



Settings for TIMG Firmware Version 5.x

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Introduction

This chapter provide the information for TIMG settings when firmware version 5.x is installed on the TIMG units. You must upgrade your TIMG units to the most recent version that is available at <http://software.cisco.com/download/navigator.html?mdfid=280082558&i=rm>. For instructions on downloading and installing the most recent TIMG firmware, see the chapter for your phone system integration in this guide.

TIMG Settings for a Serial Integration (Firmware Version 5.x)

- Step 1** On a Windows workstation, sign in to a TIMG unit.
- Step 2** On the Configure menu, select **IP**.
- Step 3** On the IP page, enter the following settings for LAN1.

Table 1: IP Page Settings for LAN1

Field	Setting
Client IP Address	Enter the new IP address that you want to use for the TIMG unit. (This is the IP address that you enter in UTIM when you create the integration.)
Client Subnet Mask	Enter the new subnet mask, if the subnet mask is different from the default IP address.
Default Network Gateway Address	Enter the IP address of the default network gateway router that the TIMG units use.
BOOTP Enabled	If you are using DHCP, select Yes . If you are not using DHCP, select No .

Step 4 Select **Apply Changes**.

Step 5 On the Configure menu, select **System**.

Step 6 On the System page, enter the following settings.

Table 2: System Page Settings for the System and Telephony Groups

Field	Setting
Operating Mode	Select SIP .
PCM Coding	Select uLaw .

Step 7 Determine which serial port on the TIMG unit you use to connect the data link serial cable from the phone system, then enter the following settings in the applicable group.

Table 3: System Page Settings for Serial Port Groups

Field	Setting
Serial Port Baud Rate	Select the setting that is configured on the phone system. The default setting is 9600.
Serial Port Parity	Select the setting that is configured on the phone system. The default setting is None.
Serial Port Data Bits	Select the setting that is configured on the phone system. The default setting is 8.
Serial Port Stop Bits	Select the setting that is configured on the phone system. The default setting is 1.

Step 8 Select **Apply Changes**.

Step 9 On the Configure menu, select **Gateway**.

Step 10 On the Gateway page, select the **Gateway Routing** tab.

Step 11 On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 12](#). If Unity Connection has a cluster configured, do the following substeps:

- a) In the Fault Tolerance Enabled field, select **Yes**.
- b) In the Load Balancing Enabled field, select **No**.

Step 12 Under VoIP Endpoint ID, enter the following settings.

Table 4: Gateway Routing Tab Settings

Field	Setting
VoIP Endpoint ID: 1	<i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server. <i>(Unity Connection with a cluster configured)</i> Enter the server name of the subscriber server.

Field	Setting
VoIP Endpoint ID: 2	<p>(Unity Connection without a cluster) Enter the server name of the Unity Connection server.</p> <p>(Unity Connection with a cluster configured) Enter the server name of the publisher server.</p>

Step 13 Select **Apply Changes**.

Step 14 On the Gateway page, select the **Gateway Advanced** tab.

Step 15 On the Gateway Advanced tab, enter the following settings.

Table 5: Gateway Advanced Tab Settings

Field	Settings
Advanced Call Routing	
Call Connect Mode	Select OnAnswer .
Send DNIS to VoIP Endpoint	Select No .
Destination for Unroutable IP Calls	Leave this field blank.
Destination for Unroutable PBX Calls	Leave this field blank.
Monitor Call Connections	Select No .
Telephony	
Minimum Call Party Delay	Enter 500 .
Maximum Call Party Delay	Enter 2000 .
Dial Digit on Time	Enter 100 .
Dial Inter-Digit Time	Enter 100 .
Dial Pause Time	Enter 2000 .
Turn MWI On FAC	Leave this field blank.
Turn MWI Off FAC	Leave this field blank.
Dial Send Key	Select None .
Outbound Call Connect Timeout	Enter 10000 .

Field	Settings
Wait for Ringback/Connect on Blind Transfer	Select Yes .
Hunt Group Extension	Enter the pilot number for the Unity Connection voice messaging ports.
Audio	
Audio Compression	Select the preferred codec for audio compression: <ul style="list-style-type: none"> • G.711 • G.729AB
RTP Digit Relay Mode	Select RFC2833 .
Signaling Digit Relay Mode	Select Off .
Voice Activity Detection	Select On .
Frame Size	Select the applicable setting: <ul style="list-style-type: none"> • G.711—20 • G.729AB—10 <p>Caution Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Frames Per Packet	Select the applicable setting: <ul style="list-style-type: none"> • G.711—1 • G.729AB—2 <p>Caution Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Quality of Service	
Call Control QOS Byte	Enter 104 (equivalent to DSCP AF31).
RTP QOS Byte	Enter 184 (equivalent to DSCP EF).
Traps and Alarms	
E-mail Alarms Enabled	Select No .
SNMP Traps Enabled	Select No .
HTTP Server Enabled	Select Yes .
HTTPs Server Enabled	Select No .

