

NETWORK RX STATION APPLICATION
PWA-RX1 Ver. 1.1 or later

This Help Guide describes systems for live streaming on the Internet using PWA-RX1.
It describes the required steps for connecting to a camcorder in the field, registering and configuring PWA-RX1 instances, and starting streaming.

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Software Features

PWA-RX1 is software for live streaming over a network. PWA-RX1 receives streaming video transmitted from a shooting location using a camcorder which has a network function, and outputs SDI signals for live streaming.

You can also transfer video files (clips) stored on media in the camcorder to an external FTP server using control from PWA-RX1.

PWA-RX1 is comprised by a Streaming Receiver that receives the streaming video, and a Connection Control Manager that manages the connections between the camcorder and this software. The Connection Control Manager has a web GUI that can be displayed using a web browser on a client PC, and can be used to manage multiple connections simultaneously.

Related Topic

- [System Configuration Examples](#)
- [Supported Formats](#)

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System Configuration Examples

This topic shows live streaming system configuration examples using PWA-RX1.

Remarks

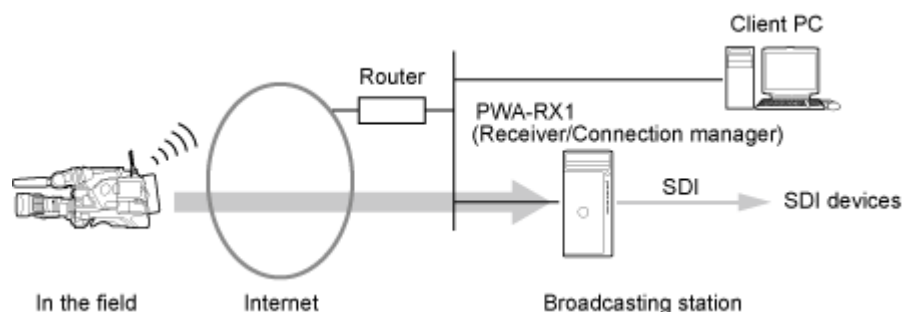
- The network services, content, operating systems, and software implemented in or made available through this product are subject to their own terms of use. The product may be changed, interrupted, or discontinued at any time without notice.
- When connecting a PC running this software to a network, connect via a router or connect to a LAN port with a router function. If you connect it without a router function, a security issue may occur.

Note

- Once a security issue occurs, your product may suffer damage caused by malware (malicious software) via the Internet and be exposed to security threats, such as extraction or tampering of content or customer's information. Not only that, your product may cause damage to the network services without your knowledge.
- Always use this software with the Microsoft Windows Firewall function enabled.

Configuration using a single PWA-RX1 instance

This shows a small-scale system using a single PWA-RX1 instance. The PWA-RX1 instance acts as both streaming receiver and connection manager.



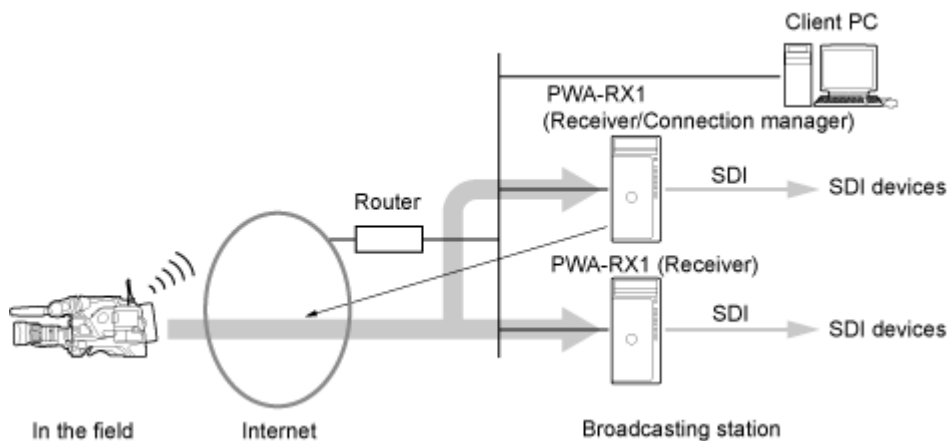
Note

- To stream from a camcorder, a camcorder with network functions is required. For details about supported camcorders, consult your Sony representative.

Configuration using multiple PWA-RX1 instances

Additional PWA-RX1 instances acting as streaming receivers can be used. The following configuration shows an example with one PWA-RX1 instance acting as both streaming receiver and connection manager, and another PWA-RX1 instance acting as a streaming receiver.

When using a multiple configuration, control the instances from a web browser on a client PC, and not the PCs on which PWA-RX1 is installed.

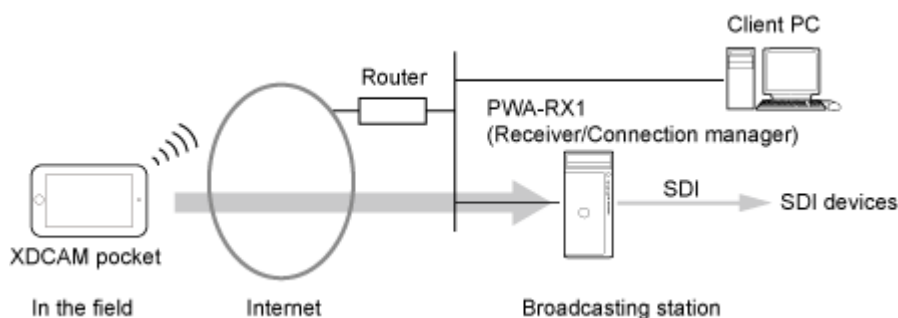


Note

- Systems with mixed PWA-RX1 instances with PWS-110RX1A units are not supported.
- A PWA-RX1 instance can connect its own receiver and another PWA-RX1 receiver to a single Connection Control Manager. Up to two receivers can be connected.

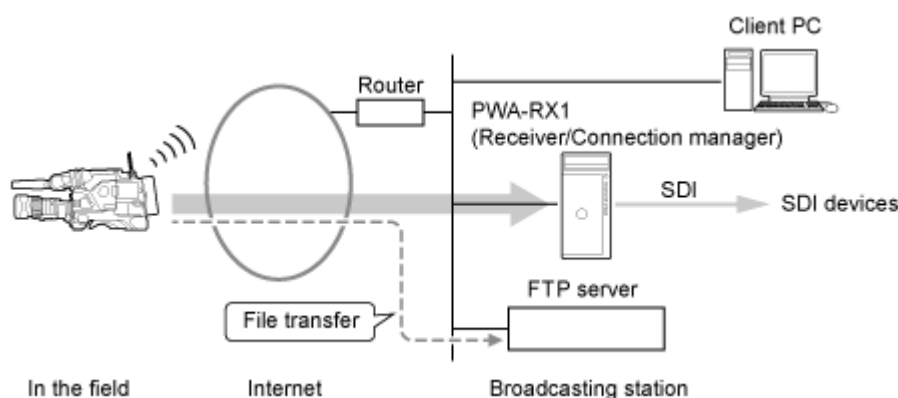
When using XDCAM pocket

You can receive a stream from XDCAM pocket.



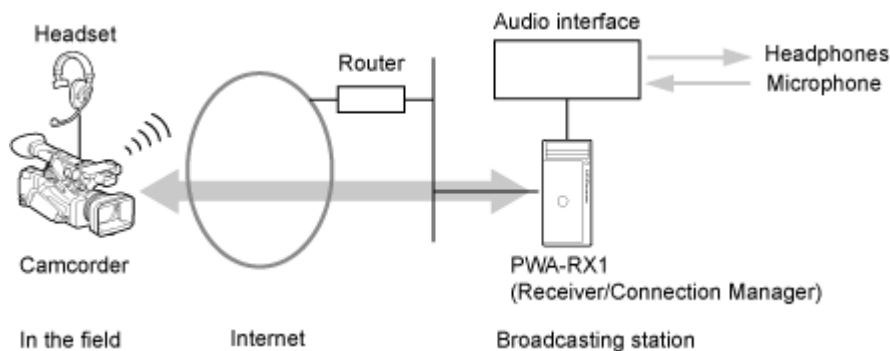
When transferring files from camcorder to FTP server

You can transfer video files (clips) stored on an SD card in the camcorder to an FTP server. Configure the FTP server on the same network as the PCs on which PWA-RX1 is installed, as shown below.



