

FIBERME Communications LLC.

FCM630A Series IP PBX - Fax Server Guide

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INTRODUCTION

Fax Server is one of the most useful and important FCM630A features that allows the user to send and receive Fax files. The FCM630A IP-PBX series support T.30 for legacy analog Fax transmissions along with T.38 and Pass-through for Fax Over IP. The FCM630A series provide a lot of options and methods to perform sending/receiving Fax files depending on user's resources and the way he/she wants to proceed.



FCM Fax Server supports T.38 which is a protocol that dictates how to send a fax over a computer data network and requires a T.38-capable VoIP service or gateway (please check with your service provider for this protocol support), otherwise the transmission of Fax will proceed via pass through using RTP for sending facsimile signals.

This guide describes the steps to follow in order to perform sending and receiving fax files when the user wants to use a virtual fax machine and benefit from the value-added features of the FCM630A related to fax.



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FCM630A FAX VALUE ADDED FEATURES

The FCM IP-PBX series have many valueadded features related to fax and which can help users who don't have PSTN lines and FAX machine to send and receive fax files in PDF format.

Among these features we have the fax sending from web GUI, fax to email, email to fax and fax detection.



WEB GUI FAX SENDING

In order to use the FAX sending feature of the FCM, users need to follow below steps:

- 1. Under Web GUI→Extension/Trunk→Outbound Routes page, click on + Add in order to create an outbound route to use the fax trunk to send files.
- 2. Select the trunk already created.
- 3. Access to FCM web GUI either using admin account or user portal (more on user portal here).
- 4. Go to FCM630A Web GUI → Value-added Features → Fax Sending.
- 5. Enter the fax number and upload the file to be faxed.

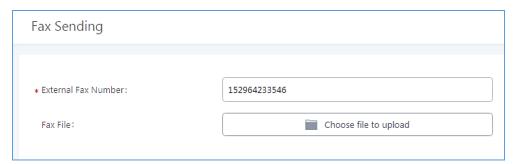


Figure 1: Fax Sending Settings

Note: The File needs to be a PDF or TIF/TIFF File.



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Figure 2: Format Error Message

Once the right file is selected, the Fax File will be successfully placed in the send queue and the user can view the File Send progress that shows the status and progress percentage of files with also the possibility to resend the failed ones using the resend button.



Figure 3: File Send Progress

FAX RESENDING

The FCM630A supports the options "Enable Fax Resend" and "Max Resend Attempts" which are available under **Call Features** Fax/T.38 Fax Settings page. These options allow the FCM to keep attempting to send faxes up to a specified amount of times.

Additionally, if a fax still fails to send, a Resend button will appear in the **File Send Progress** list in **Value-Added Features > Fax Sending** to allow manual resending.

To enable the FAX resend feature, please refer to following steps:

- 1. Under FCM630A Web UI → Call Features → Fax/T.38, check the option "Enable FAX Resend".
- 2. Configure the "MAX Resend Attempts" with the maximum attempts number to resend the FAX.
- 3. Click on "Save" and "Apply Changes".



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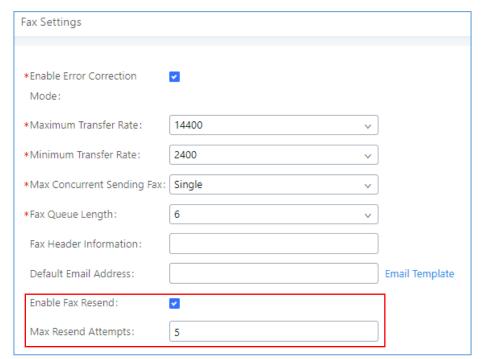


Figure 4: FAX Settings

Note: When the fax fails to send, a Resend button will appear in the File Send Progress list in Value-Added Features → Fax Sending to allow manual resending as displayed on the following screenshot.



Figure 5: FAX File Send Progress List

USING FAX-TO-MAIL

FCM EMAIL Settings

First step in setting up fax-to-mail feature is to configure FCM Email settings; this can be done by following below steps:



- Log into the web GUI as an admin under System Settings→Email Settings→Email Settings
- 2. Enter the required information for SMTP.
- 3. Click on "Save" then "Apply Changes".
- 4. Click on "Test" Button and test if the email settings are correct and that a test mail has been received.

Please refer to the following table and screenshot to have more information about the email settings configuration.



