

PROJETO EXECUTIVO

REV 2

Câmeras PTZ e Sistema de IPTV

Assembléia Legislativa de Porto Alegre

Sumário

1.	Descrição do Projeto	4
1.1.	Escopo do projeto	4
1.1.1.	Descritivo REDE para funcionamento de solução de vídeo IPTV e OTT	4
1.1.2.	Descritivo alto nível de Fluxo de Vídeo para funcionamento de solução de vídeo IPTV e OTT	7
1.1.3.	Switcher de vídeo com NDI e SDI (Tricaster Mini HD-4SDI + Dell 210-AMKH).....	7
1.1.4.	Câmeras PTZ com NDI (SRGX120/W)	7
1.1.5.	Injetor PoE (Texas AT-16-56V240W)	7
1.1.6.	Controle Remoto de Câmera (Sony RMIP10).....	8
1.1.7.	Monitor para Multiviewer (Samsung UN43J5290AGXZD)	8
1.1.8.	Matriz de Vídeo (VHUBSMTCS6G1212)	8
1.1.9.	Conversor HDMI para NDI (Magewell 64020).....	8
1.1.10.	Conversor HD-SDI para NDI (Magewell 64030).....	8
1.1.11.	Distribuidor de Áudio (Rane DA216S)	8
1.1.12.	Sintonizador ISDB-Tb (AppearTV XC5100/CAB1PS400AC-01US)	8
1.1.13.	Set Top Box (Visiontec VT7728)	8
1.1.14.	Software de Visualização para Desktop e dispositivos móveis (PROGTV)	8
1.1.15.	Descritivo baixo nível de fluxo de vídeo para funcionamento de solução de vídeo OTT	10
1.1.16.	Requerimentos técnicos para Máquina Virtual fornecida pela ALRS	12
1.1.17.	Descritivo do fluxo de áudio para as câmeras.....	14
2.	Etapas	18
1.2.	Site Survey	18
1.3.	Aquisição de materiais	18
1.4.	Instalação da Infraestrutura	18
1.5.	Instalação dos Equipamentos	18
1.5.1.	Posicionamento das câmeras.....	18
1.6.	Configuração dos Equipamentos	28
1.7.	Testes	28

1.8. Treinamentos	28
1.9. As Built.....	28
1.10. Aceite.....	28
3. Cronograma.....	29
4. Indicação dos Profissionais	30
5. ART	31
6. Índice de Figuras.....	32

1. Descrição do Projeto

Solução para transmissão e recepção de canais de TV internos através de streaming na rede TCP/IP interna da ALRS e Internet (IPTV), compreendendo projeto executivo, equipamentos, software, serviços de instalação e configuração, garantia, suporte técnico e treinamento.

1.1. Escopo do projeto

Transmissão e recebimento via streaming multicast na rede TCP/IP da ALRS, para pelo menos 39 canais de TV (16 provenientes da TV Digital aberta, 19 de câmeras de vídeo internas, 3 de switchers de vídeo em aquisição e 1 proveniente do switch principal da TVAL) para pelo menos 194 TVs, computadores de mesa e dispositivos móveis (rede local cabeada, rede local WiFi e Internet), com resoluções SD@30fps e HD@30fps.

1.1.1. Descritivo REDE para funcionamento de solução de vídeo IPTV e OTT

O descritivo a seguir refere-se principalmente ao item 14 do edital, o qual é composto por uma solução integrada AppearTV com placa sintonizadora ISDB-Tb e encoder.

Das conexões:

Todos os dispositivos listados abaixo possuem somente uma única interface de Rede, a qual permite acesso para gerenciamento dos mesmos, assim como interface NDI ativa e streaming de vídeo em múltiplos protocolos.

- 19 x Câmeras de Vídeo Sony SRGX120/W
- 3 x Switchers Newtek Tricaster Mini
- 1 x Gravador e codificador Aja Helo

Todos os 22 itens listados acima deverão ter suas respectivas interfaces de rede conectadas a um ou mais switches de rede que permitam o uso de VLAN, tenham suporte a IGMP Snooping e que possuam interfaces que suportem no mínimo taxas de 1000 mpbs.

Das VLANs:

No diagrama abaixo (Figura 1- Desenho esquemático de Rede) é sugerido a criação de quatro VLAN(s) com o intuito de segmentar a rede. O objetivo com as VLAN(s) é poder segmentar cada fluxo de vídeo específico em um determinado sentido e propósito.

A criação destas VLAN(s) não é uma premissa, contudo pode prevenir possíveis problemas de tráfego e propagação de fluxo de vídeo em determinadas situações, cabe a equipe de TI da ALRS junto com a SEAL determinarem se é possível ou não adotar tais ou outras VLAN(s). Algumas VLANs, como Internet e Gerencia, estão sendo designadas para exemplificar o nível de acesso de Rede que será designado para um dos elementos associados à VLAN.

- **VLAN NDI**
 - Permitir a conexão NDI entre os dispositivos correlacionadas como Câmeras Sony SRGX120/W, Aja Helo e Switchers Newtek Tricasters Mini
 - Permitir o consumo dos streams de vídeo Unicast pelo AppearTV XC5100
 - Permitir o gerenciamento Câmeras Sony SRGX120/W, Aja Helo e Switchers Newtek Tricasters Mini
- **VLAN GERENCIA**
 - Permitir o gerenciamento do AppearTV XC5100
- **VLAN STREAM**
 - Fluxo Multicast e/ou Unicast gerado pelo AppearTV XC5100
 - Consumo do Stream Multicast por parte do STB Visiontec VT7728
 - Consumo do Stream Unicast por parte do Packager/Origin Server
- **VLAN INTERNET**
 - Permitirá que o Aja Helo e os Switchers Newtek Tricaster Mini gerem fluxo de vídeo diretamente para a Internet, sem a necessidade de outros elementos. Exemplo: Streaming diretamente para o Youtube

