



## Custom Phone Rings

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This chapter describes how you can customize the phone ring types that are available at your site by creating your own PCM files and editing the Ringlist.xml file.

This chapter covers the following topics:

- [Introducing Custom Phone Rings, page 14-1](#)
- [Customizing and Modifying Configuration Files, page 14-2](#)
- [Ringlist.xml File Format Requirements, page 14-2](#)
- [PCM File Requirements for Custom Ring Types, page 14-3](#)
- [Configuring a Custom Phone Ring, page 14-3](#)

## Introducing Custom Phone Rings

Cisco IP Phones ship with two default ring types that are implemented in hardware: Chirp1 and Chirp2. Cisco CallManager also provides a default set of additional phone ring sounds that are implemented in software as pulse code modulation (PCM) files. The PCM files, along with an XML file (named Ringlist.xml) that describes the ring list options that are available at your site, exist in the TFTP directory on each Cisco CallManager server.

You can get a copy of the Ringlist.xml file from the system using the following admin cli “file” commands:

- admin:file
  - file list\*
  - file view\*
  - file search\*
  - file get\*
  - file dump\*
  - file tail\*
  - file delete\*

# Customizing and Modifying Configuration Files

You can modify configuration files (for example, edit the xml files) and add customized files (for example, custom ring tones, call back tones, phone backgrounds) to the TFTP directory. You can modify files and/or add customized files to the TFTP directory in Cisco IPT Platform Administration, from the TFTP Server File Upload page. Refer to the *Cisco IP Telephony Platform Administration Guide* for information on how to upload files to the TFTP folder on a Cisco CallManager server.

## Ringlist.xml File Format Requirements

The Ringlist.xml file defines an XML object that contains a list of phone ring types. Each ring type contains a pointer to the PCM file that is used for that ring type and the text that will display on the Ring Type menu on a Cisco IP Phone for that ring.

The CiscoIPPhoneRinglist XML object uses the following simple tag set to describe the information:

```
<CiscoIPPhoneRinglist>
  <Ring>
    <DisplayName/>
    <FileName/>
  </Ring>
</CiscoIPPhoneRinglist>
```

The following characteristics apply to the definition names:

- DisplayName defines the name of the custom ring for the associated PCM file that will display on the Ring Type menu of the Cisco IP Phone.
- FileName specifies the name of the PCM file for the custom ring to associate with DisplayName.



**Tip**

The DisplayName and FileName fields must not exceed 25 characters.

The following example shows a Ringlist.xml file that defines two phone ring types:

```
<CiscoIPPhoneRinglist>
  <Ring>
    <DisplayName>Analog Synth 1</DisplayName>
    <FileName>Analog1.raw</FileName>
  </Ring>
  <Ring>
    <DisplayName>Analog Synth 2</DisplayName>
    <FileName>Analog2.raw</FileName>
  </Ring>
</CiscoIPPhoneRinglist>
```



**Tip**

You must include the required DisplayName and FileName for each phone ring type. The Ringlist.xml file can include up to 50 ring types.

# PCM File Requirements for Custom Ring Types

The PCM files for the rings must meet the following requirements for proper playback on Cisco IP Phones:

- Raw PCM (no header)
- 8000 samples per second
- 8 bits per sample
- mu-law compression
- Maximum ring size—16080 samples
- Minimum ring size—240 samples
- Number of samples in the ring evenly divisible by 240
- Ring starts and ends at the zero crossing.
- To create PCM files for custom phone rings, you can use any standard audio editing packages that support these file format requirements.

## Configuring a Custom Phone Ring

The following procedure applies to creating custom phone rings for only the Cisco IP Phone models 7940, 7960, and 7970.

### Procedure

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- |               |                                                                                                                                                                                                                                                                      |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | Create a PCM file for each custom ring (one ring per file). Ensure that the PCM files comply with the format guidelines that are listed in the <a href="#">“PCM File Requirements for Custom Ring Types”</a> section on <a href="#">page 14-3</a> .                  |
| <b>Step 2</b> | Use an ASCII editor to edit the Ringlist.xml file. See the <a href="#">“Ringlist.xml File Format Requirements”</a> section on <a href="#">page 14-2</a> for information on how to format this file, along with a sample Ringlist.xml file.                           |
| <b>Step 3</b> | Save your modifications and close the Ringlist.xml file.                                                                                                                                                                                                             |
| <b>Step 4</b> | Upload the Ringlist.xml file by using the web page interface. Refer to the <i>Cisco IP Telephony Platform Administration Guide</i> .                                                                                                                                 |
| <b>Step 5</b> | To cache the new Ringlist.xml file, stop and start the TFTP service by using Cisco CallManager Serviceability or disable and reenable the “Enable Caching of Constant and Bin Files at Startup” TFTP service parameter (located in the Advanced Service Parameters). |
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### Additional Information

See the [“Related Topics”](#) section on [page 14-3](#).

## Related Topics

- [Cisco TFTP](#), *Cisco CallManager System Guide*
- [Service Parameters Configuration](#), *Cisco CallManager Administration Guide*

**Additional Cisco Documentation**

- Cisco IP Phone Administration documentation for Model 7940, 7960, and 7970
- *Cisco IP Telephony Platform Administration Guide*