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Table 1: Email Settings

TLS Enable	Enable or disable TLS during transferring/submitting your Email to another SMTP server. The default setting is "Yes".
Туре	 MTA: Mail Transfer Agent. The Email will be sent from the configured domain. When MTA is selected, there is no need to set up SMTP server for it or no user login is required. However, the Emails sent from MTA might be considered as spam by the target SMTP server. Client: Submit Emails to the SMTP server. A SMTP server is required, and users need login with correct credentials.
Email Template Sending Format	Select the email template format to be sent. The "HTML" format is compatible with most mail clients and is recommended. If the mail client does not support the "HTML" format, please select the "Plain Text" format.
Domain	Specify the domain name to be used in the Email when using type "MTA"
SMTP Server	Specify the SMTP server when using type "Client". For example, smtp.mydomain.com:25. Note : Port number is optional.
Enable SASL Authentication	Enable SASL Authentication. When disabled, FCM will not try to use the user name and password for mail client login authentication. Most of the mail server requires login authentication while some others private mail servers allow anonymous login which requires disabling this option to send Email as normal. For Exchange Server, please disable this option.
Username	Enter the username of the Email account.
Password	Enter the password of the Email account. It is recommended to save the password via HTTPS.
Enable Email-To-Fax	Enable or Disable Email-to-Fax feature. If enabled, the FCM will monitor the configured email inbox (using provided [Error! Reference source not found.] and [Error! Reference source not found.]) for emails with the subject "SendFaxMail To XXX". Example: SendFaxMail To 7200 The FCM will extract the attachments of detected emails and send it to the XXX extension by fax. The attachment must be in PDF/TIF/TIFF format. Note: This field will appear when using Type "Client".
Email-To-Fax Blacklist/Whitelist	Enables the Email to fax Blacklist/Whitelist functionality.



Email-to-Fax Specify the Email subject format for fax sending, the subject can be either **Subject Format** "SendFaxMail To XXX" or "XXX" with XXX the fax number. **Fax Sending** If enabled, the FCM will send an email notification to the sender about the fax Success/Failure sending result. Confirmation Specify the Email address blacklist/whitelist for local extensions. This Internal feature prevents faxing from unauthorized email addresses. The Blacklist/Whitelist internal list includes only contacts with local extensions. Specify the Email address blacklist/whitelist for non-local contacts. This feature prevents faxing from unauthorized email addresses. The External external list is for non-local contacts. Blacklist/Whitelist **Note:** Multiple addresses can be separated with semicolon (;) i.e. "XXX;YYY " POP/POP3 Server Configure the POP/POP3 server address for the configured username **Address** Example: pop.gmail.com Configure the POP/POP3 server port for the configured username **POP/POP3 Server Port** Example: 995 **Display Name** Display Name in FROM header. Sender Configure the sender as your Email address.



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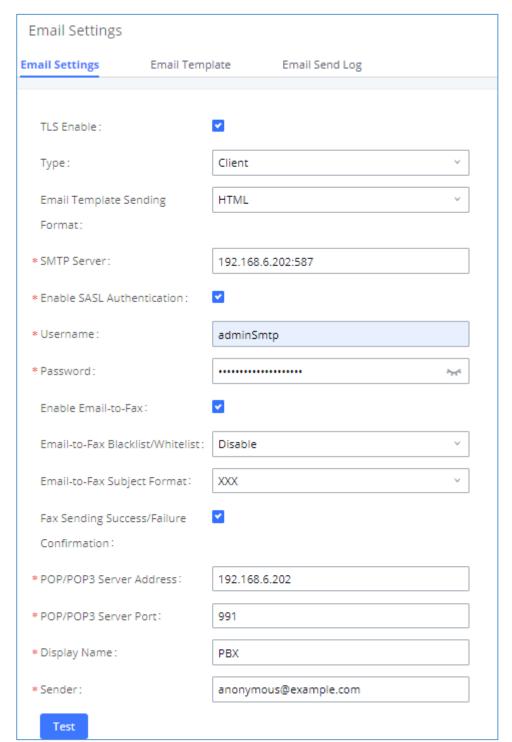


Figure 6: Email Settings

This way we confirmed that FCM can send emails via Its built-in SMTP client, specified The Email address blacklist for local/external contacts preventing faxing from unauthorized email addresses. Moreover, users can customize the emails that will be sent along with the FAX, this can be done under Email template page as shown below.