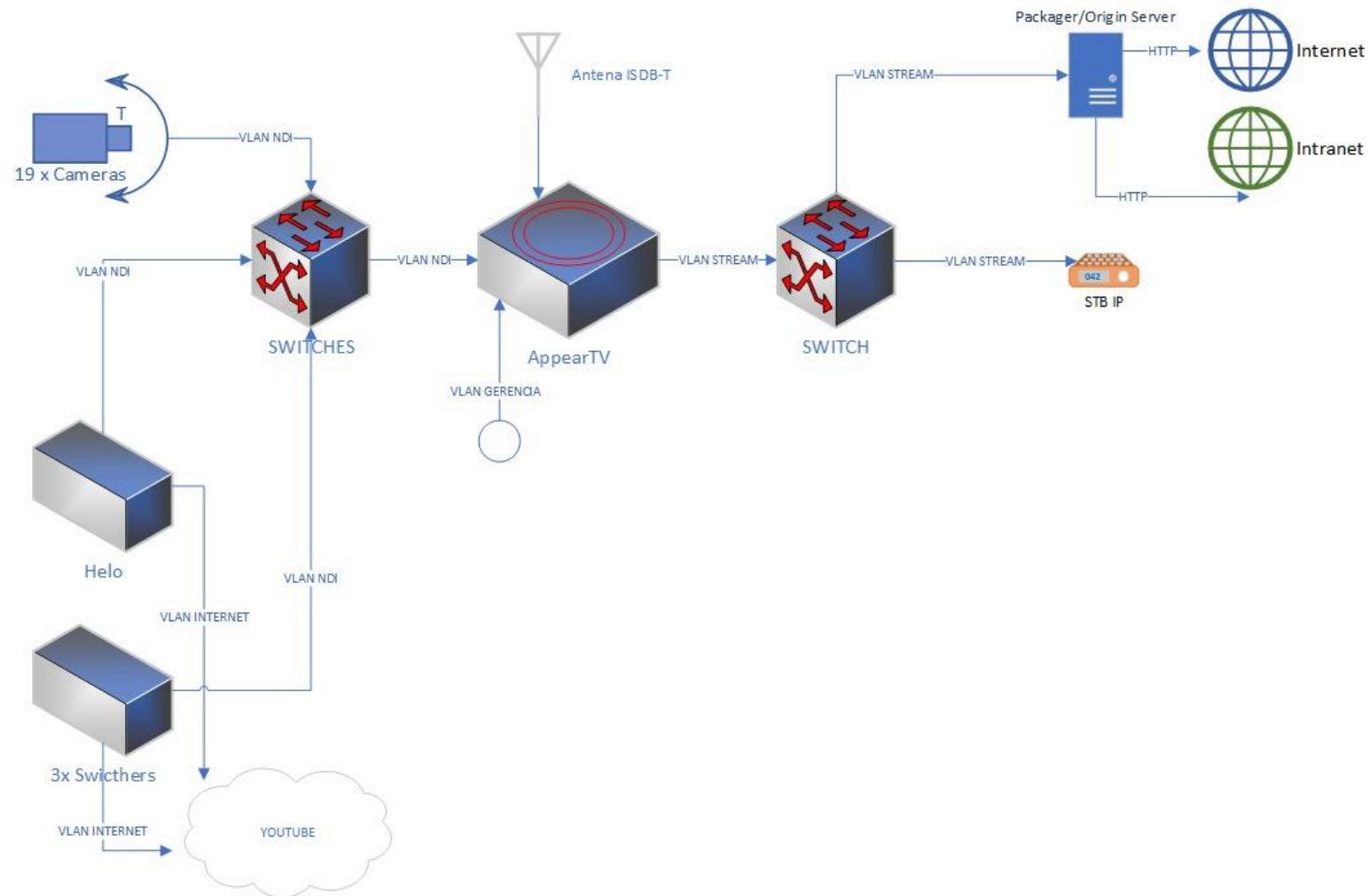


Figura 1- Desenho esquemático de Rede

1.1.2. Descritivo alto nível de Fluxo de Vídeo para funcionamento de solução de vídeo IPTV e OTT

A solução proposta abaixo para permitir a geração de Fluxo de Vídeo que deverá ser consumido por STB IP, PC e dispositivos móveis como celulares e Tabletes compreenderá os seguintes inputs e output:

Dos Inputs:

- 19 x Fluxos de Vídeo Unicast proveniente das Câmeras Sony SRGX120/W
- 3 x Fluxos de Vídeo Unicast provenientes dos Switchers Newtek Tricaster Mini
- 1 x Fluxo de Vídeo Unicast proveniente do Aja Helo
- 16 x Sinais ISDB-T

Dos Outputs:

- 38 x Fluxos de Vídeo Multicast (IPTV)
- 4 x Fluxos de Vídeo Unicast ABR HLS (OTT)

1.1.3. Switcher de vídeo com NDI e SDI (Tricaster Mini HD-4SDI + Dell 210-AMKH)

O switch de vídeo possui integrado na unidade, um switcher de vídeo propriamente dito, para as funções de corte de sinais fontes, gravador de vídeo, gerador de caracteres, mixer de áudio e gerador de streaming de áudio e vídeo para operação ao vivo. Estão incluídos 1 (um) monitor de computador de 23 polegadas, modelo 210-AMKH, para a operação de cada switcher.

1.1.4. Câmeras PTZ com NDI (SRGX120/W)

A câmera que irá captar imagens das diversas áreas internas da ALRS, Sony modelo SRGX120/W, enviará aos switchers de vídeo e ao servidor de distribuição. A câmera fornecida é voltada ao mercado de broadcast.

1.1.5. Injetor PoE (Texas AT-16-56V240W)

Serão fornecidos injetores PoE Texas AT-16-56V240W PoE+ (802.3at type 2), com 16 portas e duas fontes de 150W

As câmeras ofertadas, modelo SRGX-120, consomem uma potência máxima de 25,5W, este consumo refere-se a todas as operações das câmeras sendo executadas simultaneamente, zoom, pan, tilt, e principalmente, streaming em 4K que não é objeto deste projeto.

O máximo de câmeras conectadas por andar será 6, sendo a potência fornecida por cada injetor PoE excede o consumo total das câmeras por andar. Porém, ainda que conectadas 10 câmeras, não demandaríamos mais dos que os 240W.

Podemos conectar 2 x fontes de 150W em cada injetor PoE, totalizando 300W. Com o intuito de não deixar arestas, a SEAL irá fornecer, além das fontes ofertadas, mais 2 fontes de 150W por injetor PoE.

1.1.6. Controle Remoto de Câmera (Sony RMIP10)

Será fornecido o controle remoto Sony RMIP10 será utilizado para operar as câmeras descritas.

1.1.7. Monitor para Multiviewer (Samsung UN43J5290AGXZD)

Será fornecido um televisor de 43 polegadas Samsung UN43J5290AGXZD e um suporte para uso em conjunto com o multiviewer.

1.1.8. Matriz de Vídeo (VHUBSMTCS6G1212)

Será fornecido o modelo Blackmagic VHUBSMTCS6G1212 com 12 entradas de vídeo nos formatos SD-SDI e HD-SDI (10 bits). e 12 saídas de vídeo nos formatos SD-SDI e HD-SDI (10 bits).

1.1.9. Conversor HDMI para NDI (Magewell 64020)

Será fornecido o modelo Magewell 64020, Deve possuir entrada de vídeo HDMI, com loop; que permite trabalhar com áudio embedded no vídeo, com até 8 canais.

1.1.10. Conversor HD-SDI para NDI (Magewell 64030)

Será fornecido o modelo Magewell 64030, que possui entrada de vídeo, padrão HD-SDI, SMPTE 292M, 1920 x 1080, 59,94i.

1.1.11. Distribuidor de Áudio (Rane DA216S)

Será fornecido o equipamento DA216S, que é capaz de receber um sinal de áudio estéreo e distribuir este sinal para 16 saídas.

1.1.12. Sintonizador ISDB-Tb (AppearTV XC5100/CAB1PS400AC-01US)

A solução AppearTV fornecida possui um cartão sintonizador capaz de sintonizar 4 canais HD ou 28 canais SD.

1.1.13. Set Top Box (Visiontec VT7728)

Equipamento que irá receber os canais de vídeo provenientes dos switchers de vídeo, câmeras PTZ e canais abertos e os exibirá em TVs de LCD existentes. Será instalado utilizando-se fita dupla fácil de grande aderência para fixação na traseira do monitor.

1.1.14. Software de Visualização para Desktop e dispositivos móveis (PROGTV)

Será fornecida a aplicação PROGTV, aplicativo de uso livre para os objetivos deste projeto de forma perpétua, na rede local da ALRS.