When using an intercom

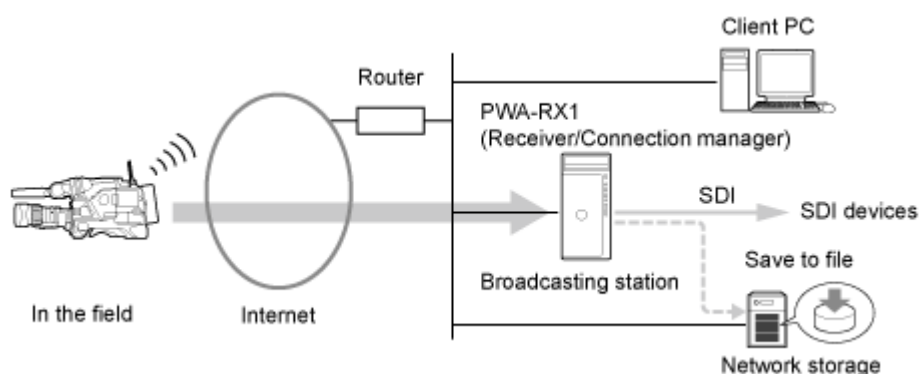
You can make calls between the broadcast station and instances in the field using camcorders with an intercom function. The audio interface is sold separately. For details about supported devices, refer to the “Software Installation Guide.”



Saving video images during streaming to a file

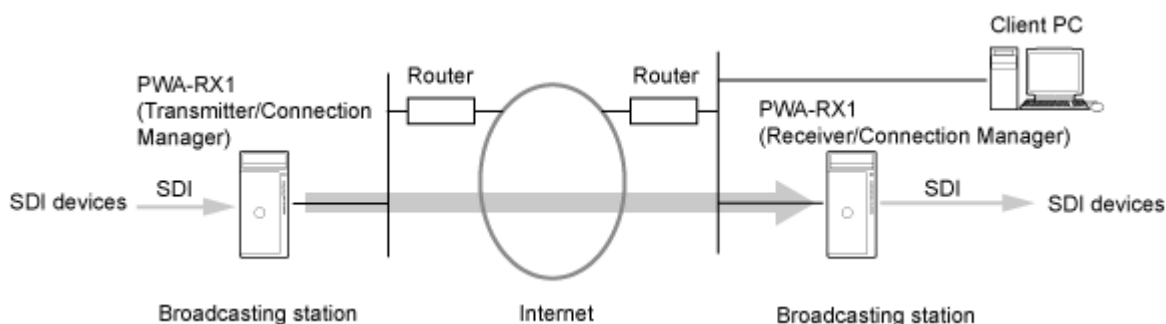
Network storage connected to the same network as PCs on which PWA-RX1 is installed can be used to store video images during streaming.

When storing video images during streaming, control the instances from a web browser on a client PC, and not the PCs on which PWA-RX1 is installed.



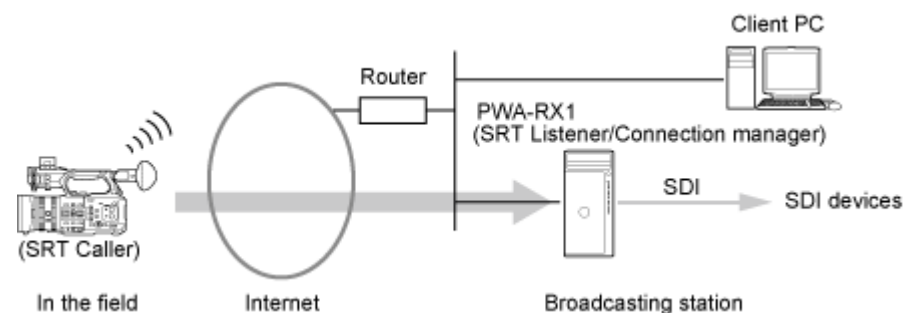
Point-to-point streaming

You can stream the SDI input of a PC on which PWA-RX1 is installed to another PWA-RX1 instance.



Streaming using SRT

Streaming using an SRT-compatible camcorder acting as the SRT Caller and a PWA-RX1 instance acting as the SRT Listener.



Related Topic

- [Software Features](#)

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Setup and Operation Flow

Perform setup and operation in the following sequence to use this software. If using C3 Portal, the software and transmitting devices must be registered in C3 Portal beforehand. For details about registering, refer to the “[Configuring Connection with C3 Portal](#)” topic and C3 Portal Help Guide.

1 Setup

1. [Configuring Network Settings](#)

Configure the required network settings to connect the PCs on which PWA-RX1 is installed within a broadcasting station with the camcorders in the field or other devices, such as XDCAM pocket.

2. [Configuring an SSL/TLS Certificate](#)

Configure the SSL/TLS certificates issued by a certificate authority (CA) on the PCs on which PWA-RX1 is installed.

3. [Configuring Connection Control Manager Preferences](#)

Configure the preferences on one PWA-RX1 instance within the system to function as the Connection Control Manager.

4. [Adding a Base License](#)

Enable the PWA-RX1 base license.

5. [Registering Receivers](#)

Register all PWA-RX1 instances that will operate as streaming receivers in the Connection Control Manager using the Initialization Tool.

6. [Configuring Connection Control Manager Receiver and Output Settings](#)

Launch the Connection Control Manager admin screen, and configure the streaming output settings.

7. [Adding Device Licenses](#)

Enable device licenses corresponding to the number of transmitting devices to connect.

2 Operation in the field

● [Setting the Camcorder to Network Client Mode](#)

When shooting using a network-enabled camcorder, set the camcorder to network client mode.

● [Configuring XDCAM pocket](#)

When using XDCAM pocket, launch XDCAM pocket on a smartphone.

3 Operation at the broadcasting station

1. [Launching the Connection Control Manager Admin Screen](#)

Log in to the Connection Control Manager from a web browser on a client PC that is connected to the same network as the PC on which PWA-RX1 is installed that is running the Connection Control Manager.

2. [Starting Streaming](#)

Start streaming distribution of video received from the camcorder in the field using the Connection Control Manager.

Configuring an SSL/TLS Certificate

An SSL/TLS certificate issued by a certificate authority (CA) is required to use PWA-RX1. Specify the SSL/TLS certificate obtained from a certificate authority on the Connection Control Manager PC using the following procedure.

- 1 Place the **Private Key, Certificate File, and Cert Chain (intermediate CA certificates) PEM files** for the SSL/TLS certificate in any location on a PC on which PWA-RX1 is installed.
- 2 Select **[CCM Initialization Tool]** from the Start menu.
- 3 Click the **[Open]** button and select the path where the **Private Key, Certificate File, and Cert Chain (intermediate CA certificates)** files were placed.
- 4 Click the **[Set]** button.
- 5 Reboot the PC.

Note

- A certificate must also be configured on the camcorders that will connect with Connection Control Manager. For details, refer to the operating instructions and System Integration Guide for the camcorder.

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Launching the Connection Control Manager Admin Screen

Use the following procedure on a client PC connected to the same network as the PWA-RX1 PC to connect to the Connection Control Manager.

Supported web browsers

- Google Chrome
- Microsoft Edge

Use the latest version of the web browser.

1 Launch the web browser.

2 Enter “https://<SSL/TLS_certificate_host_name>:443” in the address field.

Enter a host name that matches the Common Name or Subject Alternative Name of the SSL/TLS certificate. If the host cannot be accessed using “https://<host name configured on SSL/TLS certificate>:443” from the local network, register the host name configured on the SSL/TLS certificate and the PWA-RX1 IP address in the hosts file (C:\Windows\System32\drivers\etc\hosts). After registering, check that the host can be accessed.

3 Enter the user name and password to log in.

The user name upon initial installation is “Admin” and the password is “123456”. You must change the password the first time you log in.

After logging in, the Streaming screen of the Connection Control Manager appears.

Logging out from the Connection Control Manager admin screen

Click [Logout] on the Streaming screen. The login screen appears.