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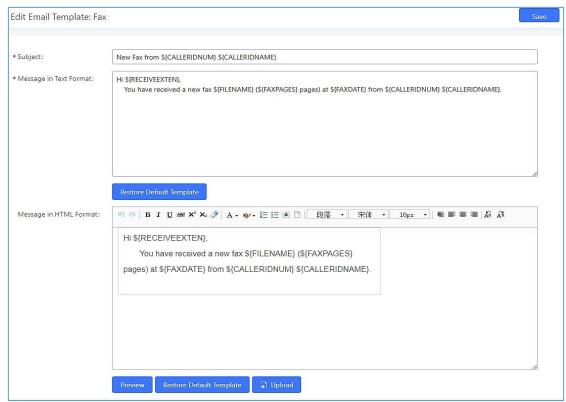


Figure 7: Email Template for FAX



Create/Edit Virtual FAX Extensions

The second step is to create a new Fax extension which will be mapped with a certain email address. Please, follow below steps:

- 1. Go to FCM630A Web GUI → Call features → FAX/T.38
- 2. Click on + Add and enter the number and name of the extension.
- 3. Enter the Email Address where to send the received Faxes.



Figure 8: Create New Fax Extension

Once the user created the extension, it will be displayed in the FAX/T.38 menu with the possibility of editing the extension's information by clicking on button or deleting them with button.

User can click on "Fax settings" in order to configure the Fax/T.38 parameters as the following figure.

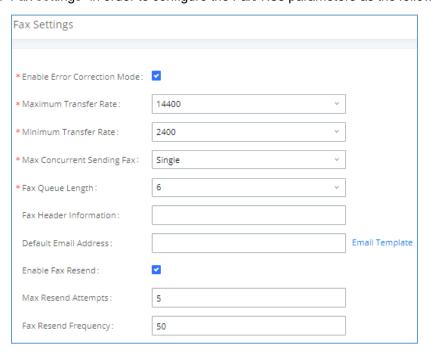


Figure 9: Fax Settings



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Table 2: FAX/T.38 Parameters

	Table 2: FAX/1.38 Parameters
Enable Error Correction Mode	Configure to enable Error Correction Mode (ECM) for the Fax. The default setting is "Yes".
Maximum Transfer Rate	Configure the maximum transfer rate during the Fax rate negotiation. The possible values are 2400, 4800, 7200, 9600, 12000 and 14400. The default setting is 14400.
Minimum Transfer Rate	Configure the minimum transfer rate during the Fax rate negotiation. The possible values are 2400, 4800, 7200, 9600, 12000 and 14000. The default setting is 2400.
	Configure the concurrent fax that can be sent by FCM630A. Two mode "Single" and "More" are supported. By default, this option is set to "Single".
Max Concurrent Sending Fax	• Single: Under this mode, the FCM630A allows only single user to send faxat a time.
	 More: Under this mode, the FCM630A supports multiple concurrent faxsending by the users.
Fax Queue Length	Configure the maximum length of Fax Queue from 6 to 10. Default setting is 6.
Fax Header Information	Adds fax header into the fax file.
	Configure the Email address to send the received Fax to if user's Email address cannot be found.
Default Email Address	Note: The extension's Email address or the Fax's default Email address needs to be configured in order to receive Fax from Email. If neither of them is configured, Fax will not be received from Email.
Template Variables	Fill in the "Subject:" and "Message:" content, to be used in the Email when sending the Fax to the users. The template variables are: • \${CALLERIDNUM} : Caller ID Number • \${CALLERIDNAME} : Caller ID Name • \${RECEIVEEXTEN} : The extension to receive the Fax • \${FILENAME} : The name of the generated Fax file • \${FAXPAGES} : How many pages in the Fax • \${FAXDATE} : The date and time of when the Fax was received Note: The templates variables are available once you press on "EMAIL Template". For more details please refer to: Customizing FAX EMAIL Template



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Enable Fax Resend	Enables the fax resend option which allow the FCM to keep attempting to send
	faxes up to a specified amount of times. Additionally, if a fax still fails to send,
	a Resend button will appear in the File Send Progress list in Value-Added
	Features→ Fax Sending to allow manual resending.
Max Resend Attempts	Configures the maximum number of attempts to resend the FAX.
Fax Resend Frequency	Configures Fax Resend Frequency.