Step 16 Select **Apply Changes**.

Step 17 On the Gateway page, select the **Gateway Capabilities** tab.

Step 18 Enter the following settings for all ports that are used by voice messaging ports on Unity Connection.

Table 6: Gateway Capabilities Tab Settings

Field	Setting
Telephony Port Capability	Select Both .
Telephony Port Enabled	For ports that are used by voice messaging ports on Unity Connection, select Yes . For ports that are not used, select No .

Step 19 Select **Apply Changes**.

Step 20 On the Configure menu, select **T1E1**.

Step 21 On the T1E1 page, select the **T1/E1 Mode** tab.

Step 22 On the T1/E1 Mode tab, enter the following settings.

Table 7: T1/E1 Mode Tab Settings

Field	Setting
Line Mode	Select T1 .
Signaling Mode	Select CAS .
Interface Mode	Select Terminal .

Step 23 Select **Apply Changes**.

Step 24 Select the **T1-CAS Protocol** tab.

Step 25 On the T1-CAS Protocol tab, enter the following settings.

Table 8: T1-CAS Protocol Tab Settings

Field	Setting
T1 CAS Protocol	Enter the setting that matches the phone system programming.
Line Encoding	Enter the setting that matches the phone system programming.
Framing	Enter the setting that matches the phone system programming.
Selects Transmit Pulse Waveform	Enter the setting that matches the phone system programming.
Flash Hook	Enter the setting that matches the phone system programming.
Consult Call Dialtone Drop Code	Enter the setting that matches the phone system programming.

Field	Setting
Consult Call Proceeding Drop Code	Enter the setting that matches the phone system programming.
Consult Call Busy Drop Code	Enter the setting that matches the phone system programming.
Consult Call Error Drop Code	Enter the setting that matches the phone system programming.
Consult Call Connected Drop Code	Enter the setting that matches the phone system programming.
Consult Call Disconnected Drop Code	Enter the setting that matches the phone system programming.
MWI confirmation Tone	Select No .
CPID Type	Select TypeII_CPID .
Initial Wait for Inband CPID	Enter 100 .
Inband CPID Complete Timeout	Enter 300 .

Step 26 Select **Apply Changes**.

Step 27 On the Configure menu, select **Serial Protocol**.

Step 28 On the Serial Protocol page, enter the following settings.

Table 9: Serial Protocol Page Settings

Field	Setting
Serial Mode (Master/Slave)	Select the applicable setting: <ul style="list-style-type: none"> • Master—Select this setting when this TIMG unit is connected to the data link serial cable from the phone system. There can be only one master TIMG unit in a phone system integration. • Slave—Select this setting when this TIMG unit is not connected to the data link serial cable from the phone system. There can be multiple slave TIMG units in a phone system integration.
Serial Interface Protocol	Select the serial protocol that your phone system uses: <ul style="list-style-type: none"> • SMDI • MCI • MD-110
MWI Response Timeout	Enter 2000 .

Field	Setting
IP Address of Serial Server	If the TIMG unit is the master, leave this field blank. If the TIMG unit is a slave, enter the IP address of the master TIMG unit (the TIMG unit that is connected to the data link serial cable from the phone system).
Serial Cpid Expiration	Enter 5000 .
Logical Extension Number	If the TIMG unit is the master, leave this field blank. If the TIMG unit is a slave, enter the IP address of the master TIMG unit (the TIMG unit that is connected to the data link serial cable from the phone system).

Step 29 Select **Apply Changes**.

Step 30 On the Configure menu, select **SIP**.

Step 31 On the SIP page, enter the following settings.

Table 10: SIP Page Settings

Field	Setting
Host and Domain Name	Enter the domain name of the TIMG unit.
Transport Type	Select UDP .
Call as Domain Name	Select No .
SIPS URI Scheme Enabled	Select No .
Invite Expiration	Enter 120 .
DNS Server Address	Enter the IP address of the DNS server.
Registration Server Address	Leave this field blank.
Registration Server Port	Enter 5060 .
Registration Expiration	Enter 3600 .
UDP/TCP Transports Enabled	Select Yes .
TCP/UDP Server Port	Enter 5060 .
Primary Proxy Server Address	Leave this field blank.
Primary Proxy Server Port	Not applicable. Leave the default setting.
Backup Proxy Server Address	Not applicable. Leave the default setting.
Backup Proxy Server Port	Not applicable. Leave the default setting.
Proxy Query Interval	Enter 10 .
T1 Time	Enter 500 .