Note

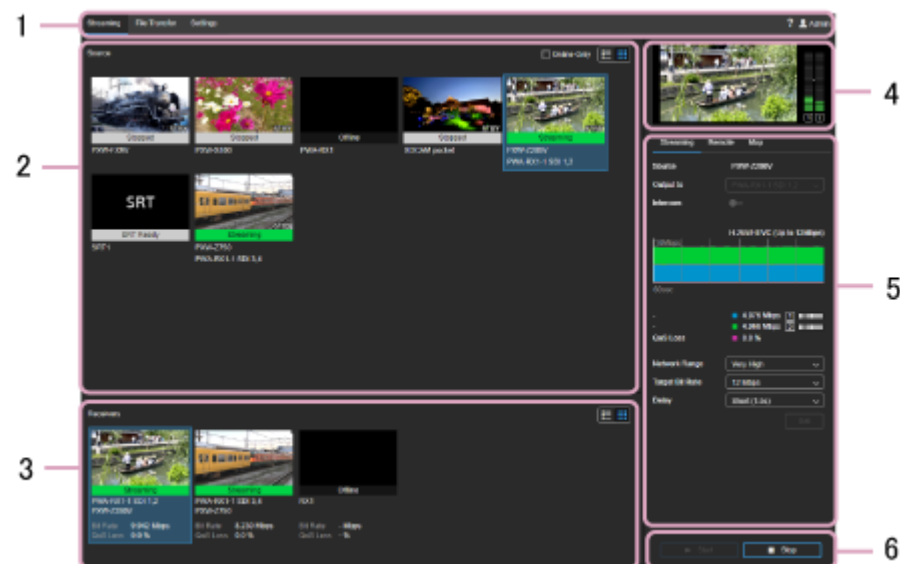
- Before access from a web browser, an SSL/TLS certificate must be configured on the Connection Control Manager PC by executing the procedure in “[Configuring an SSL/TLS Certificate](#).”
- Up to three users can be logged in simultaneously. If the maximum number has been reached, an error message and a [RELEASE] button will appear when the administrator (the user specified in [System] > [Username (1)] on the [CCM] tab of the Settings screen) attempts to log in. Click the [RELEASE] button to terminate all sessions.
- To ensure security, make sure to change the user name and password.

Related Topic

- [Structure of the Streaming Screen](#)
- [Structure of the Settings Screen](#)
- [Starting Streaming](#)

Structure of the Streaming Screen

The Streaming screen displays the devices that perform streaming and controls for starting/stopping streaming.



1. Global header

Click the tabs and icons to move between screens.

- Streaming: Displays the Streaming screen.
- File Transfer: Displays the File Transfer screen.
- Settings: Displays the Settings screen.
- ⚠ (Warning): Warns you that the expiration date for the SSL/TLS certificate for connecting to the Connection Control Manager admin screen is approaching. Update the SSL/TLS certificate as described in [“Configuring an SSL/TLS Certificate.”](#)
- ⓘ (Notification): Displays a note about the license expiration date.
- ? (Help): Displays the Help and EULA.
- 👤 (user name): Logs the user out.

2. Source area

Displays the streaming output devices in thumbnail view or list view.

In thumbnail view, the thumbnails and the following information are displayed. The transmitting device recording status ([REC] for recording, [STBY] for standby) is also displayed on the thumbnails.



- Streaming status: Streaming, Unstable, Stopped, Reserved, Disabled, Offline, SRT Ready
- Transmitting device name: Type of camcorder, type of XDCAM pocket device, SRT Caller name, or RX1-(serial No.)
* Displayed when using point-to-point
- Receiving device name: RX1-(serial No.)

In list view, only the names of transmitting devices and names of receiving devices are displayed.

- [Online Only] checkbox: Displays online (including SRT Ready) devices only.
- ☰ button: Displays the devices in list view.
- 🖼 button: Displays the devices in thumbnail view.



3. Receiver area

Displays the streaming receiving devices in thumbnail view or list view.

In thumbnail view, the thumbnails and the following information are displayed. The  icon is displayed on the thumbnails when streaming video is saved to a file on the PWA-RX1 side. The  icon is displayed on the thumbnails when RTMP output is enabled.

- Streaming status: Streaming, Unstable, Stopped, Reserved, Disabled, Offline, SRT Ready
- Transmitting device name: Type of camcorder, type of XDCAM pocket device, SRT Caller name, or RX1-(serial No.)^{*}
* Displayed when using point-to-point
- Receiving device name: RX1-(serial No.)
- Bit rate
- Streaming loss rate

In list view, only the names of transmitting devices and names of receiving devices are displayed.

-  button: Displays the devices in list view.
-  button: Displays the devices in thumbnail view.

4. Preview area

Displays a preview of the streaming content from the device selected in the Source area.

Note

- There is short delay between the display of the preview display and the SDI output.
- The preview display refresh time differs from that of the SDI output.

5. Settings area

Configures streaming settings for the selected source.

[Streaming] tab

- Source: Displays the name of the streaming device.
- Output to: Selects the PWA-RX1 or SDI port streaming output destination. Cannot be modified while streaming is in progress.
- Intercom: Turns the intercom function on/off. It also displays the status of the intercom function. For details about the status, see [“Intercom Operations.”](#)
- Graph: Displays the variation in the bit rate, streaming loss rate, and codec.
- Carrier: Displays the name of the network carrier used for communication with the camcorder and the bit rate. The information displayed varies depending on the connected camcorder and camcorder status.
- QoS Loss: Displays the streaming loss rate.
- Network Range: Selects the streaming resolution and maximum bit rate. [Very High], [High], [High (F)], [High (R)], [Middle], [Low], or [Very Low] can be selected. The values available for selection vary depending on the connected camcorder and camcorder status.
- Target Bit Rate: Selects the target bit rate when [Use Target Bit Rate setting.] on the [CCM] tab is set to on. The bit rate options available for selection varies according to the [Network Range] setting.
- Delay: Selects the streaming delay time. [Very Short (0.7s)], [Very Short (1s)], [Short (1.5s)], [Middle (3s)], [Long (5s)], or [Very Long (10s)] can be selected (the displayed delay time is an estimate. The actual delay time may vary due to the added network delay).
- [Set] button: Applies changes to the [Network Range], [Target Bit Rate], and [Delay] settings.

Note

- When using SRT, [Network Range], [Target Bit Rate], and [Delay] cannot be configured. The RX settings on the Settings screen and the settings on the SRT caller side are used.

[Remote] tab

Note

- Each function is enabled only for supported camcorders.
 - The displayed buttons, switches, and control panels vary depending on the connected camcorder.
-
- [Camera Control] switch: Enables remote control of the camcorder.
 - [Proxy REC] switch: Sets whether to record a proxy file on the camcorder.

[Map] tab

Note

- This function is enabled only for supported camcorders.
-
- [Show Location] button: Displays the current location of the camcorders on a map.

6. Streaming control area

Controls streaming operation.

- [Start] button: Starts streaming. When using SRT, the receiver goes online in SRT listener mode. Follow the instructions on the screen to start streaming from the SRT caller.
- [Stop] button: Stops streaming.

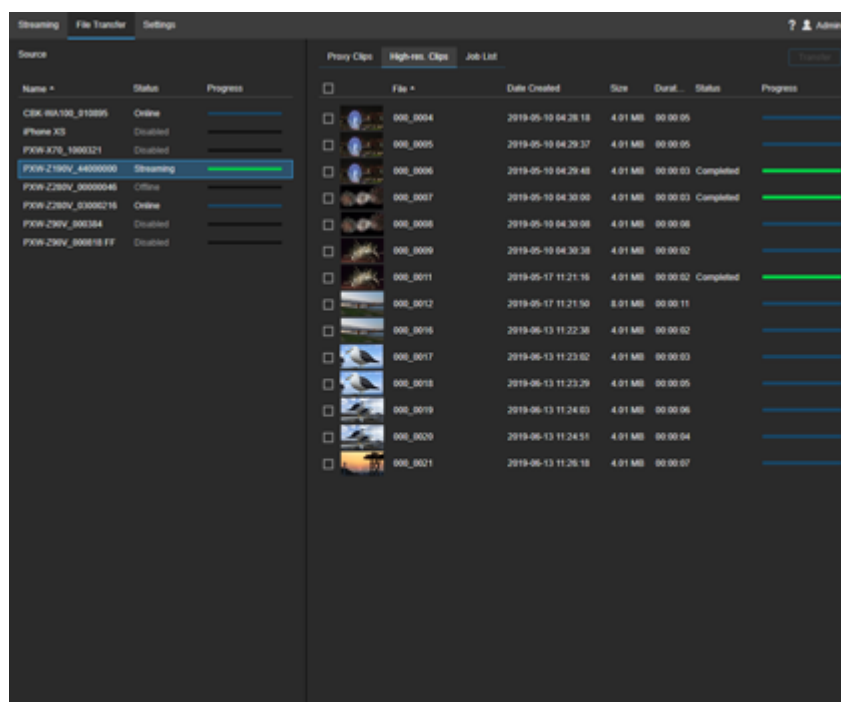
Related Topic

- [Starting Streaming](#)
- [Structure of the File Transfer Screen](#)
- [Structure of the Settings Screen](#)
- [Supported Formats](#)

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Structure of the File Transfer Screen

The File Transfer screen is used to configure settings for transferring clips from a camcorder to an FTP server. It is used to specify the clips to transfer and to control transfer jobs.