Receiving FAX Files using Virtual Faxing

Now, that email settings and virtual fax extension have been set up and in order to receive Fax files using virtual faxing, please refer to the following steps:

- Under FCM630A Web UI → Call Features → Fax/T.38, create a new Fax extension. Please refer to the chapter [Create/Edit Virtual FAX Extensions].
- 2. Create a Trunk.
- 3. Under Web GUI→Extension/Trunk→Inbound Routes page, click on + Add in order to createan inbound route to use the Fax trunk to receive fax files.
- 4. Select the trunk you created.
- 5. Select the created FAX extension as the default destination.



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Create New Inbound Rule

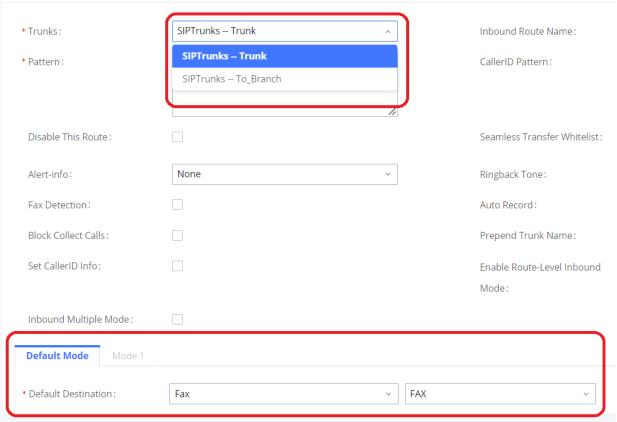


Figure 10: Inbound Route with Fax Extension as Default Destination

6. Click on "Save" and "Apply Changes".

Once successfully configured, the incoming Fax from external Fax machine to the PSTN line number will be converted to PDF file and sent to the Email address fax@domain.local set when Fax Extension was created. The list of received Fax files is displayed under FCM630A Web UI \rightarrow Call Features \rightarrow Fax/T.38.

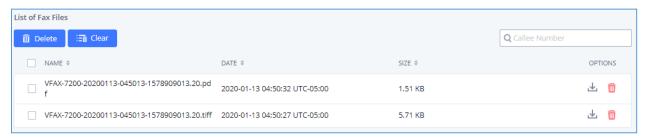


Figure 11: List of Fax Files

Customizing FAX EMAIL Template

The EMAIL templates on the FCM can be used to send an email notification about the fax and the users can customize this template based on their needs.

Please refer to the following steps to have more details about the customization of the FAX EMAIL template:



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- 1. Access the Web GUI→Settings→Email Settings→Email Templates
- 2. Select the FAX template and press the edit button under the options column to edit the templateas desired.

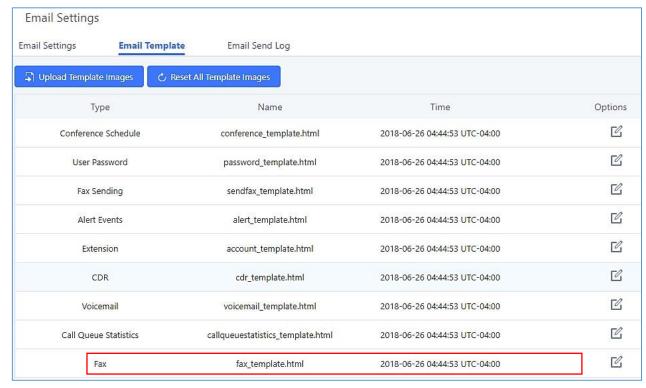


Figure 12: FAX EMAIL Template

- 3. Configure the fields of the template
- Users have the ability to preview mail sample by clicking on
- Click on

 Click on

 Restore Default Template
 in order to restore the default email template.
- Finally, users can click on to upload a custom picture to the email template to displaytheir own logo in the sent mails for example

USING MAIL-TO-FAX

FCM Email Settings

First step in setting up fax-to-mail feature is to configure FCM Email settings; this can be done by following below steps:

1. Log into the web GUI as an admin under **System Settings**→**Email Settings**→Email Settings.



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- 2. Select the Type Client and enter the required information for SMTP.
- 4. Click on "Save" then "Apply Changes".
- 5. Click on "Test" Button and test if the email settings are correct and that a test mail has been received.