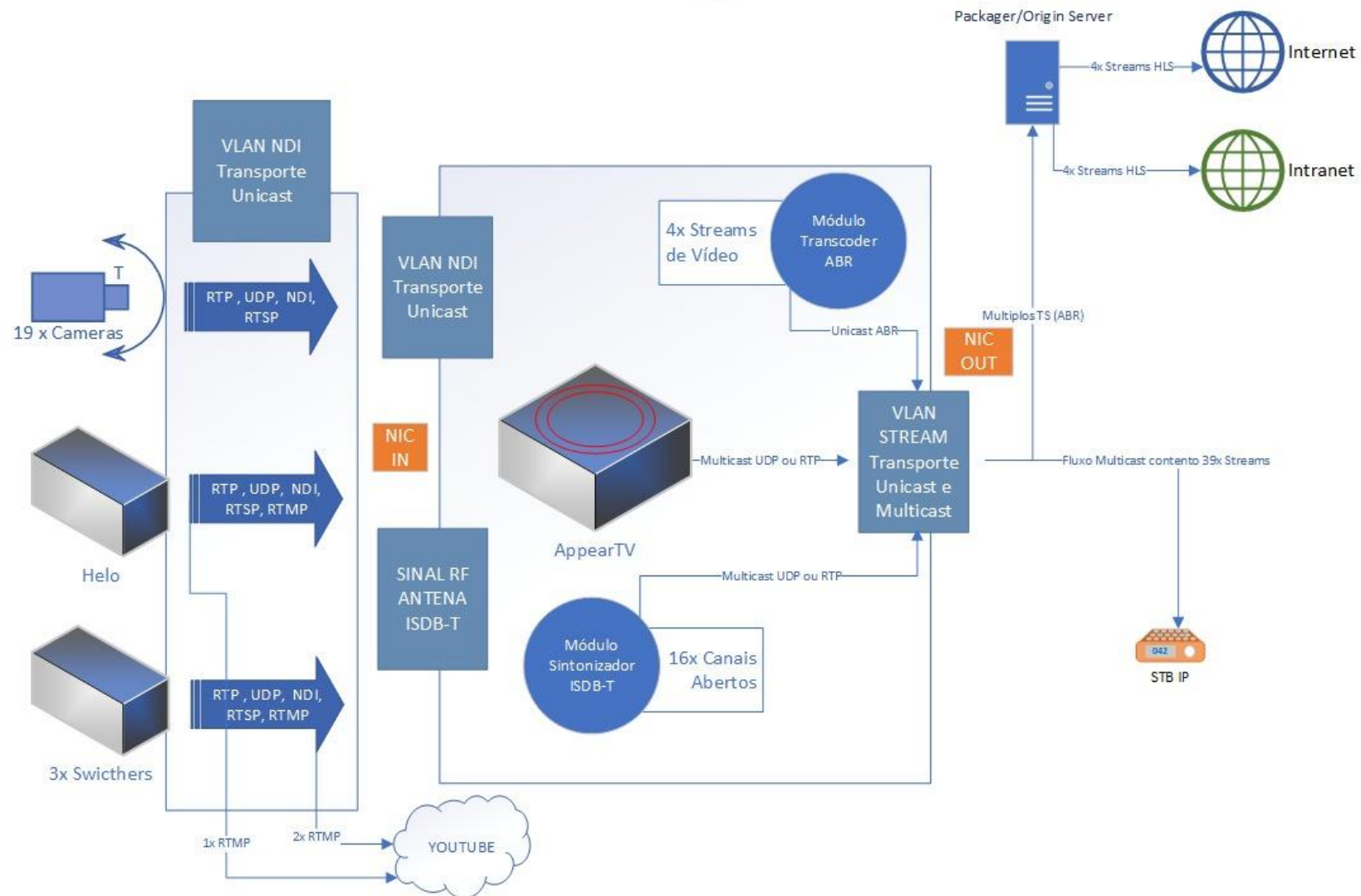


Figura 2 – Desenho esquemático de Fluxo de Vídeo de alto nível

1.1.15. Descritivo baixo nível de fluxo de vídeo para funcionamento de solução de vídeo OTT

O funcionamento da entrega de Fluxo de vídeo para dispositivos móveis como SmartPhone, Tablet e PC será feito conforme descritivo abaixo.

Dos Inputs:

- 4 x Inputs “escaláveis” – Aonde esses inputs poderão variar dependendo do conteúdo que será transmitido (*streamings*).

Dos Outputs:

- 4 x URLs HLS ABR (.m3u8)

Do Funcionamento:

O elemento AppearTV ficará responsável por fazer a “busca” dos *streamings unicast* oriundos diretamente das Câmeras, Switchers, Helo e/ou dos *streamings multicast* agrupados e gerados internamente pelo próprio AppearTV. Com auxílio do módulo de *transcoder*, o AppearTV irá selecionar 4 Inputs (Unicast ou Multicast) HD e irá transcodificá-los e separá-los em distintos perfis de vídeo, com resoluções e taxas de bits (serão adotados de 2 a 4 perfis com resoluções e taxas distintas).

Após a criação desses distintos perfis de vídeos para os 4 inputs, (*streamings*) selecionados, serão gerados diferentes arquivos *.ts chunk*, os quais serão depositados em 4 diferentes diretórios dentro do *Packager*.

Como parte do funcionamento do *Packager*, um *encoder* baseado em FFMPEG fará a leitura/entrada, decodificação de arquivos *.ts* nestes 4 diretórios. Através de uma rotina interna associada a um *WebServer*, também conhecido com *Origin Server*, será possível identificar esses diferentes arquivos *.ts* provenientes de outputs distintos, e agrupá-los em 4 *manifest files HLS* conhecidos como lista m3u8

No final, estas 4 listas m3u8 serão associadas ao fluxo contínuo de entrega de cada arquivo *.ts chunk* de cada respectivo output, e ficarão disponíveis em 4 diferentes URLs dentro do *Origin Server*, podendo assim, serem acessadas pela Intranet ou Internet.

Essas 4 URLs poderão então ser disponibilizadas pela ALRS em sua página WEB para assim serem acessados por dispositivos móveis e/ou PCs.

Nota 1: O Packager e Origin Server rodaram na mesma Máquina Virtual que será disponibilizada pela ALRS.

Nota 2: A sinalização/informação de qual conteúdo está sendo feito “streaming” através dessas 4 URLs deverá ser feita pela ALRS, ou seja, não existe nenhum tipo de sinalização que possa ser comanda ou enviada a partir do AppearTV, Packager ou Origin Server na atual solução.

Nota 3: No diagrama da Figura 2 acima, é possível identificar um bloco chamado de VLAN NDI “Fluxo Unicast”. Basicamente esse bloco sinaliza que existe uma única conexão lógica/física com a Camera IP, contudo múltiplos protocolos podem ser utilizados para o “Stream” e conexão da câmera, por exemplo, com o Switcher.

Ou seja, a câmera propaga sua informação, seu protocolo/endereço NDI na rede de forma transparente ao mesmo tempo que habilita sua sinalização IP/UDP. Essa configuração é feita na GUI de gerenciamento da câmera.

Esta funcionalidade já foi testada em laboratório. Isto é, o sinal a ser "lido" pelo Switcher através de NDI não impede a câmera de fazer um stream IP/UDP que pode ser identificado pelo ApppearTV, encoder ou mesmo diretamente pelo STB.

Da seleção dos Inputs:

Existirão 2 maneiras possíveis de selecionar os Inputs:

Opção 1: Seleção de através do AppearTV

Na opção 1, existirão 4 inputs sendo selecionados no módulo de *transcoding* do AppearTV, ou seja, toda vez que alguém quiser selecionar um novo input será necessário apontar para o Fluxo Multicast (IP:Porta) ou Fluxo Unicast (IP:Porta) da Câmera, Switcher e/ou Helo que se deseja transcodificar. E finalmente, salvar essa configuração.

Opção 2: Seleção através dos Switchers

Na opção 2, supondo que somente os 4 Switchers irão gerenciar os sinais que serão “cortados”. Bastaria deixar configurado no módulo de *transcoding* do AppearTV sempre os 3 Fluxos Multicast (IP:Porta) ou Fluxos Unicast (IP:Porta) oriundos dos Switchers, assim como 1 Fluxo Multicast (IP:Porta) ou Fluxo Unicast (IP:Porta) oriundo do Helo, que por sua vez está conectado a um quarto Switcher através de SDI.

Ou seja, nada seria alterado no AppearTV e sempre existiria uma configuração fixa. O responsável por fazer a alternância dos sinais seriam os 4 Switchers.

1.1.16. Requerimentos técnicos para Máquina Virtual fornecida pela ALRS

16Gb RAM, 100GB Disco, O.S. CentOS 7, 8vCPUs, IO de rede deve suportar alto fluxo de download e ter boa disponibilidade de banda.