Source area

Displays the devices for file transfer in list view.

[Proxy Clips] tab

Displays a list of proxy clips stored on the device selected in [Source]. Select clips to transfer by placing a check mark in the checkbox beside each clip.

- File transfer destination: Select the file transfer destination from the drop-down list. You can specify the file transfer destination for each file transfer. Depending on the type and settings of the selected device, it may not be possible to specify a transfer destination.
- Transfer button: Adds the selected clips to the transfer job list.

[High-res. Clips] tab

Displays a list of original clips stored on the device selected in [Source]. Only clips recorded in parallel (proxy clips recorded simultaneously) can be previewed. Select clips to transfer by placing a check mark in the checkbox beside each clip.

- File transfer destination: Select the file transfer destination from the drop-down list. You can specify the file transfer destination for each file transfer. Depending on the type and settings of the selected device, it may not be possible to specify a transfer destination.
- Transfer button: Adds the selected clips to the transfer job list.

[Job List] tab

Displays a list of clip transfer jobs executed on the [Proxy Clips] tab or [High-res. Clips] tab, and the current transfer status.

- Delete: Deletes the selected job from the list.
- Clear Completed Jobs: Deletes jobs after completion of transfer to an FTP server from the list.

Related Topic

- [Structure of the Streaming Screen](#)
- [Transferring Camcorder Clips to an FTP Server](#)

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Structure of the Settings Screen

The Settings screen is used to configure the Connection Control Manager, the transmitting camcorders or other devices, and receiving PWA-RX1 instances. You switch between pages using the tabs along the top of the screen.

[CCM] tab

Configures Connection Control Manager settings.

[System]

- CCM Name: Enter the name of the Connection Control Manager.
- Language: Select the display language of the Connection Control Manager.
- Username (1): Enter the administrator user name to use when logging in to the Connection Control Manager.
- Password (1): Enter the password for the user name above. You can view the password by clicking [SHOW].
- Username (2) / Username (3): Enter the general user names to use when logging in to the Connection Control Manager. Two general users can be configured.
- Password (2) / Password (3): Enter the password for the user name above. You can view the password by clicking [SHOW].
- Privilege : Set the privileges for each user. Place a check mark in the checkboxes to grant privileges.
 - Streaming Monitor: Grants streaming monitor privileges to users.
 - Streaming Operator: Grants streaming operator privileges to users.
 - File Transfer Operator: Grants file transfer operator privileges to users.
 - Administrator: Grants administrator privileges to users.

[Connection]

Configures settings for logging in to the Connection Control Manager from a transmitting/receiving device.

TX Connection

- Username (1) / Username (2): Enter the user names to use when logging in to the Connection Control Manager from a camcorder. Two users can be configured.
- Password (1) / Password (2): Enter the password for the user name above. You can view the password by clicking [SHOW].

- Port: TCP port number used when connecting to the Connection Control Manager from a camcorder.

If [TX Connection] items are changed, reconnect the camcorder after saving the settings.

XDCAM pocket Connection

- Username (XPT): Enter the user name to use when logging in to the Connection Control Manager from XDCAM pocket.
- Password (XPT): Enter the password for the user name above. You can view the password by clicking [SHOW].
- Port: TCP port number used when connecting to the Connection Control Manager from XDCAM pocket.

If [XDCAM pocket Connection] items are changed, reconnect XDCAM pocket after saving the settings.

RX Connection

- Username: Enter the user name to use when logging in to the Connection Control Manager from a PWA-RX1 streaming receiver.
- Password: Enter the password for the user name above. You can view the password by clicking [SHOW].
- Port: TCP port number used when connecting to the Connection Control Manager from a PWA-RX1 streaming receiver.

If [RX Connection] items are changed, run the Initialization Tool on the PC on which PWA-RX1 is installed after saving the settings, then reconnect.

Point to Point Connection

- Username: Enter the user name to use when logging in to the Connection Control Manager from a PWA-RX1 instance that will transmit point-to-point streaming.
- Password: Enter the password for the user name above. You can view the password by clicking [SHOW].
- Port: TCP port number used when connecting to the Connection Control Manager from a PWA-RX1 streaming transmitter.

If [Point to Point Connection] items are changed, run the Initialization Tool on the PC on which PWA-RX1 is installed after saving the settings, then reconnect.

[FTP]

Up to five FTP settings can be configured. Select the individual settings tabs and configure each item.

- Enable FTP Server Setting 1: Set to on to use an FTP server.
- FTP Server Name: Enter the FTP server name.
- FTP Server Address: Specify the IP address or FQDN (for example, ftp.example.com) of the FTP server.
- FTP Server Port: Enter the FTP server port. Specify "21" if using the FTP protocol.
- Passive Mode: Specify whether to use passive mode for connections to the FTP server. Check with the administrator of the FTP server.
- Use FTPS: Specify whether to connect using FTPS.
- FTPS Server CA Certificate (PEM): Displays the contents of the server CA certificate used for FTPS connections. Click the [Select] button, and select a .pem file. Configuration of this item is not required if not using FTPS connections.
- Check CN and CRL: Specify whether to perform common name (CN) and certificate revocation list (CRL) authentication when connecting via FTPS.
- FTP Username: Enter the user name for connection to the FTP server.
- FTP Password: Enter the user password for connection to the FTP server.
- Upload Directory: Enter the full path of the upload destination directory on the FTP server (for example, /home/sony). If a directory is not specified, the upload destination is the root folder.
- Use Upload Date: Placing a check mark in the [Use Transmitter Name] checkbox will create a sub directory with the name of the transmitter as the upload destination directory for uploading files. If the checkbox is cleared and a

directory is specified in [Upload Directory], files will be uploaded to the specified directory. If the checkbox is cleared and a directory is not specified in [Upload Directory], a sub directory is created with the date as the name in the root directory, and files will be uploaded to that directory.

- [Check] button: Check the entered FTP settings.

[Streaming]

- Use Target Bit Rate setting.: Specify whether to enable manual setting of the target bit rate in the Settings area of the Streaming screen. Placing a check mark in the checkbox enables you to select a [Target Bit Rate] value, depending on the [Network Range] setting in the Settings area.
- Use HEVC if available.: Place a check mark in the checkbox to use H.265/HEVC. H.265/HEVC transmission is not performed if H.265/HEVC is not supported by the transmitter device or if H.265/HEVC is not enabled on the transmitter device.

[Intercom]

To use the intercom function, link the camcorder with the PWA-RX1 on the receive side under [Receiver Audio Ch.]. The audio channels must be registered beforehand using the Initialization Tool in order to use the intercom function. For details, see [“Registering Receivers.”](#)

[License]

Displays a list of licenses. Can be used to check the status and valid period of licenses.

- [Add] button: Register the installation key file created using Upgrade and License Management Suite.
- [Get DEVICE.DAT] button: Obtain the “DEVICE.DAT” file required when creating an installation key file using Upgrade and License Management Suite.

[Dashboard]

Displays the streaming usage status.

- Streaming Time: Displays the cumulative streaming time in graph view.
- Streaming Performance: Displays the streaming history in graph view. You can click the graph area and zoom in/out using the mouse wheel. You can drag left/right to scroll the range of the graph.

[Mail Setting]

Configure mail settings for sending email when the base license or device license is within 20 days of its expiration date.



- Destination e-mail Address: Set the destination mail address.
- SMTP Server: Set the outbound mail server.
- Secure Connection: Set the type of encryption.
 - None: Does not use encryption.
 - STARTTLS: Use STARTTLS encryption.
- Port Number: Displays the port number of the outbound server. The port number is set automatically depending on the [Secure Connection] setting.
- Sender e-mail Address: Set the sender mail address.
- Username: Set the user name for the outbound server.
- Password: Set the password for the outbound server.
- [Send Test e-mail] button: Sends test mail using the entered mail settings.

[Maintenance]

- CCM Software Version: Displays the software version of the Connection Control Manager.
- CCM Software Settings: Press the [Backup] button to back up the configuration file. The backup file is output to the C:\CCM-Server\backup folder. For details about backing up and restoring, refer to the “Software Installation Guide.”

[TX] tab


Configures the transmit side device settings. The supported transmitting device names include Camcorder, XDCAM pocket, SRT Caller, and PWA-RX1 (when using point-to-point).