Please refer to the following table and screenshot to have more information about the email settings configuration.

Table 3: Email Settings

TLS Enable	Enable or disable TLS during transferring/submitting your Email to another SMTPserver. The default setting is "Yes".
Туре	 MTA: Mail Transfer Agent. The Email will be sent from the configured domain. When MTA is selected, there is no need to set up SMTP server for it or no user login is required. However, the Emails sent from MTA might be considered as spam by the target SMTP server. Client: Submit Emails to the SMTP server. A SMTP server is required, and users need login with correct credentials.
Email Template SendingFormat	Select the email template format to be sent. The "HTML" format is compatible withmost mail clients and is recommended. If the mail client does not support the "HTML" format, please select the "Plain Text" format.
SMTP Server	Specify the SMTP server when using type "Client". For example, smtp.mydomain.com:25. Note : Port number is optional.
Enable SASL Authentication	Enable SASL Authentication. When disabled, FCM will not try to use the user name and password for mail client login authentication. Most of the mail server requires login authentication while some others private mailservers allow anonymous login which requires disabling this option to send Email as normal. For Exchange Server, please disable this option.
Username	Enter the username of the Email account.
Password	Enter the password of the Email account. It is recommended to save the password via HTTPS.



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Enable or Disable Email-to-Fax feature. If enabled, the FCM will monitor the configured email inbox (using provided [Error!Reference source not found.] and [Error! Reference source not found.]) for emails with the subject "SendFaxMail To XXX". Example : **Enable Email-to-Fax** SendFaxMail To 7200 The FCM will extract the attachments of detected emails and send it to the XXX extension by fax. The attachment must be in PDF/TIF/TIFF format. Note: This field will appear when using Type "Client". **Email-to-Fax** Used to add whitelisted or blacklisted emails that can use Email to Fax Blacklist/Whitelist features, default is "Disable" **Email-to-Fax Subject** Users can either choose the subject to be "SendFaxMail To XXX" or "XXX" **Format** when sending the email where XXX is the fax number. **Fax Sending** If enabled, the FCM will send an email notification to the sender about the fax Success/Failur sending result. **eConfirmation** POP/POP3 Server Configure the POP/POP3 Server Address. **Address POP/POP3 Server Port** Configure the POP/POP3 Server Port **Display Name** Display Name in FROM header. Sender Configure the sender as your Email address.



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Email Settings

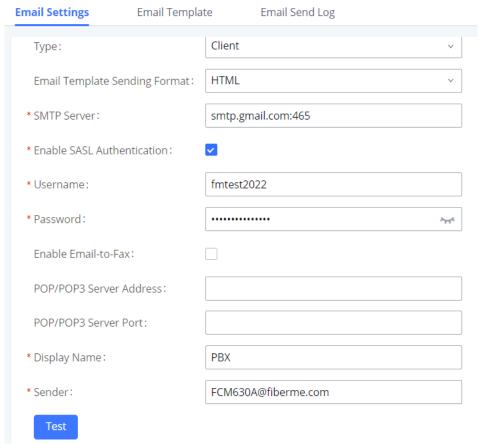


Figure 13: Email Settings



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Create/Edit Virtual FAX Extensions

The second step is to create a new Fax extension which will be mapped with a certain email address. Please, follow the next steps below:

- 1. Go to FCM630A Web GUI → Call features → FAX/T.38.
- 2. Click on + Add and enter the number and name of the extension.
- 3. Enter the Email Address where to send the received Faxes.



Figure 14: Create new Fax extension

Once the user created the extension, it will be displayed in the FAX/T.38 menu with the possibility of editingthe extension's information by clicking on button or deleting them with button.

User can click on "Fax settings" in order to configure the Fax/T.38 parameters as the following figure.