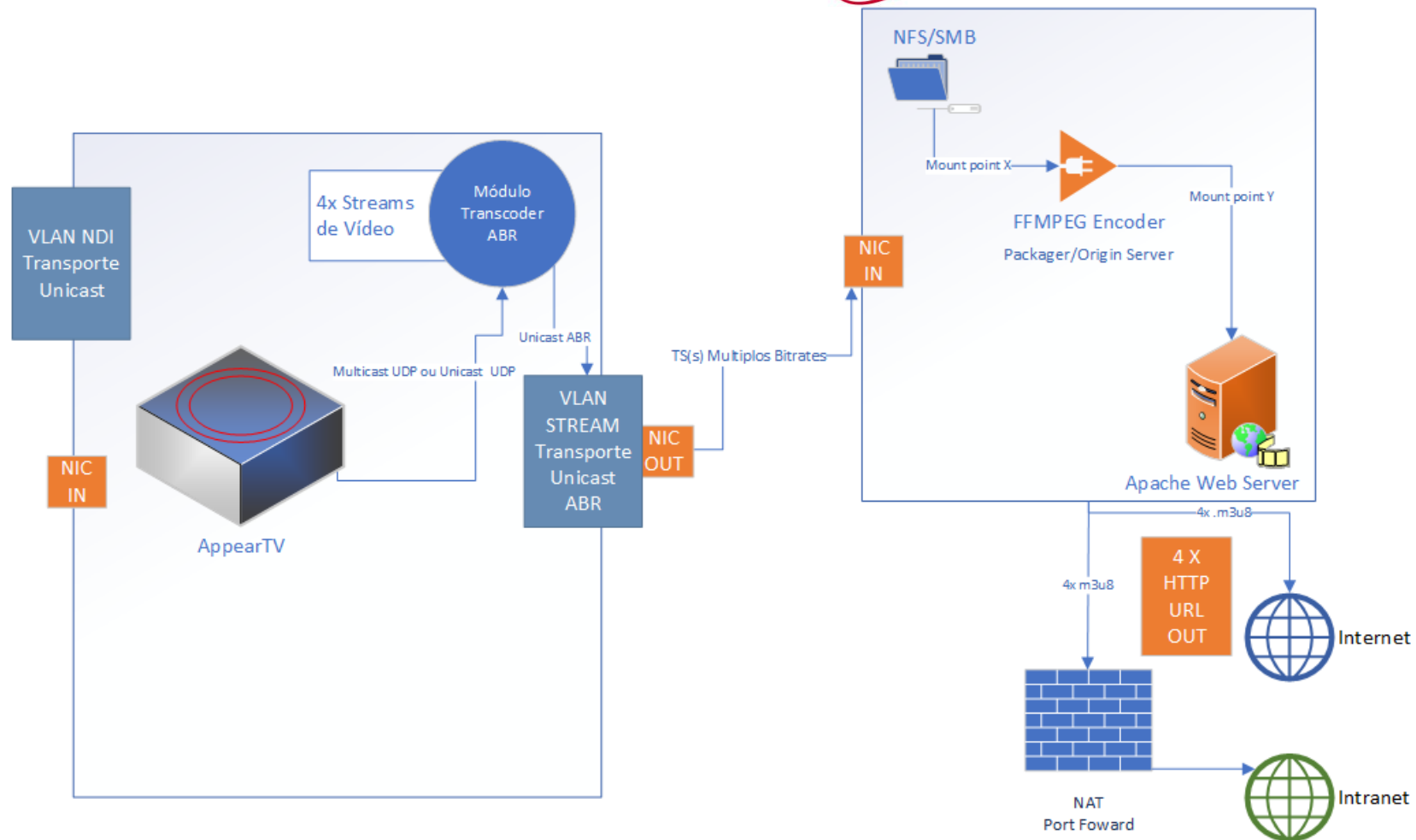
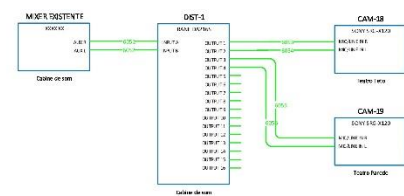
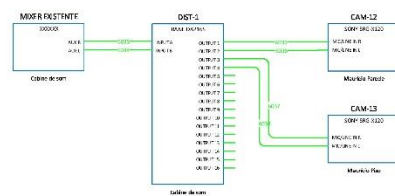
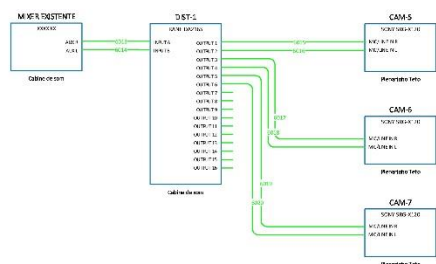
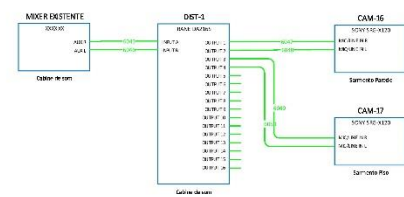
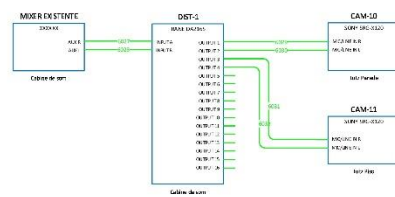
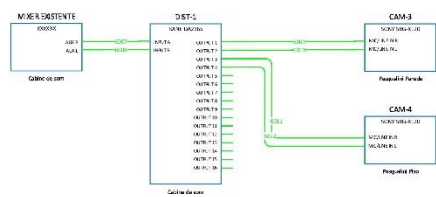
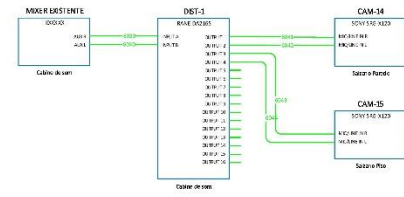
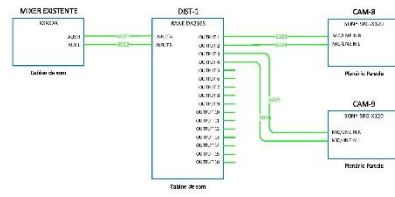
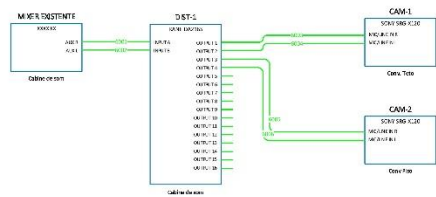


Figura 3 - Desenho esquemático de Fluxo de Vídeo de baixo nível

1.1.17. Descritivo do fluxo de áudio para as câmeras

Uma vez que já existe um sistema de captação e mistura de áudio instalado na ALRS, o presente projeto prevê o uso do Distribuidor de Áudio (Rane DA216S) para receber o sinal de saída *máster* do sistema atualmente instalado e distribuí-lo até as câmeras, conforme diagrama a seguir.

Pretende-se utilizar duas saídas auxiliares balanceadas da mesa de som existente. Estas se conectarão às entradas do Distribuidor de Áudio (Rane DA216S). Duas saídas do distribuidor serão utilizadas para cada câmera. O sinal balanceado oriundo do distribuidor será desbalanceado no cabo (por eliminação de uma das duas fases) e será conectado em uma das entradas padrão 3,5 mm (P2) da câmera.



LEGENDA — LINHA 1 — LINHA 2 — LINHA 3 — LINHA 4 — LINHA 5 — LINHA 6 — LINHA 7 — LINHA 8 — LINHA 9 — LINHA 10 — LINHA 11 — LINHA 12 — LINHA 13 — LINHA 14 — LINHA 15 — LINHA 16 — LINHA 17 — LINHA 18 — LINHA 19 — LINHA 20 — LINHA 21 — LINHA 22 — LINHA 23 — LINHA 24 — LINHA 25 — LINHA 26 — LINHA 27 — LINHA 28 — LINHA 29 — LINHA 30 — LINHA 31 — LINHA 32 — LINHA 33 — LINHA 34 — LINHA 35 — LINHA 36 — LINHA 37 — LINHA 38 — LINHA 39 — LINHA 40 — LINHA 41 — LINHA 42 — LINHA 43 — LINHA 44 — LINHA 45 — LINHA 46 — LINHA 47 — LINHA 48 — LINHA 49 — LINHA 50 — LINHA 51 — LINHA 52 — LINHA 53 — LINHA 54 — LINHA 55 — LINHA 56 — LINHA 57 — LINHA 58 — LINHA 59 — LINHA 60 — LINHA 61 — LINHA 62 — LINHA 63 — LINHA 64 — LINHA 65 — LINHA 66 — LINHA 67 — LINHA 68 — LINHA 69 — LINHA 70 — LINHA 71 — LINHA 72 — LINHA 73 — LINHA 74 — LINHA 75 — LINHA 76 — LINHA 77 — LINHA 78 — LINHA 79 — LINHA 80 — LINHA 81 — LINHA 82 — LINHA 83 — LINHA 84 — LINHA 85 — LINHA 86 — LINHA 87 — LINHA 88 — LINHA 89 — LINHA 90 — LINHA 91 — LINHA 92 — LINHA 93 — LINHA 94 — LINHA 95 — LINHA 96 — LINHA 97 — LINHA 98 — LINHA 99 — LINHA 100	ALRS IPTV Áudio V2
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Figura 4 – Diagrama executivo de áudio