Field	Setting
T2 Time	Enter 4000 .
T4 Time	Enter 5000 .

Step 32 Select **Apply Changes**.

Step 33 On the Configure menu, select **Tones**.

Step 34 On the Tones page, select the **Learn** tab.

Caution Destination addresses cannot be duplicated in the same session. Otherwise, the process for learning tones do not succeed. If you do not have enough available phones to learn all the tones at one time, you can run multiple sessions to learn tones individually by checking or unchecking the applicable Acquire Tone check boxes.

Step 35 On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.

Step 36 On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.

- From a available phone, call a second phone.
- Answer the second phone when it rings, and leave both handsets off so that both phones are busy.
- From a third phone, dial one of the busy phones.
- Confirm that you hear a busy tone.
- Hang up the third phone but leave the handsets for the other two phones off.

Step 37 On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 36c](#) from the third phone.

Step 38 On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.

- From an available phone, dial an extension that does not exist.
- Confirm that you hear the reorder or error tone.
- Hang up the phone.

Step 39 On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 38a](#).

Step 40 On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.

- From an available phone, dial an extension that does exist.
- Confirm that you hear the ringback tone.
- Hang up the phone.

Step 41 On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 40a](#).

Step 42 Select **Learn**.

Step 43 When the process is complete, check the check box for each newly learned tone and select **Apply**.

Step 44 Hang up the phones that you used in [Step 36](#).

Step 45 If the TIMG unit is connected to a Nortel SL-100 phone system, do the following substeps to learn the stutter dial tone. Otherwise, continue to [Step 46](#).

- On the Tones page, on the Learn tab, for the Dialtone event, confirm that the Acquire Tone check box is checked and enter ! in the Destination Address field.

- b) Uncheck the Acquire Tone check boxes for all other tones.
- c) Select **Learn**.
- d) When the process is complete, check the check box for each newly learned tone and select **Apply**.

- Step 46** On the Configure menu, select **Restart**.
- Step 47** On the Restart page, select **Restart Unit Now**.
- Step 48** When the TIMG unit has restarted, in the View menu, select **Refresh**.
- Step 49** Repeat [Step 1](#) through [Step 48](#) on all remaining TIMG units.

TIMG Settings for an In-Band Integration (Firmware Version 5.x)

- Step 1** On a Windows workstation, sign in to a TIMG unit.
- Step 2** On the Configure menu, select **IP**.
- Step 3** On the IP page, enter the following settings for LAN1.

Table 11: IP Page Settings for LAN1

Field	Setting
Client IP Address	Enter the new IP address that you want to use for the TIMG unit. (This is the IP address that you enter in UTIM when you create the integration.)
Client Subnet Mask	Enter the new subnet mask, if the subnet mask is different from the default IP address.
Default Network Gateway Address	Enter the IP address of the default network gateway router that the TIMG units use.
BOOTP Enabled	If you are using DHCP, select Yes . If you are not using DHCP, select No .

- Step 4** Select **Apply Changes**.
- Step 5** On the Configure menu, select **System**.
- Step 6** On the System page, enter the following settings.

Table 12: System Page Settings for the System and Telephony Groups

Field	Setting
Operating Mode	Select SIP .
PCM Coding	Select uLaw .

Step 7 Select **Apply Changes**.

Step 8 On the Configure menu, select **Gateway**.

Step 9 On the Gateway page, select the **Gateway Routing** tab.

Step 10 On the Gateway Routing tab, Unity Connection without a cluster, skip to [Step 11](#). If Unity Connection has a cluster configured, do the following substeps:

- a) In the Fault Tolerance Enabled field, select **Yes**.
- b) In the Load Balancing Enabled field, select **No**.

Step 11 Under VoIP Endpoint ID, enter the following settings.

Table 13: Gateway Routing Tab Settings

Field	Setting
VoIP Endpoint ID: 1	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the subscriber server.</p>
VoIP Endpoint ID: 2	<p><i>(Unity Connection without a cluster)</i> Enter the server name of the Unity Connection server.</p> <p><i>(Unity Connection with a cluster configured)</i> Enter the server name of the publisher server.</p>

Step 12 Select **Apply Changes**.

