Technical Bulletin

POLYCOM

Polycom® VoiceStation® 300 Country Code Specifications

This technical bulletin provides detailed information on how to configure the Polycom VoiceStation 300 software by means of the country codes stored in flash memory. The country code controls various parameters related to the product's interaction with phone network, which needs to be set appropriately for the phone network found in each country. The country code is also used to disable certain features that either will not work correctly in a given country or cannot be enabled in a given country due to regulatory compliance issues.

The configuration codes are typically set in the factory during unit test, and cannot be accessed by the user. They can be programmed by using a special key sequence in diagnostic mode or using the Country Code Programming menu screens. Both these engineering-use menu screens and the debug port interface are described in the VoiceStation 300 Diagnostics Tools Description. This document applies to VoiceStation 3000 software version 1.000.

This technical bulletin contains information on:

Country Codes

The Country Code determines the following parameters:

1. Flash Timing – also appears in UI
2. DTMF Levels
3. Japan transmit gains (JPN)
4. Automatic Initiation Delay Timing (AIDT) – left-most digit in CC entry display string
5. DTMF Twist

The country code is stored in the console's EEPROM as 8 unsigned bytes as part of a STRUCT defined in **flash.h**. Only the first 5 bytes are used for the parameters. For programming and LCD display purposes, the country code is represented as a 7-digit octal number, with each digit representing the setting for one of the parameters defined above. The first octal digit is displayed on the left end of a horizontal string, and will be stored as the AIDT value. The rightmost digit will be stored as the UI language setting.

The fields are defined as follows:

	Octal digit	Acronym
Flash Timing	1	FL
DTMF Levels	2	DTMF
Japan Transmit Gains	3	JPN
Automatic Initiation Delay Timing	4	AIDT
DTMF Twist	5	TWST

The digits are displayed from left to right on the LCD:

Flash	DTMF	JPN	AIDT	TWST

1. Flash Timing

   000 = 600 msec flash

   001 = 300 msec flash

   010 = 100 msec flash

   011 = 80 msec flash

   These bits set the default flash timing. The current flash timing for the phone can be changed from the default value by using the related directory menu, but that does not change these country code bits. When the flash contents are reset to the factory default values (for example, by powering up with the **Mute** and 5 keys pressed), the flash timing changes to the value specified by these bits of the country code.

2. DTMF Levels

   000 = DTMF Level 0 (North America Default)

   001 = DTMF Level 1

   010 = DTMF Level 2

   011 = DTMF Level 3

   100 = DTMF Level 4

   101 = DTMF Level 5

   110 = DTMF Level 6

   111 = DTMF Level 7

   The absolute levels will be tuned so that level 0 gives the correct levels for the US version of the product. Level 0 will be the highest level setting, and the nominal amplitude difference between any two adjacent levels shall be 1 dB.

3. Japan Transmit Gains

   000 = Rest of World transmit gains

   001 = US transmit gains. (-3 dB from 0)

   101 = Japan transmit gains (+5 dB from 0)

   These bits are used to control the transmit gain of the speakerphone microphones. In Japan, the gain of the network is too low and hence the phones transmit sounds weak. We boosted the gain by 3 dB and relaxed the limiter to go almost fullscale. Net effect could boost the gain by almost 5 dB. From beta testing this seems to be necessary to do only in Japan. Setting it to any value other than 5 will default it to rest of world transmit gains.

4. Automatic Initiation Delay Timing

   000 = Auto (dialtone detected by software or 3 sec, whichever comes first)

   001 = 2.0 second delay

   010 = 3.0 second delay

   011 = 4.0 second delay

   100 = 5.0 second delay

   101 = 6.0 second delay

   110 = 7.0 second delay

   111 = Automatic Off-hook Disabled

5. DTMF Twist

   000 = -1.5 dB

   001 = -3 dB

   010 = -2 dB

   011 = -1 dB

   100 = -0 dB

   101 = -1.5 dB

   110 = -1.5 dB

   111 = -1.5 dB

   The field here defines the twist in dB for the two tones in DTMF. The row frequency is multiplied by the twist and then added to the column frequency.

Country Code User Interface

The country code is made up of 5 digits, and in the VoiceStation 300 user interface is represented by a 5-digit octal number from 00000 to 77777. The country code can only be entered or viewed when the console is in the engineering diagnostic mode.

To place the console in diagnostic mode:

1. Power up the console holding the MUTE key down.
2. Release the MUTE key after the bong is heard.

The following procedure should be followed for entering the code, when the console is in the engineering diagnostic mode:

1. Press and release the # key.
2. Press and release the * key.
   All the LEDs are turned ON.
3. Enter 5 consecutive digits between 0 - 7.
   See Appendix A for the table of the correct country code for each country. Each digit has a distinct LED pattern (Appendix B).
   When the 5th digit is entered, all the LEDs turn OFF.

To view the country code that has already been programmed, when the console is in the engineering diagnostic mode:

1. Press and release the # key.
2. Press and release the 9 key.
   5 LED patterns are displayed consecutively each of period 1 sec. (The LED pattern for each number is defined in Appendix B).

Appendix A: International Telco Parameters and Country Codes

Country	Assy	Flash msec	DTMF	JPN	AIDT	TWST	Country Code
North America	-001	600	0	1	0	0	00100
Japan	-002	600	4	5	2	0	04520
Australia	-012	100	6	0	2	2	26022
New Zealand	-013	600	4	0	2	0	04020
ROW, Hong Kong, Singapore	-015	600	4	0	2	2	04022
Korea	-016	300	4	0	2	0	14020
Malaysia	-021	100	6	0	2	0	25022
China	-022	600	4	0	2	0	04020
Taiwan	-023	600	0	0	2	0	00020
India, Thailand	-036	600	4	0	2	0	15022
United Kingdom (Flash)	-102	100	4	0	2	2	24022
France	-107	300	4	0	2	2	14022
Switzerland	-119	100	4	0	2	2	24022
Germany, Norway,	-120	100	4	0	2	2	24022

Sweden							
ROE, Belgium, Denmark, Finland, Italy, Netherlands,	-122	100	4	0	2	2	24022
South Africa	-030	100	4	0	2	0	24020
Brazil	-212	600	0	0	2	0	00020

Appendix B: Translation Between LED Patterns and Country Code Digits

Looking at the VoiceStation 300 with the keyboard facing you and moving clockwise around the face of the phone, MUTE_LED_1 is the 8 o'clock, MUTE_LED_2 is the 12 o'clock, and MUTE_LED_3 is the 4 o'clock position.

Digit	GREEN	MUTE LED 1	MUTE LED2	MUTE_LED3
0	ON	OFF	OFF	OFF
1	OFF	OFF	OFF	ON
2	OFF	OFF	ON	OFF
3	OFF	OFF	ON	ON
4	OFF	ON	OFF	OFF
5	OFF	ON	OFF	ON
6	OFF	ON	ON	OFF
7	OFF	ON	ON	ON

Trademark Information