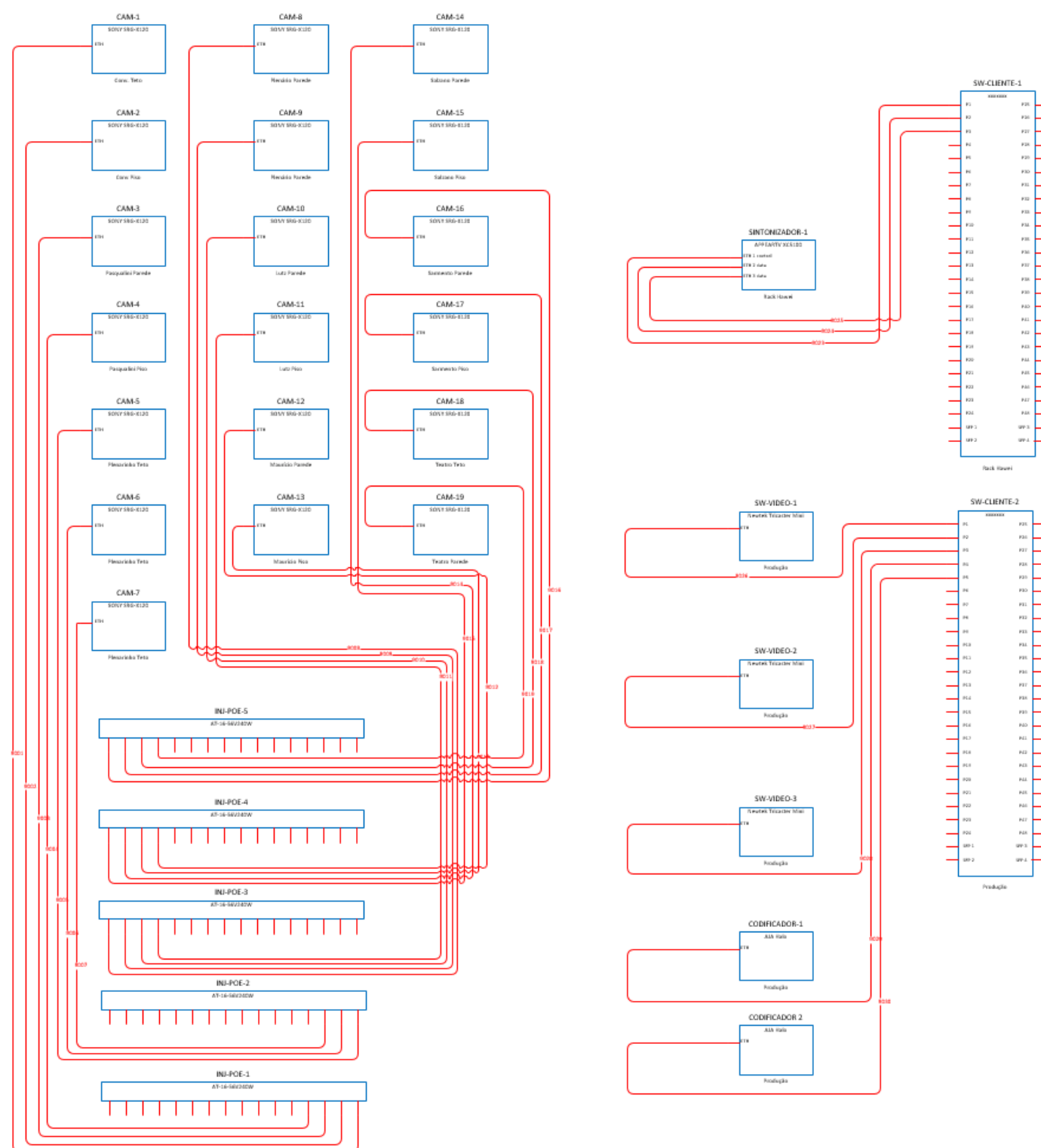


Figura 5 - Diagrama executivo de rede

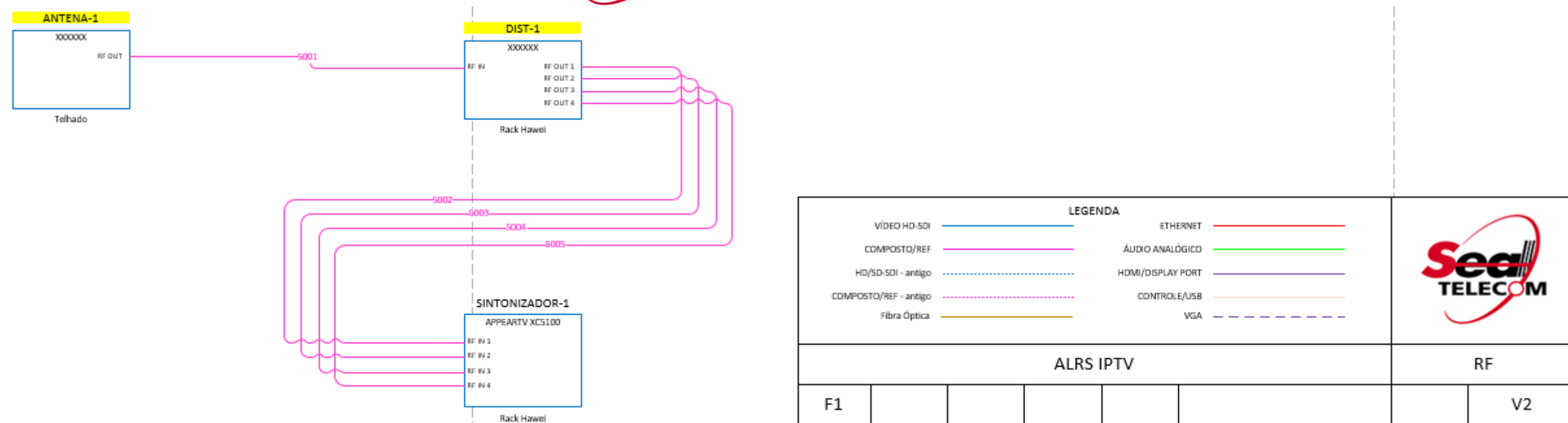


Figura 6 - Diagrama executivo de RF

2. Etapas

1.2. Site Survey

Nesta etapa, a Seal realizará uma visita para vistoriar as instalações com o objetivo de extrair as devidas medições de distâncias para cabeamento, bem como fazer um levantamento dos equipamentos existentes.

1.3. Aquisição de materiais

A partir do levantamento realizado na etapa de Site Survey, a Seal irá realizar a compra de todos materiais para instalação, levando em consideração a qualidade dos mesmos e também do prazo de entrega.

1.4. Instalação da Infraestrutura

Em alguns casos será necessário realizar a implementação de eletrodutos e/ou eletrocalhas para que as câmeras e TVs fiquem devidamente instalados. Esta etapa existe prevendo este tipo de execução.

1.5. Instalação dos Equipamentos

A instalação física dos equipamentos ocorrerá obedecendo aos manuais de instalação de cada fabricante. Além disso, serão obedecidas todas as normas vigentes e aplicáveis pelos respectivos órgãos técnicos, bem como seguiremos as melhores práticas de mercado.