-  (Add TX) button: Adds a transmit side device. Click the button to add one line to the TX settings. Enter a name and select a group. When finished, click the [Save TX Settings] button.
- Name: Enter the name of the transmitting device to display in the Connection Control Manager.
- Group: Select the group to which the transmit side device belongs.
- Model Name: Displays the model name of the transmit side device.
- Serial No.: Displays the serial number of the transmit side device.
- Software Version: Displays the software version of the transmit side device.
- File Transfer Setting: Select the FTP server setting (stipulated setting) from the drop-down list.
- Accept Status: Displays the license status of the transmit side device. To allow connection of a transmit side device, change the status to “Registered.”
 - Pending: Registration pending status when the transmit side device attempts to connect.
 - Registered: Not connected, but transmit side device is registered.
 - Ready: Transmit side device is registered and connected.
-  (Delete) button: Deletes the transmit side device from the list.
- [Edit Group] button: Edits groups.

[RX] tab

Configures the PWA-RX1 receiver settings.

List

- Name: Displays the name to display in the Connection Control Manager.
- Model Information: Displays the model name and serial number.
- Software Version: Displays the software version of the streaming receiver.
- SDI Information: Displays version information about the SDI input/output board installed in the PC.
-  (Delete) button: Deletes the PWA-RX1 from the list.

Items

- Name: Enter the name to display in the Connection Control Manager.
- External Host Name: Enter the IP address or host name for accessing the PWA-RX1 unit from the Internet.
- External Port Range: Enter the number of the first UDP port used for receiving streaming content from the Internet.
- SRT Listener Ports : Displays the receive port number used when outputting to SDI if receiving using SRT. Selected from the range of external ports.

SDI Settings

- Resolution: Select the output video resolution.
- Frame Rate: Select the output video frame rate.
- Reference Lock: Displays the external sync signal settings and lock status for locking to the SDI output. “Auto” is always displayed as the setting.
- Output Signal: [Color Bar] or [User Image] can be specified as the output image when streaming is stopped. When [Black] is specified, a black screen image is output. If [User Image] is specified, specify an image file for display as the output image (1920×1080 resolution JPEG or BMP image) using the Initialization Tool.
- SDI Port Name: The SDI port can be renamed. The number of ports displayed will vary depending on the SDI board installed in the PC.

SRT Listener Settings

Configures SRT receive settings. Match to the settings on the SRT caller side.

- Resolution: Displays the expected screen size of the input video. Displays the same resolution value as the SDI setting.
- Framerate: Displays the expected frame rate of the input video. Displays the same frame rate value as the SDI setting.

- Codec: [Auto] is always displayed.
- Latency (20 - 8000 ms): Set the latency in the range 20 to 8000 milliseconds. You can set the latency separately on both the transmit side and receive side, but the larger of the two values will be used.
- Encryption: Enable/disable encryption and select the encryption method. AES-128 corresponds to pbkeylen=16 and AES-256 corresponds to pbkeylen=32. When encryption is enabled, only streams that are encrypted with the same method can be received.
- Passphrase: Enter the passphrase used for encryption.

Output Option Settings

Selects options for output of the received stream.

- SDI Output Only: Output on SDI connector only.
- P2P Enabled: When the point-to-point function is enabled using the Initialization Tool, [P2P Enabled] is automatically selected and cannot be changed.
- File Output: Enable file output.
- RTMP Output: Enable RTMP output.

File Output (SDI 1,2 Only)

- Mode: Specify the method for saving video images during streaming to a file. When [Sync with Streaming] is selected, saving to file also starts when streaming starts, and stops when streaming stops. When [Sync with REC Flag] is selected, saving to file starts/stops in sync with the REC/STOP flag sent from the camcorder.
- Destination: Specify the network path of the file save destination. Use only alphanumeric characters and symbols supported for Windows folder names in the file save destination (for example, "\\Server\Share" or "D:\"). Specify storage that can be accessed from Explorer as the save destination. The drive on which PWA-RX1 is installed cannot be specified as a save destination.
To save to network storage, connect network storage to the same network as the PC on which PWA-RX1 is installed. For details, refer to the manual for the network storage.
- Auth Username: Enter the user name for authentication, if user account entry is required for accessing the specified file save destination.
- Auth Password: Enter the password specified for the user name above.
- Auto Delete: Specify whether to enable automatic deletion of saved files. To enable automatic deletion, set to the on-state and specify the number of days to keep files and the schedule for deletion.

RTMP Output (SDI 1,2 Only)

- Stream URL: Enter the URL of the RTMP output destination (for example, rtmp://rtmp.example.com:1935/live). For RTMPS output, specify "rtmps://" in the URL (for example, rtmps://rtmps.example.com:443/live).
- Stream Name / Key: Enter the stream name or key.
- Resolution: Select the RTMP output resolution.
- RTMP Authentication: Place a check mark in the checkbox if authentication will be required.
- Username: If [RTMP Authentication] is enabled, enter a user name.
- Password: If [RTMP Authentication] is enabled, enter a password.

Related Topic

- [Structure of the Streaming Screen](#)
- [Configuring Connection Control Manager Preferences](#)
- [Configuring Connection Control Manager Receiver and Output Settings](#)
- [Adding Licenses](#)

TP1001691393

Configuring Network Settings

Connect the PWA-RX1 instances to the network within the broadcasting station. To connect the PWA-RX1 instances to the camcorders in the field, it is also necessary to configure the router settings for connecting the LAN and WAN within the broadcasting station, and the camcorder settings.

For details about configuration, refer to the “System Integration Guide.”

TP1001691394

Configuring Connection Control Manager Preferences

A single PWA-RX1 instance within a system has the role of registering and managing the other PWA-RX1 instances, camcorders, and SDI outputs. Launch the Connection Control Manager admin screen of the PWA-RX1 instance, and configure settings.

- 1 Turn on the PC on which a PWA-RX1 instance is used to configure Connection Control Manager preferences, and launch the Connection Control Manager admin screen.
- 2 Click [Settings] in the global header to display the Settings screen, and click the [CCM] tab.
- 3 Enter the name of the currently connected PWA-RX1 instance in [CCM Name].
- 4 Enter the Connection Control Manager administrator login user name and password in [System] > [Username (1)] and [Password (1)], respectively.
- 5 Select the display language of the Connection Control Manager in [Language].
- 6 Enter the user name and password for logging in to the Connection Control Manager from a camcorder in [Connection] > [TX Connection] > [Username (1)] and [Password (1)], respectively.
- 7 When using XDCAM pocket, enter the user name and password for logging in to the Connection Control Manager from XDCAM pocket in [Connection] > [XDCAM pocket Connection] > [Username (XPT)] and [Password (XPT)], respectively.
- 8 Enter the user name and password for logging in to the Connection Control Manager from a PWA-RX1 in [Connection] > [RX Connection] > [Username] and [Password], respectively.
- 9 Click [Save CCM Settings] to save the settings.

To configure a general user

To configure a general user for logging in to the Connection Control Manager from a client PC, enter the user name and password of the general user in [Username (2)]/[Username (3)] and [Password (2)]/[Password (3)], respectively, on the [System] tab. You can also configure the access privileges of general users on the same screen.

Related Topic

- [Launching the Connection Control Manager Admin Screen](#)
- [Structure of the Settings Screen](#)
- [Registering Receivers](#)
- [Configuring Connection Control Manager Receiver and Output Settings](#)

Registering Receivers

Register the PWA-RX1 instances in the system using the Initialization Tool. This operation is supported on all PWA-RX1 instances.