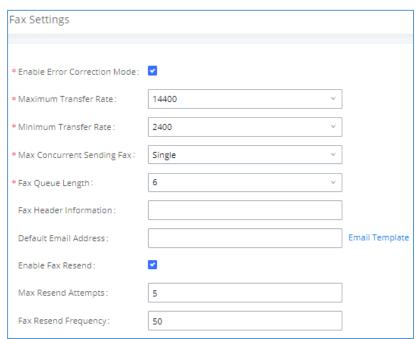


Figure 15: Fax Settings



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Table 4: FAX/T.38 Parameters

Table 4: FAX/T.38 Parameters	
Configure to enable Error Correction Mode (ECM) for the Fax. The default setting is "Yes".	
Configure the maximum transfer rate during the Fax rate negotiation. The possible values are 2400, 4800, 7200, 9600, 12000 and 14400. The default setting is 14400.	
Configure the minimum transfer rate during the Fax rate negotiation. The possible values are 2400, 4800, 7200, 9600, 12000 and 14000. The default setting is 2400.	
Configure the concurrent fax that can be sent by FCM630A. Two mode "Single" and "More" are supported. By default, this option is set to "Single".	
 Single: Under this mode, the FCM630A allows only single user to send faxat a time. More: Under this mode, the FCM630A supports multiple concurrent 	
faxsending by the users. Configure the maximum length of Fax Queue from 6 to 10. Default setting is 6.	
Adds fax header into the fax file. Configure the Email address to send the received Fax to if user's Email address cannot be found.	
Note: The extension's Email address or the Fax's default Email address needs to be configured in order to receive Fax from Email. If neither of them is configured, Fax will not be received from Email.	
Fill in the "Subject:" and "Message:" content, to be used in the Email when sending the Fax to the users. The template variables are: • \${CALLERIDNUM} : Caller ID Number • \${CALLERIDNAME} : Caller ID Name • \${RECEIVEEXTEN} : The extension to receive the Fax • \${FILENAME} : The name of the generated Fax file • \${FAXPAGES} : How many pages in the Fax • \${FAXDATE} : The date and time of when the Fax was received Note: The templates variables are available once you press on "EMAIL"	



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Template". For more details please refer to: Customizing FAX EMAIL Template

Enable Fax Resend	Enables the fax resend option which allow the FCM to keep attempting to send
	faxes up to a specified amount of times. Additionally, if a fax still fails to send,
	a Resend button will appear in the File Send Progress list in Value-
	Added
	Features→Fax Sending to allow manual resending.
Max Resend Attempts	Configures the maximum attempts number to resend the FAX.
Fax Resend Frequency	Configures the maximum Fax Resend Frequency.

Sending MAIL to FAX

After enabling and configuring the MAIL to FAX option, the FCM monitors the configured email inbox for emails with the subject "SendFaxMail To XXX" and it will extract the attachments of detected emails and send it to the configured extension by fax. The attachment must be in PDF/TIF/TIFF format.

Please refer to the following steps:

- 1. Access your EMAIL box and compose a new email.
- 2. Fill the email address configured on the FCM as destination.
- 3. Specify the subject with "SendFaxMail To 7200", on this example 7200 is the FAX extension that we have already configured on the FCM.
- 4. Insert the attachment to be sent (The attachment must be in PDF/TIF/TIFF format).



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Figure 16: Example of EMAIL to FAX

Now the FCM will extract the attachments of detected emails and send it to the configured extension by fax, users can also check the list of the fax files received under the web GUI \rightarrow Call Features \rightarrow Fax/T.38 as shown on the following screenshot.

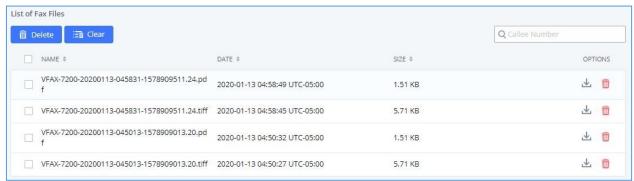


Figure 17: List of Fax Files

FAX DETECTION AND INTELLIGENT ROUTING

Users can configure the Fax detection and intelligent routing under FCM630A Web GUI → Extension/Trunk → Inbound routes. Enabling the option "Fax Detection" will enable detecting the Fax Signal during a call, and the received Fax file will be sent to the configured Fax destination.



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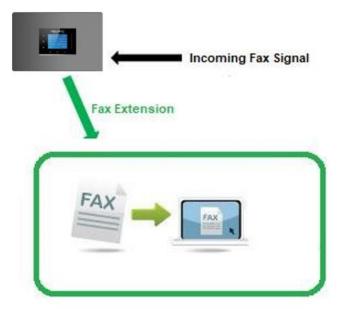


Figure 18: Fax Intelligent Routing after a Fax Signaling Detection

The user can also Enable Fax intelligent Routing in order to route directly the Fax signal to the Virtual Faxing Extension. The user needs to choose this extension number from the available extensions in "Fax Destination".



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