm/freq	62	3E	04FD
MF digit ST2P	–7 dBm/freq	63	3F	04FE