Step 13 On the Gateway page, select the **Gateway Advanced** tab.

Step 14 On the Gateway Advanced tab, enter the following settings.

Table 14: Gateway Advanced Tab Settings

Field	Settings
Advanced Call Routing	
Call Connect Mode	Select OnAnswer .
Send DNIS to VoIP Endpoint	Select No .
Destination for Unroutable IP Calls	Leave this field blank.
Destination for Unroutable PBX Calls	Leave this field blank.
Monitor Call Connections	Select No .
Telephony	
Minimum Call Party Delay	Enter 500 .

Field	Settings
Maximum Call Party Delay	Enter 2000 .
Dial Digit on Time	Enter 100 .
Dial Inter-Digit Time	Enter 100 .
Dial Pause Time	Enter 2000 .
Turn MWI On FAC	Enter the code that the phone system uses to turn MWIs on.
Turn MWI Off FAC	Enter the code that the phone system uses to turn MWIs off.
Dial Send Key	Select None .
Outbound Call Connect Timeout	Enter 10000 .
Wait for Ringback/Connect on Blind Transfer	Select Yes .
Hunt Group Extension	Enter the pilot number for the Unity Connection voice messaging ports.
Audio	
Audio Compression	Select the preferred codec for audio compression: <ul style="list-style-type: none"> • G.711 • G.729AB
RTP Digit Relay Mode	Select RFC2833 .
Signaling Digit Relay Mode	Select Off .
Voice Activity Detection	Select On .
Frame Size	Select the applicable setting: <ul style="list-style-type: none"> • G.711—20 • G.729AB—10 <p>Caution Failure to use the correct setting results in recorded messages containing nothing but silence.</p>

Field	Settings
Frames Per Packet	Select the applicable setting: <ul style="list-style-type: none"> • G.711—1 • G.729AB—2 <p>Caution Failure to use the correct setting results in recorded messages containing nothing but silence.</p>
Quality of Service	
Call Control QOS Byte	Enter 104 (equivalent to DSCP AF31).
RTP QOS Byte	Enter 184 (equivalent to DSCP EF).
Traps and Alarms	
E-mail Alarms Enabled	Select No .
SNMP Traps Enabled	Select No .
HTTP Server Enabled	Select Yes .
HTTPs Server Enabled	Select No .

Step 15 Select **Apply Changes**.

Step 16 On the Gateway page, select the **Gateway Capabilities** tab.

Step 17 Enter the following settings for all ports that are used by voice messaging ports on Unity Connection.

Table 15: Gateway Capabilities Tab Settings

Field	Setting
Telephony Port Capability	Select Both .
Telephony Port Enabled	For ports that are used by voice messaging ports on Unity Connection, select Yes . For ports that are not used, select No .

Step 18 Select **Apply Changes**.

Step 19 On the Configure menu, select **T1E1**.

Step 20 On the T1E1 page, select the **T1/E1 Mode** tab.

Step 21 On the T1/E1 Mode tab, enter the following settings.

Table 16: T1/E1 Mode Tab Settings

Field	Setting
Line Mode	Select T1 .
Signaling Mode	Select CAS .

Field	Setting
Interface Mode	Select Terminal .

Step 22 Select **Apply Changes**.

Step 23 Select the **T1-CAS Protocol** tab.

Step 24 On the T1-CAS Protocol tab, enter the following settings.

Table 17: T1-CAS Protocol Tab Settings

Field	Setting
T1 CAS Protocol	Select Loop_Start .
Line Encoding	Select B8ZS .
Framing	Select EFS .
Selects Transmit Pulse Waveform	Select Short_Haul_110ft .
Flash Hook	Enter 550 .
Consult Call Dialtone Drop Code	Enter !! .
Consult Call Proceeding Drop Code	Enter !! .
Consult Call Busy Drop Code	Enter ! .
Consult Call Error Drop Code	Enter !! .
Consult Call Connected Drop Code	Enter ,,,, .
Consult Call Disconnected Drop Code	Enter ! .
MWI confirmation Tone	Select No .
CPID Type	Select TypeII_CPID .
Initial Wait for Inband CPID	Enter 5000 .
Inband CPID Complete Timeout	Enter 500 .

Step 25 Select **Apply Changes**.

Step 26 On the Configure menu, select **SIP**.

Step 27 On the SIP page, enter the following settings.