Note

- If using C3 Portal, the settings will vary from the Initialization Tool settings. When using C3, configure settings using the procedure in [“Configuring Connection with C3 Portal.”](#)

- 1 Turn on the PWA-RX1 PC for which to configure the streaming receiver preferences.
- 2 Double click the [Initialization Tool] icon on the Start screen to launch the Initialization Tool.
- 3 When you launch it for the first time, agree to the terms of the EULA (End User License Agreement).
Select your country or region from the drop-down menu at the top right.
- 4 Click [Settings].
- 5 Configure the following Connection Control Manager settings, and click [Next].
 - [CCM Address]: Enter the host name of the Connection Control Manager.
Enter a host name that matches the Common Name or Subject Alternative Name of the SSL/TLS certificate. If the host cannot be accessed from the local network, register the host name configured on the SSL/TLS certificate and the PWA-RX1 IP address in the hosts file (C:\Windows\System32\drivers\etc\hosts). After registering, check that the host can be accessed.
 - [CCM Port]: The port number “9083” of the Connection Control Manager is set.
 - [Username] and [Password]: Enter the user name and password to use when logging in to the Connection Control Manager from a streaming receiver.
Enter the registered user name and password in [Connection] > [RX Connection] on the Settings screen.
- 6 Configure the following settings for the SDI connectors, and click [Next].
 - [Select SDI Input/Output configuration]: For SDI input/output, select one of the following options.
The available selection options will vary depending on whether you are using point-to-point streaming.
For SDI board with 4 ports
 - [Use both SDI 1/2 connectors and SDI 3/4 connectors as outputs]: This outputs two received streaming inputs from separate pairs of SDI connectors (SDI 1/2 and SDI 3/4). Select this option when not using point-to-point streaming.
 - [1-stream to output SDI-3/4 pair, and input from SDI-1 and output 1-stream]: Option when using point-to-point streaming. One stream with SDI input on SDI 1 is output as point-to-point streaming. The other received streaming input is output on SDI 3/4.

- [1-stream to output SDI-3/4 pair, and output color bars to 1-streams]: Option when using point-to-point streaming. One stream with color bars output as point-to-point streaming. The other received streaming input is output on SDI 3/4.

For SDI board with 2 ports

- [1-stream to output SDI-1 connector as outputs]: This outputs one received streaming input from SDI 1. Select this option when not using point-to-point streaming.
- [1-stream to output SDI-1, and input from SDI-2 and output 1-stream]: Option when using point-to-point streaming. One stream with input on SDI 2 is output as point-to-point streaming. The other received streaming input is output on SDI 1.
- [1-stream to output SDI-1, and output color bars to 1-stream]: Option when using point-to-point streaming. One stream with color bars output as point-to-point streaming. The other received streaming input is output on SDI 1.

Configure the following items when an option that uses point-to-point streaming is selected.

- [CCM Address (2)]: Enter the address of the Connection Control Manager of the side that will receive point-to-point streaming.
- [CCM Port (2)]: Enter the port number of the Connection Control Manager of the side that will receive point-to-point streaming.
- [Username (2)], [Password (2)]: Enter the user name and password to use when logging in to the Connection Control Manager.
- [Use an image file for SDI outputs]: Place a check mark here to output an image on an SDI connector when streaming is stopped. When selected, specify the image file to be output.

7 To use the intercom function, place a check mark in [Enable Intercom function], select the audio interface and audio input/outputs, and click [Start].

The audio channels that can be selected depend on the audio interface that is connected. Check the audio settings in the Windows control panel.

Connection to the Connection Control Manager is established, and the PWA-RX1 unit is registered.

When the configuration completion screen appears, click [OK]. Use the same procedure to register other PWA-RX1 units as receivers.

To initialize a streaming receiver

Launch the Initialization Tool, select [Diagnosis] and click [Reset].

Related Topic

- [Configuring Connection Control Manager Preferences](#)
- [Configuring Connection Control Manager Receiver and Output Settings](#)
- [Configuring Point-to-Point Streaming](#)
- [Configuring Connection with C3 Portal](#)

TP1001691396

Configuring Connection Control Manager Receiver and Output Settings

Receiver settings and SDI output settings

Configure the IP address and UDP ports used to receive streaming content by the streaming receiver. Also, configure the mode for output of SDI signals from the PWA-RX1 instances.

- 1 Log in to the Connection Control Manager from a client PC.
- 2 Display the Settings screen and click the [RX] tab.
- 3 Select the PWA-RX1 instance you want to configure.
- 4 Enter the name of the PWA-RX1 instance for display in the Connection Control Manager in [Name].
- 5 External Host Name: Enter the IP address or host name for accessing the PWA-RX1 PC from the Internet.
- 6 Enter the number of the first UDP port used for receiving streaming content from the Internet in [External Port Range].
- 7 Configure the SDI signals to output.
 - [Resolution]: Select the resolution.
 - [Frame Rate]: Select the frame rate.
- 8 Click [Save RX Settings] to save the settings.

Related Topic

- [Launching the Connection Control Manager Admin Screen](#)
- [Structure of the Settings Screen](#)
- [Configuring Connection Control Manager Preferences](#)
- [Registering Receivers](#)

TP1001691397

Adding Licenses

A base license (PWAL-RX1Y) must be purchased and enabled to use PWA-RX1.

To connect PWA-RX1 instances to a camcorder and transmit a stream from a camcorder, you must purchase and enable device licenses (PWAL-RX1ZY) for the number of transmitting devices that will be connected simultaneously. If a device license is not enabled, the transmitting device cannot connect to the Connection Control Manager.

The procedure for adding a base license and device license is the same. First, purchase a base license and device license, obtain a purchase key, and then follow the steps below.

Note

- For details about purchasing a license, consult your local Sony representative.
- If you are using a second PWA-RX1 instance as a receiver only or as a C3 Portal receiver only, you can add a license without starting Connection Control Manager. For details, see [“Adding a License using the Initialization Tool.”](#)

1 On the Settings screen > [CCM] > [License], place a check mark for the license you want to enable and click the [Get DEVICE.DAT] button.

2 Click [OK].

A ZIP file (PWA-RX1_DEVICE_DAT_(date).zip) containing the “DEVICE.DAT” file will be created in the download folder of the web browser.

3 Uncompress the ZIP file.

When uncompressed, folders are created for the base license and/or device licenses, each folder containing a “DEVICE.DAT” file.

4 Access the “Upgrade and License Management Suite” in a web browser, and register the purchase key obtained when purchasing the license.

URL: <https://ulms.sony.net>

5 Register the “DEVICE.DAT” file for the base license or device license and create an installation key file using “Upgrade and License Management Suite.”

6 Save the installation key file to any folder.

7 Import the installation key file.

- Return to the Connection Control Manager admin screen, and open [CCM] > [License] on the Settings screen.
- Click the [Add] button.
- Click the [+] button in the dialog.
A file selection dialog appears.
- Select an installation key file, then click the [OK] button.
- Click [OK] when “Completed storing the setting.” appears, and click the [Close] button.

6. Check that the status of the corresponding license changes to “Activated” under [CCM] > [License].

Note

- If a license is close to expiring or has expired, a license warning is displayed in the global header. Check the license status.

Related Topic

- [Structure of the Settings Screen](#)
- [Adding a License using the Initialization Tool](#)

TP1001691398

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Adding a License using the Initialization Tool

You can add licenses purchased using the Initialization Tool, without starting Connection Control Manager.

If you are using a second PWA-RX1 instance as a receiver only or as a C3 and should be only, add a license using this procedure. When using as a C3 Portal receiver, also see “[Configuring Connection with C3 Portal](#).”

First, purchase a base license, obtain a purchase key, and then follow the steps below.

Note

- For details about purchasing a license, consult your local Sony representative.

- 1 Turn on the PWA-RX1 PC to configure settings.**
- 2 Double click the [Initialization Tool] icon on the Start screen to launch the Initialization Tool.**
- 3 When you launch it for the first time, agree to the terms of the EULA (End User License Agreement).**
Select your country or region from the drop-down menu at the top right.
- 4 Click the [License] button.**
The license setup screen appears.
- 5 Click the [Get DEVICE.DAT] button to obtain the “DEVICE.DAT” file.**
A ZIP file (PWA-RX1_DEVICE_DAT_(date).zip) containing the “DEVICE.DAT” file will be created in the download folder of the web browser.
- 6 Uncompress the ZIP file.**
When uncompressed, folders are created for the base license, each folder containing a “DEVICE.DAT” file.
- 7 Access the “Upgrade and License Management Suite” in a web browser, and register the purchase key obtained when purchasing the license.**
URL: <https://ulms.sony.net>
- 8 Register the “DEVICE.DAT” file for the base license and create an installation key file using “Upgrade and License Management Suite.”**
- 9 Save the installation key file to any folder.**
- 10 Import the installation key file.**
 1. Return to the Initialization Tool license setup screen, and click [Add].
 2. Select the installation key file, then click the [OK] button.

3. When “Success” is displayed for all, click the [Next] button.
4. Check that the status of the corresponding license changes to “Activated.”

11 Click the [Home] button.

Return to the Home screen of the Initialization Tool.

Related Topic

- [Adding Licenses](#)
- [Configuring Connection with C3 Portal](#)

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Setting the Camcorder to Network Client Mode

When shooting using a network-enabled camcorder, use the following procedure to set the camcorder to network client mode.