Todos os produtos serão instalados nos locais indicados pela ALRS, utilizando o cabeamento lógico e tomadas elétricas existentes. Toda a solução deverá ser configurada buscando qualidade otimizada nas imagens geradas

1.5.1. Posicionamento das câmeras

As plantas a seguir definem o local em que as câmeras serão instaladas. Ajustes poderão ser feitos no momento da instalação, por conta de percalços de infraestrutura.

Haverá a possibilidade de ajustes das posições das Câmeras, levando em consideração os resultados dos testes de enquadramentos.

CORREDOR
PD = 2.36 m (gesso)

ACESSO
Fórum Democrático

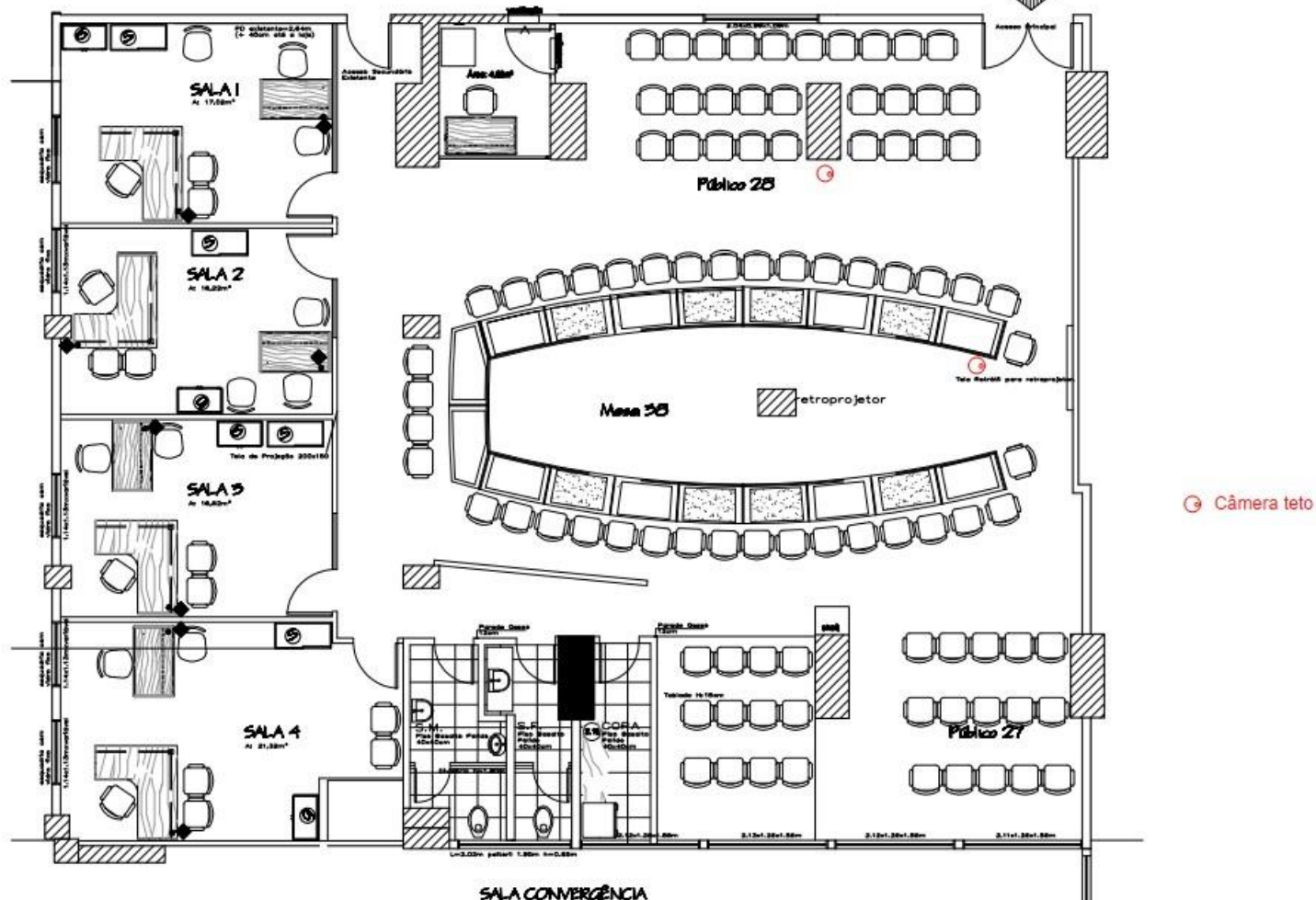
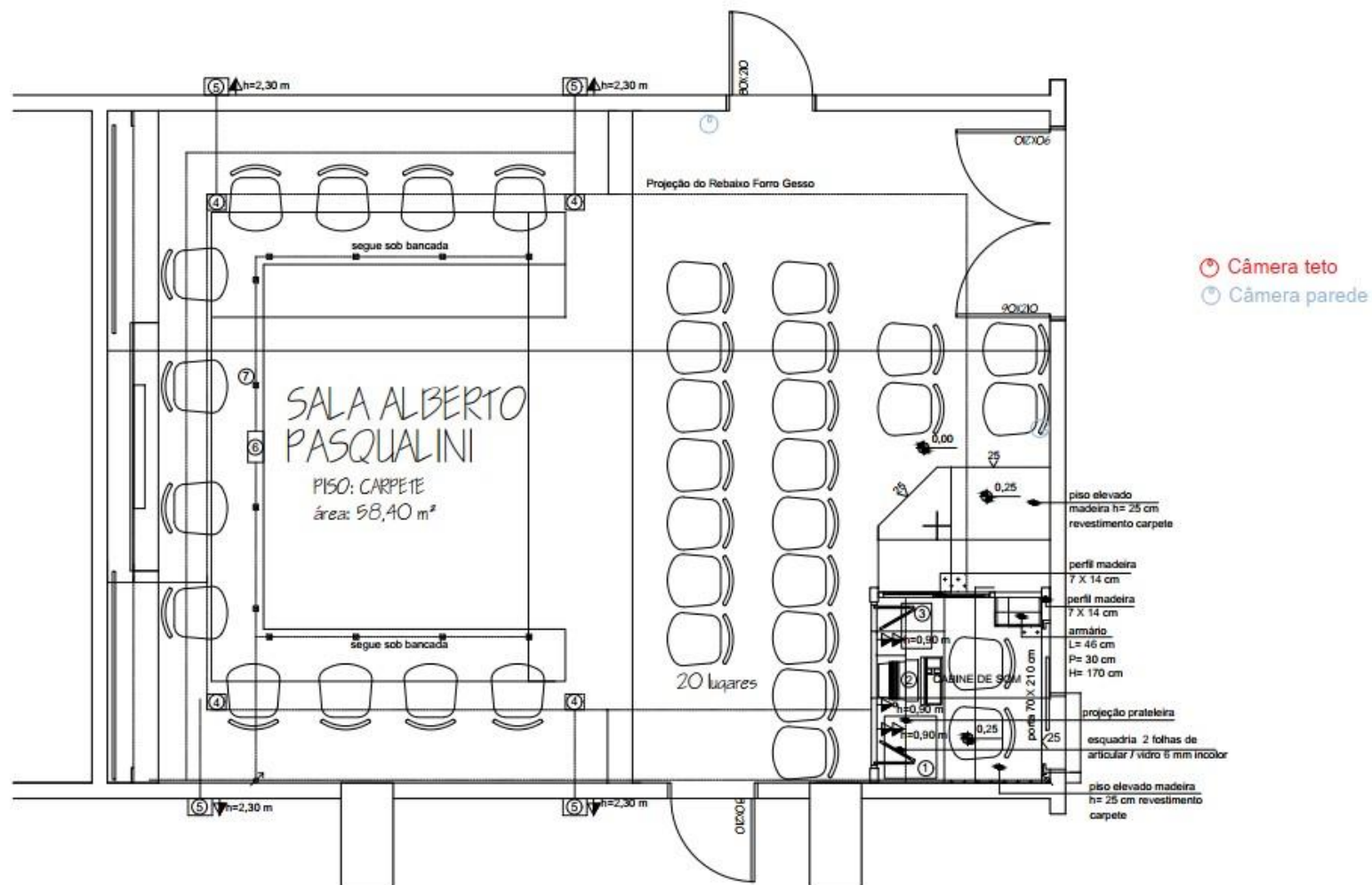
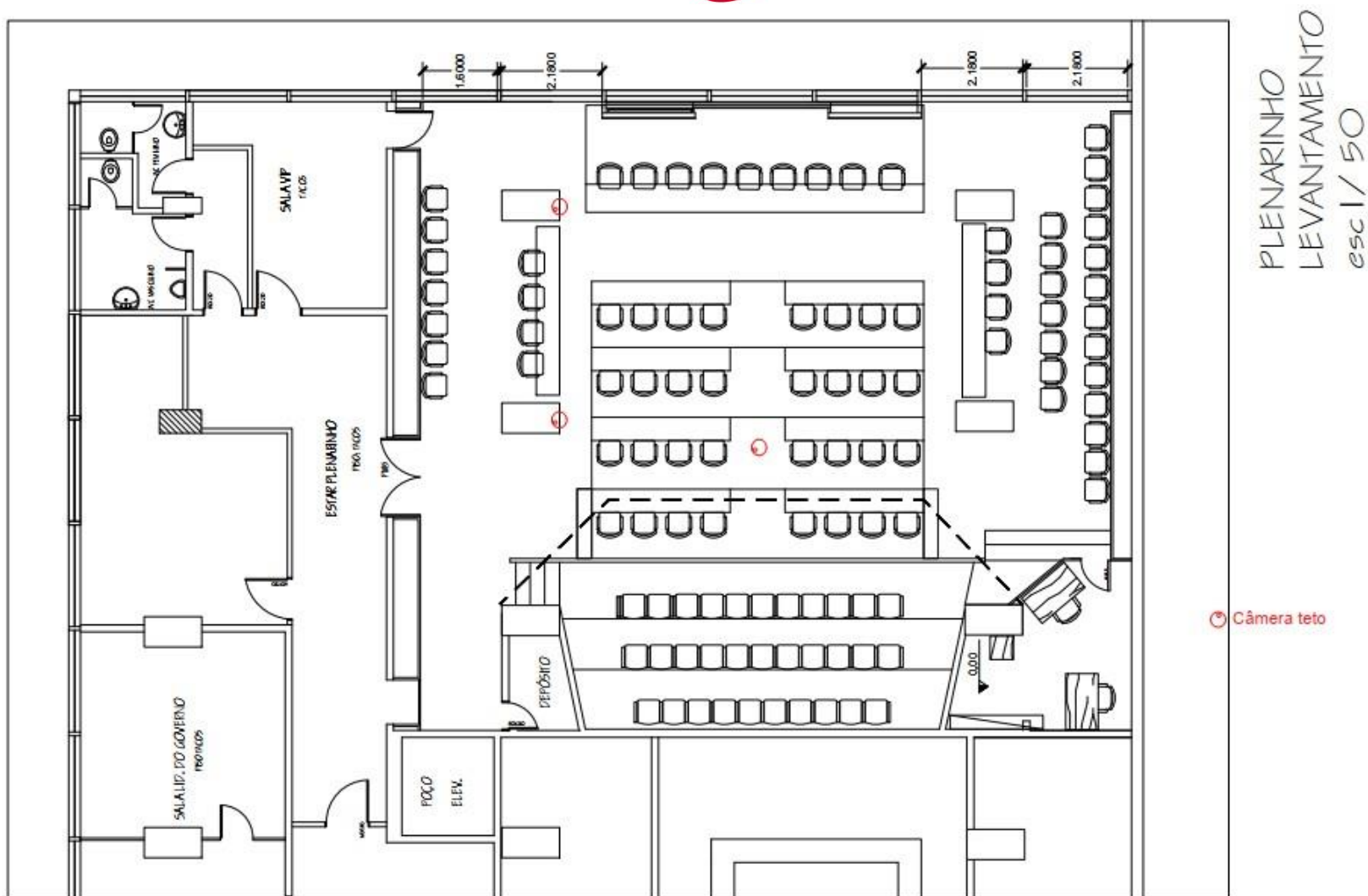