Table 18: SIP Page Settings

Field	Setting
Host and Domain Name	Enter the domain name of the TIMG unit.
Transport Type	Select UDP .
Call as Domain Name	Select No .
SIPS URI Scheme Enabled	Select No .
Invite Expiration	Enter 120 .
DNS Server Address	Enter the IP address of the DNS server.
Registration Server Address	Leave this field blank.
Registration Server Port	Enter 5060 .
Registration Expiration	Enter 3600 .
UDP/TCP Transports Enabled	Select Yes .
TCP/UDP Server Port	Enter 5060 .
Primary Proxy Server Address	Leave this field blank.
Primary Proxy Server Port	Not applicable. Leave the default setting.
Backup Proxy Server Address	Not applicable. Leave the default setting.
Backup Proxy Server Port	Not applicable. Leave the default setting.
Proxy Query Interval	Enter 10 .
T1 Time	Enter 500 .
T2 Time	Enter 4000 .
T4 Time	Enter 5000 .

Step 28 Select **Apply Changes**.

Step 29 On the Configure menu, select **Tones**.

Step 30 On the Tones page, select the **Learn** tab.

Caution Destination addresses cannot be duplicated in the same session. Otherwise, the process for learning tones do not succeed. If you do not have enough available phones to learn all the tones at one time, you can run multiple sessions to learn tones individually by checking or unchecking the applicable Acquire Tone check boxes.

- Step 31** On the Tones page, for the Dialtone event, confirm that the Acquire Tone check box is checked and leave the Destination Address field blank.
- Step 32** On the Tones page, for the Busy Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From a available phone, call a second phone.
 - Answer the second phone when it rings, and leave both handsets off so that both phones are busy.
 - From a third phone, dial one of the busy phones.
 - Confirm that you hear a busy tone.
 - Hang up the third phone but leave the handsets for the other two phones off.
- Step 33** On the Tones page, in the Destination Address field for Busy Tone, enter the extension that you dialed in [Step 32c](#) from the third phone.
- Step 34** On the Tones page, for the Error/Reorder Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, dial an extension that does not exist.
 - Confirm that you hear the reorder or error tone.
 - Hang up the phone.
- Step 35** On the Tones page, in the Destination Address field for Error/Reorder Tone, enter the extension that you dialed in [Step 34a](#).
- Step 36** On the Tones page, for the Ringback Tone event, confirm that the Acquire Tone check box is checked and do the following substeps to verify that the tone is correct.
- From an available phone, dial an extension that does exist.
 - Confirm that you hear the ringback tone.
 - Hang up the phone.
- Step 37** On the Tones page, in the Destination Address field for Ringback Tone, enter the extension that you dialed in [Step 36a](#).
- Step 38** Select **Learn**.
- Step 39** When the process is complete, check the check box for each newly learned tone and select **Apply**.
- Step 40** Hang up the phones that you used in [Step 32](#).
- Step 41** On the Configure menu, select **Import/Export**.
- Step 42** On the Import/Export page, under Export Settings, select **Export Settings**.
- Step 43** In the File Download dialog box, select **Save**.
- Step 44** In the Save As dialog box, browse to the Windows workstation that has access to the TIMG units, browse to a directory where you want to save the file, and select **Save**.
- Step 45** In the Download Complete dialog box, select **Open**. Notepad opens the file Config.ini that you saved.
- Step 46** Locate the line with the following parameter:

```
telautoanswer
```

- Step 47** Confirm that the value of the parameter is **no** so that the line reads as follows:

```
telautoanswer = no
```

- Step 48** Locate the line with the following parameter:

```
telFacCDropProc
```

Step 49 Confirm that the value of the parameter is **!!** so that the line reads as follows:

```
telFacCDropProc = !!
```

Caution The telFacCDropProc parameter must be set to **!!**. If the telFacCDropProc parameter is set to 1, supervised transfers fail, and the caller hear the called party standard greeting two times.

Step 50 Save the file, and exit Notepad.

Step 51 On the Configure menu of the TIMG unit, select **Import/Export**.

Step 52 On the Import/Export page, under Import Settings, select **Browse**.

Step 53 In the Choose File dialog box, browse to the file Config.ini that you saved.

Step 54 Select **Config.ini**, and select **Open**.

Step 55 On the Import/Export page, select **Import Settings**.

Step 56 When prompted to restart the TIMG unit, select **OK**.

Step 57 When the TIMG unit has restarted, in the View menu, select **Refresh**.

Step 58 Repeat [Step 1](#) through [Step 57](#) on all remaining TIMG units.