- 1 **Attach an LTE modem to the camcorder.**
- 2 **Turn on the camcorder.**
- 3 **Open the settings menu on the camcorder.**
- 4 **Configure network client mode.**
- 5 **Turn on network client mode.**
 - Enter a host name that matches the Common Name or Subject Alternative Name of the SSL/TLS certificate configured in PWA-RX1 in [CCM Address]. Do not enter an IP address.
 - Write the root certificate provided by the certificate authority that issued the SSL/TLS certificate as the "CCM_certification.pem" file to load.
- 6 **Display the Settings screen of the Connection Control Manager, select the corresponding camcorder on the [TX] tab, and change [Accept Status] to [Registered].**

Note

- For details about attaching and configuration, refer to the manual for the camcorder.
- When connecting a PWA-RX1 instance with a camcorder, be sure to use an SSL/TLS certificate obtained from a certificate authority on the PWA-RX1 PC.
- Synchronize the date and time on the camcorder with the PWA-RX1 PC.

Related Topic

- [Registering Receivers](#)
- [Restrictions](#)

TP1001691400

Configuring XDCAM pocket

When using XDCAM pocket, use the following procedure to start shooting using XDCAM pocket.

- 1 Launch XDCAM pocket on a smartphone.
- 2 In XDCAM pocket, open [Settings] > [Connection].
- 3 Select “Network RX Station” in [Connect to], and set the address, port number, user name, password, and display name for connection with the Connection Control Manager.
- 4 Tap the [Connection] button.
- 5 Display the Settings screen of the Connection Control Manager, select the corresponding XDCAM pocket on the [TX] tab, and change [Accept Status] to [Registered].
- 6 Start shooting using XDCAM pocket.

Note

- To stream in H.265/HEVC, you must enable H.265/HEVC in the XDCAM pocket settings.
- For details about XDCAM pocket settings and operation, refer to the Help for XDCAM pocket.

Related Topic

- [Registering Receivers](#)

TP1001691401

Configuring Point-to-Point Streaming

Configure the following to perform point-to-point streaming.

- 1 **Launch the admin screen of the Connection Control Manager of the PWA-RX1 that will receive point-to-point streaming.**
- 2 **Open [Connection] on the [CCM] tab of the Settings screen.**
- 3 **Configure [Point to Point Connection] > [Username] and [Password].**
- 4 **Launch the Initialization Tool on the PC of the side that will transmit point-to-point streaming.**
- 5 **Click [Settings].**
- 6 **Enter the host name of the Connection Control Manager from step 1 in [CCM Address] and configure the other items.**

Enter a host name that matches the Common Name or Subject Alternative Name of the SSL/TLS certificate.
- 7 **Click [Next].**
- 8 **Select an SDI input/output option.**

For an SDI board with 4 ports, select one of the following.

 - [1-stream to output SDI-3/4 pair, and input from SDI-1 and output 1-stream]: Output the input on SDI 1 as point-to-point streaming.
 - [1-stream to output SDI-3/4 pair, and output color bars to 1-streams]: Output color bars as point-to-point streaming.

For an SDI board with 2 ports, select one of the following.

 - [1-stream to output SDI-1, and input from SDI-2 and output 1-stream]: Output the input on SDI 2 as point-to-point streaming.
 - [1-stream to output SDI-1, and output color bars to 1-stream]: Output color bars as point-to-point streaming.
- 9 **Enter the following items and click [Next].**
 - [CCM Address (2)]: Enter the address of the Connection Control Manager of the side that will receive point-to-point streaming.
 - [CCM Port (2)]: Enter the port number of the Connection Control Manager of the side that will receive point-to-point streaming.
 - [Username (2)], [Password (2)]: Enter the user name and password configured in step 3.

- 10 To use the intercom function, place a check mark in [Enable Intercom function], select the audio interface and audio input/outputs, and click [Start].**

Connection to the Connection Control Manager is established, and the PWA-RX1 unit is registered.
An error may occur when connecting for the first time. If this occurs, try performing steps 4 and onwards again after performing steps 11 and 12.

- 11 Launch the admin screen of the Connection Control Manager of the PWA-RX1 that will receive point-to-point streaming.**

- 12 Select the PWA-RX1 instance that will transmit point-to-point streaming on the [TX] tab on the Settings screen, and change [Accept Status] to [Registered].**


Related Topic

- [Registering Receivers](#)
- [Structure of the Settings Screen](#)

TP1001803694

Configuring Streaming using SRT

Configure the following to stream using SRT.

- 1 On the Settings screen > [TX] tab, click the  (Add TX) button.**

A line is added to the transmit side device settings.
- 2 Enter the SRT name in [Name] and select “SRT Caller” in [Model Name].**
- 3 Open the [RX] tab of the Settings screen and configure the items in [SRT Listener Settings].**
- 4 Click SRT Caller in the Source area on the Streaming screen and drag & drop it to a receiving device in the Receiver area.**

The SRT listener preparation is completed. The destination and port are displayed during the drag & drop. If the displayed address is “srt://192.168.0.1:10000,” then the destination and port are as follows.

 - Destination: srt://192.168.0.1
 - Port: 10000
- 5 Set the destination address and port displayed in step 4 on the SRT streaming device and start streaming.**

If using a passphrase, set the value configured in [SRT Listener Settings] > [Passphrase] in step 3 on the SRT streaming device.

Related Topic

- [Structure of the Settings Screen](#)

TP1001803695

Configuring Connection with C3 Portal

Configure connections with C3 Portal using the following procedure.

- 1 Turn on the PWA-RX1 PC to configure settings.**
- 2 Double click the [Initialization Tool] icon on the Start screen to launch the Initialization Tool.**
- 3 When you launch it for the first time, agree to the terms of the EULA (End User License Agreement).**

Select your country or region from the drop-down menu at the top right.
- 4 Add a base license.**

This step is not required if a base license has already been applied.
For details adding a license, see [“Adding a License using the Initialization Tool.”](#)
- 5 Check the serial number of the receiver on the Initialization Tool license setup screen.**
- 6 Open the Settings screen of C3 Portal.**
- 7 In [Receiver] on the [Credential] page, enter the user name and password of the PWA-RX1 instance that will connect to C3 Portal, and click the [Save] button.**
- 8 Open the [Receiver] page.**

The receiver list is displayed.
- 9 Click the [+] (Add) button.**

A line is added to the bottom of the list.
- 10 Configure the receiver information in the added line.**

Enter information directly into each field of the added line or select it from the drop-down list.

 - [Name]: Enter a name to identify the receiver.
 - [Group]: Select a group.
 - [Model Name]: Select PWA-RX1.
 - [Serial No.]: Enter the serial number from step 5.
 - [External Host Name]: Enter the IP address or host name for accessing the receiver from the Internet.
 - [External Port (+20)]: Enter the number of the first UDP port used for receiving the content streamed from the Internet.
 - [SDI(1,2) Port Name], [SDI(3,4) Port Name]: Used to rename the SDI 1/2 and 3/4 ports. For an SDI board with 2 ports, you can rename the SDI 1 port.
 - [Output Signal]: Select the image to output when streaming stops.
 - [Resolution]: Select the output video resolution.

- [Frame Rate]: Select the output video frame rate.

11 Repeat steps 9 and 10 to register other receivers in C3 Portal, as required.

12 Click the [Save] button.

13 Launch the Initialization Tool again, and click [Settings].

14 Configure the following settings for C3 Portal connection, and click [Next].

- [CCM Address]: Select a preset C3 Portal address from the drop-down menu.
- [CCM Port]: The port used for communication with C3 Portal is set to 443.
- [Username], [Password]: Enter the user name and password for logging in to C3 Portal from PWA-RX1. Enter the registered user name and password in [Credential] > [Receiver] for C3 Portal.

15 Configure the following settings for the SDI connectors, and click [Next].

- [Select SDI Input/Output configuration]: For SDI input/output, select from the following options.
For SDI board with 4 ports
 - [Use both SDI 1/2 connectors and SDI 3/4 connectors as outputs]: This outputs two received streaming inputs from separate pairs of SDI connectors (SDI 1/2 and SDI 3/4).

For SDI board with 2 ports

- [1-stream to output SDI-1 connector as outputs]: This outputs one received streaming input from SDI 1.
- [Use an image file for SDI outputs]: Place a check mark here to output an image on an SDI connector when streaming is stopped. When selected, specify the image file to be output.

16 To use the intercom function, place a check mark in [Enable Intercom function], select the audio interface and audio input/outputs.

The audio channels that can be selected depend on the audio interface that is connected. Check the audio settings in the Windows control panel.

17 Click [Start].

Connection to C3 Portal is established, and the PWA-RX1 instance is registered. When the configuration completion screen appears, click [OK].

Related Topic

- [Structure of the Settings Screen](#)
- [Registering Receivers](#)
- [Adding a License using the Initialization Tool](#)

TP1001833876

Starting Streaming

Use the following procedure to start and stop streaming from the Streaming screen of the Connection Control Manager. Specify the transmitter device at the shooting location, and enable streaming transmission.



- 1 Select a transmitter device displayed by a thumbnail in the Source area.
- 2 Select the SDI port group to output in [Output to] in the Settings area.
- 3 Select the maximum bit rate for streaming in [Network Range] in the Settings area.
- 4 Select the delay time for streaming video in [Delay] in the Settings area.
- 5 Click [Set] to save the settings in the Settings area.
- 6 Click [Start] in the streaming control area.
Distribution of streaming video starts.

To stop streaming



Click [Stop] in the streaming control area.

To save video images during streaming to a file

You can save video being streamed on the SDI1 and 2 ports to a file by setting [File Output (SDI 1,2 Only)] on the [RX] tab of the Settings screen to on. The settings on the [RX] tab are used to start/stop saving and to set the save destination.

When saving to file, the  icon is displayed on the thumbnails in the receiver area. If an error occurs while saving to a file, the  icon appears. Check the status of the save destination for errors.

To enable RTMP output of video images during streaming

You can enable RTMP output of video being streamed on the SDI1 and 2 ports by setting [RTMP Output (SDI 1,2 Only)] on the [RX] tab of the Settings screen to on. When RTMP output is enabled, the  icon is displayed on the thumbnails in the receiver area. If an error occurs during RTMP output, the  icon appears. Check the status of the RTMP output destination for errors.

Note

- If QoS loss occurs or the streaming video is unstable, increase the value of [Delay] or decrease the value of [Network Range] in the Settings area.
- The [Delay] and [Network Range] parameters can be changed while streaming, although the streaming output may freeze or be disturbed momentarily when the value is changed.
- The settings on the [RX] tab cannot be modified during streaming.
- When saving video to a file while streaming, the image is re-encoded at 720p and the file is subdivided about every two hours.
- The correct operation of the saved file is not guaranteed for all playback environments.

- When storing video images or outputting RTMP during streaming, control the instances from a web browser on a client PC, and not the PCs on which PWA-RX1 is installed.
- Images streamed to the SDI 3 and 4 ports are not saved.
- Images streamed to the SDI 3 and 4 ports are not output via RTMP.
- The output frame rate will be 50.00 fps, 59.94 fps, or 60.00 fps, depending on the input, even if “1080p, 60fps” is selected using [RTMP Output (SDI 1,2 Only)] > [Resolution] on the [RX] tab of the Settings screen.

Related Topic

- [Structure of the Streaming Screen](#)
- [Structure of the Settings Screen](#)
- [Supported Formats](#)
- [Restrictions](#)

TP1001691402

Displaying the Camcorder Control Screen

You can open the camcorder control screen from the Connection Control Manager to control the camcorder. Perform the following procedure on the Streaming screen.

- 1 Select a camcorder in the Source area.**
- 2 Open the [Remote] tab in the Settings area, and click [Camera Control].**

The control screen for the selected camcorder appears. The control screen may be displayed in a new tab in the web browser, depending on the camcorder model.

Related Topic

- [Structure of the Streaming Screen](#)

TP1001691403

Displaying Shooting Locations on a Map

You can display shooting locations, derived from location information received from the transmitter device using GPS, on a map. The GPS function of the transmitter device must be enabled to use this function. For details, refer to the manual for the transmitter device.

Perform the following procedure on the Streaming screen.

- 1 **Select a transmitter device in the Source area.**
- 2 **Open the [Map] tab in the Settings area, and click [Show Location].**

A new tab opens in the web browser, and displays the current location of the transmitter device on a map.

Note

- The location display can be operated only when valid location information is obtained from the transmitting device.

Related Topic

- [Structure of the Streaming Screen](#)

TP1001691404

Transferring Camcorder Clips to an FTP Server

You can transfer camcorder clips to an FTP server under control from the Connection Control Manager. Perform the following procedure on the File Transfer screen.

1 Click [File Transfer] in the global header to display the File Transfer screen.

2 Select a camcorder in the Source area of the File Transfer screen.

3 Click the [Proxy Clips] tab or the [High-res. Clips] tab.


A list of clips stored on the selected camcorder is displayed.

4 Click the checkboxes for the clips to transfer.



5 Click [Transfer].

The selected clips are added to the transfer job list, and the clips are then transferred in sequence.
You can check the transfer state by clicking the [Job List] tab to display the list of transfer jobs.

To preview a clip

Select a clip that you want to preview in the clip list, and click the playback icon. The preview screen appears.
To return to the clip list, click the  (Back) button on the preview screen.

To transfer a clip while previewing the clip

Click the  (Upload) button on the preview screen. To transfer only a portion of a clip, set an IN point and/or OUT point, and then click the  (Upload) button.

Note

- To transfer camcorder clips to an FTP server, configure settings for FTP connections on the Settings screen of the Connection Control Manager beforehand.
- File transfers may stop momentarily if the camcorder is currently streaming. The file transfer will resume when streaming stops.
- If the recording media format is FAT, files cannot be transferred using the [High-res. Clips] tab.
- The preview display may stop temporarily, depending on the network status and camcorder status.

Related Topic

- [Structure of the File Transfer Screen](#)
- [Configuring Connection Control Manager Receiver and Output Settings](#)

Intercom Operations

You can make calls between the broadcast station and units in the field using camcorders with an intercom function and PWA-RX1.

Configuration

- A separate driver is required to use a USB audio interface. For details about the driver, refer to the “Software Installation Guide.”
- Specify the PWA-RX1 channel used for communication for each camcorder beforehand using the Connection Control Manager.

Operation

To use the intercom function, set the [Intercom] switch to the on position on the [Streaming] tab of the Streaming screen. The status of the intercom function is displayed on the [Intercom] switch.

- Offline: Intercom is offline on the transmit side or the PWA-RX1 side. Or the intercom function was disabled using the Initialization Tool.
- Not available: Intercom is not available on the transmit side or receive side. Or the audio interface is not connected.
- In use: Audio channel on the PWA-RX1 side is being used by another transmitter device.
- Not connected: Not connected
- Connecting: Connecting
- Connected: Connected
- Unstable: Connection is unstable

Note

- For details about enabling the intercom function on a camcorder, refer to the manual for the camcorder.

Related Topic

- [Structure of the Streaming Screen](#)

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Supported Formats

This topic lists the streaming video formats supported by this software.

SDI output formats

1920×1080	59.94p, 59.94i, 50p, 50i
1280×720	59.94p, 50p
720×576	50i
720×480	59.94i

Video format

- SD-SDI: 720×576 50i, 720×480 59.94i (SMPTE ST 259M)
- HD-SDI: 1920×1080 59.94i, 1920×1080 50i, 1280×720 59.94p, 1280×720 50p (SMPTE ST 291M)
- 3G-SDI: 1920×1080 59.94p, 1920×1080 50p (SMPTE ST 425M Level-A/B)

Audio

2-channel audio

Audio format: 16-bit / 48 kHz

Note

- If the system frequency on the camcorder side is different from the SDI setting of this software, the streaming video/audio may be distorted when converting the frame frequency.

SDI input formats

1920×1080	59.94p, 59.94i, 50p, 50i
1280×720	59.94p, 50p

Video format

- HD-SDI: 1920×1080 59.94i, 1920×1080 50i, 1280×720 59.94p, 1280×720 50p (SMPTE ST 291M)
- 3G-SDI: 1920×1080 59.94p, 1920×1080 50p (SMPTE ST 425M Level-A/B)

Note

- When connecting an input signal to an SDI connector, connect an input signal with the same format as the SDI output.

SRT input formats

1920×1080	59.94p, 50p
1280×720	59.94p, 50p

Note

- SRT 4K format is not supported. If input, an error will occur.

Related Topic

- [Structure of the Streaming Screen](#)
- [Starting Streaming](#)

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Restrictions

The following restrictions occur when using this software.

- Streaming may be interrupted, depending on the network environment.
- A short delay may occur after setting the camcorder to network client mode until thumbnails are displayed in the Source area of the Connection Control Manager.
- Services may be modified, stopped, or terminated without notice. Sony does not assume any responsibility for services provided by third parties.

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