Figura 7 - Planta da Sala Convergência



Sala Alberto Pasqualini
Planta de Obra

Figura 8 - Sala Alberto Pasqualini



EXISTENTE - DISTRIBUIÇÃO CADEIRAS GALERIAS DO PLENÁRIO
AGOSTO 2017

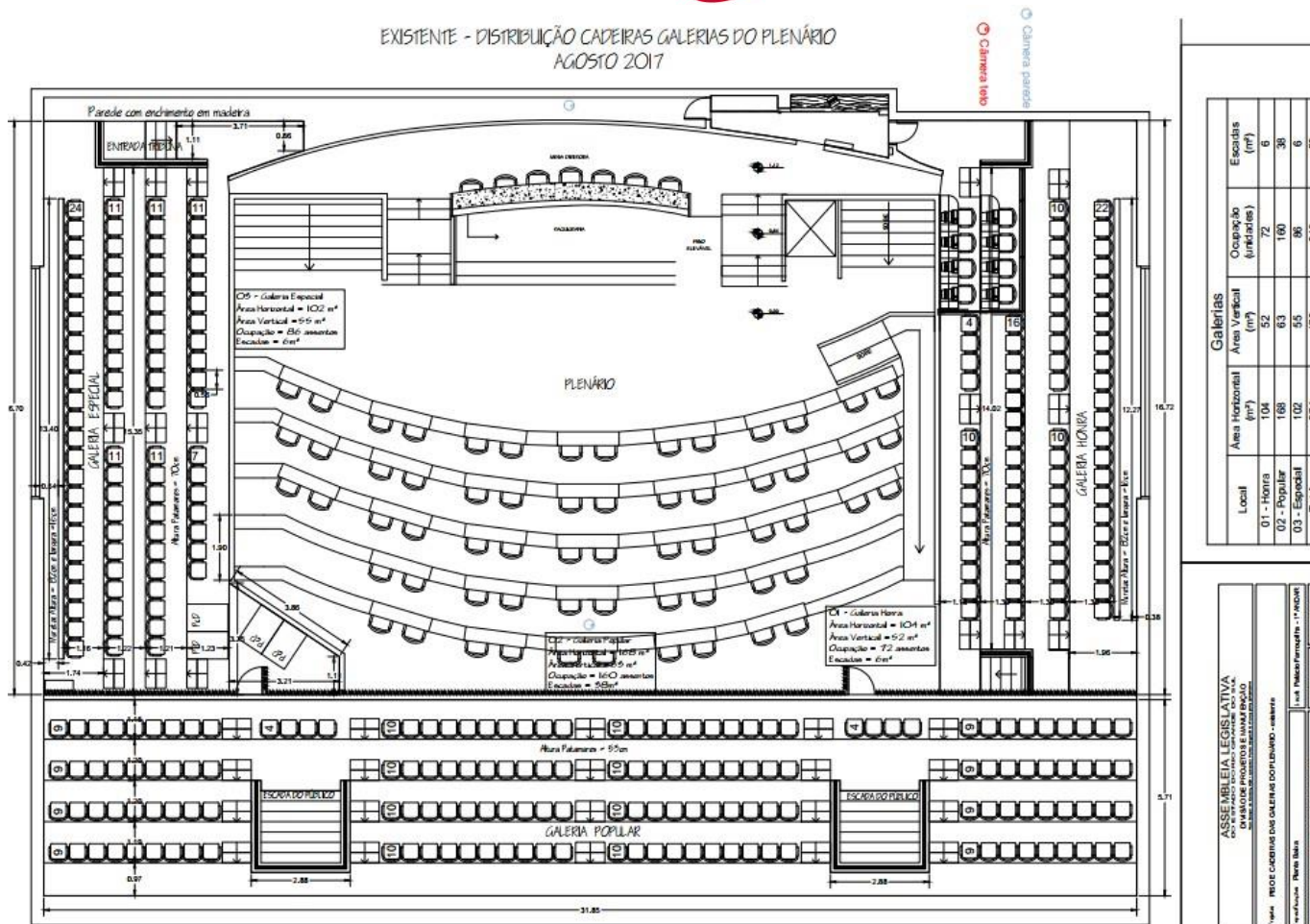


Figura 10 – Planta do Plenário

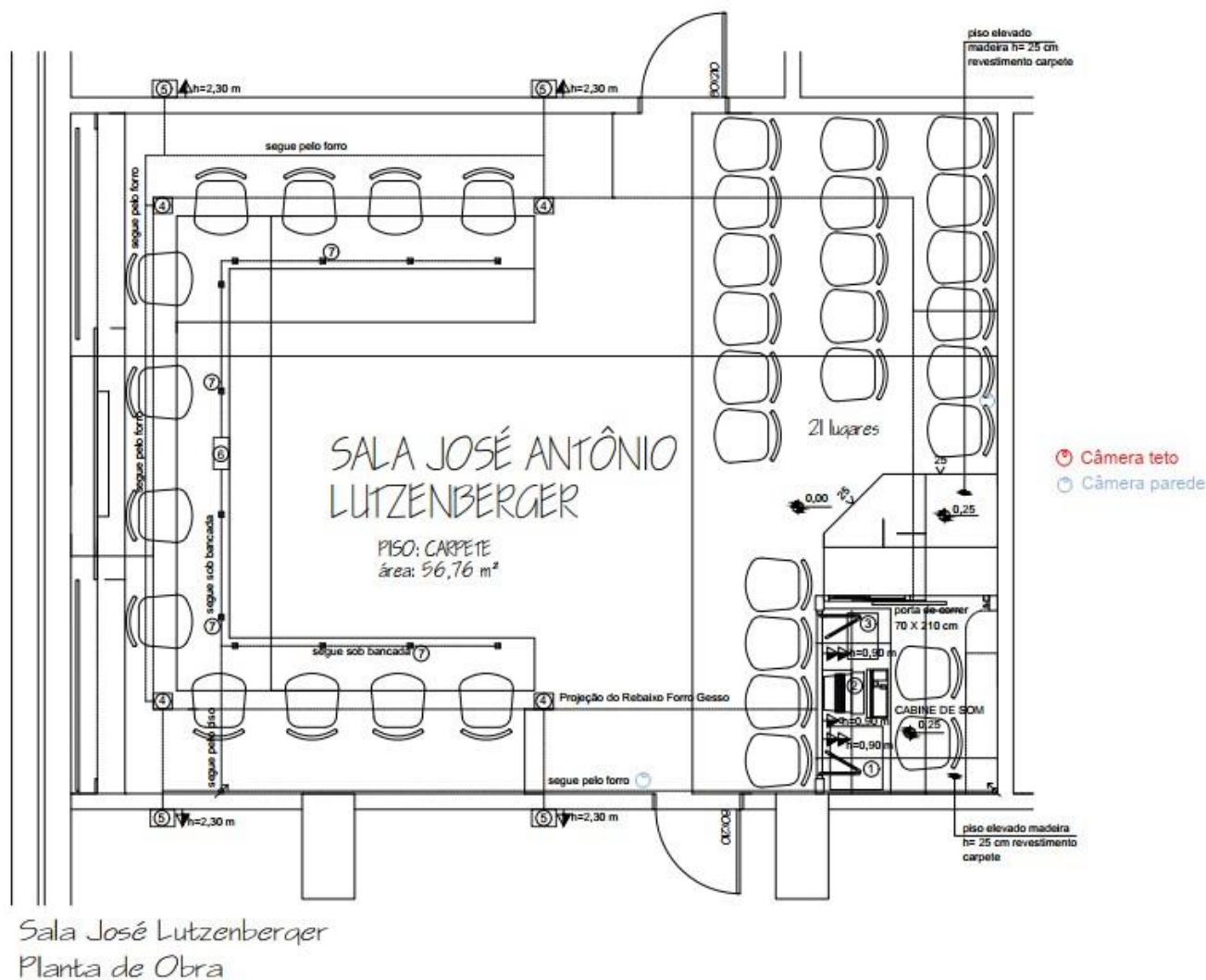


Figura 11 - Planta da Sala José Antônio Lutzenberger

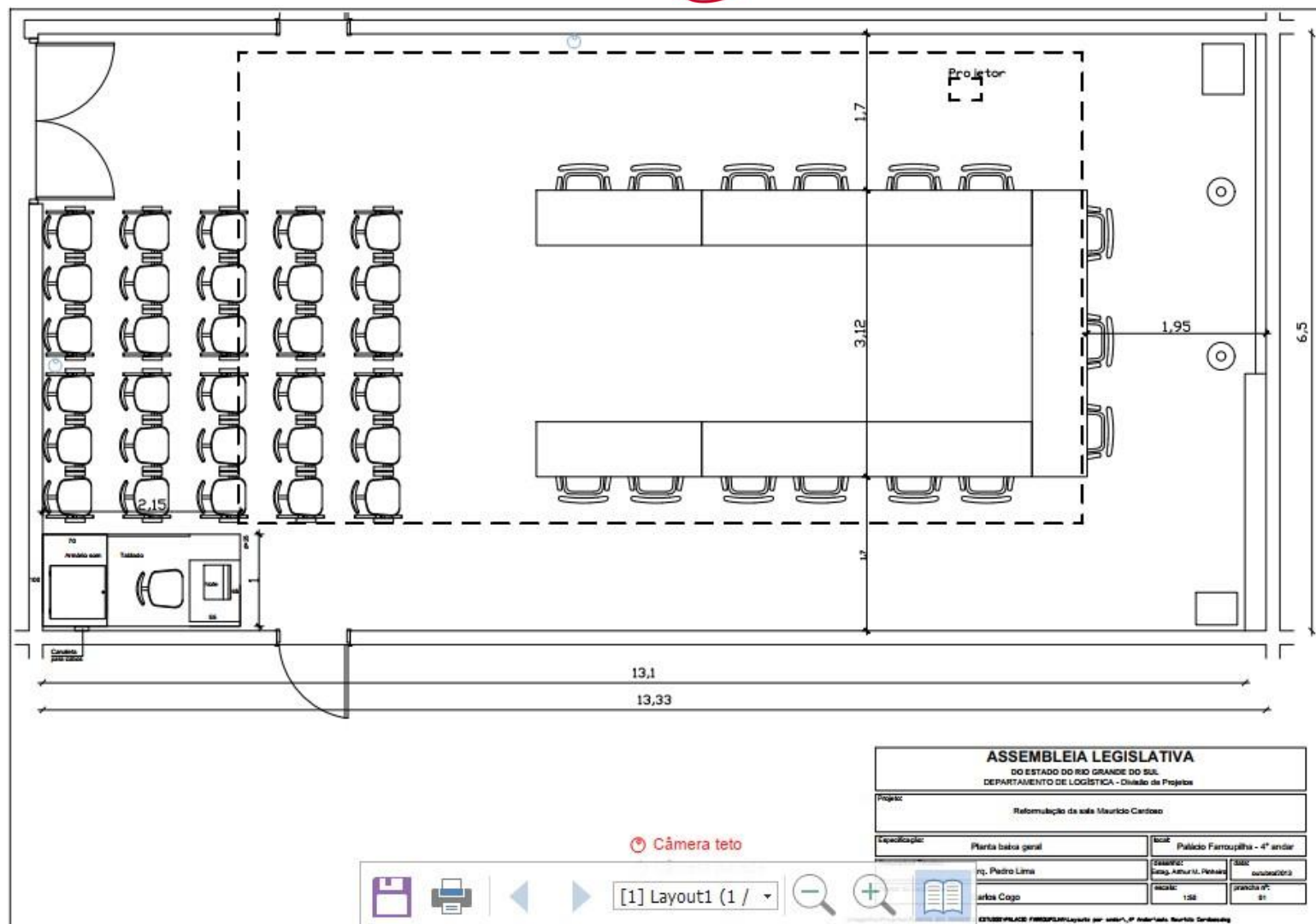


Figura 12 - Planta da Sala Maurício Cardoso

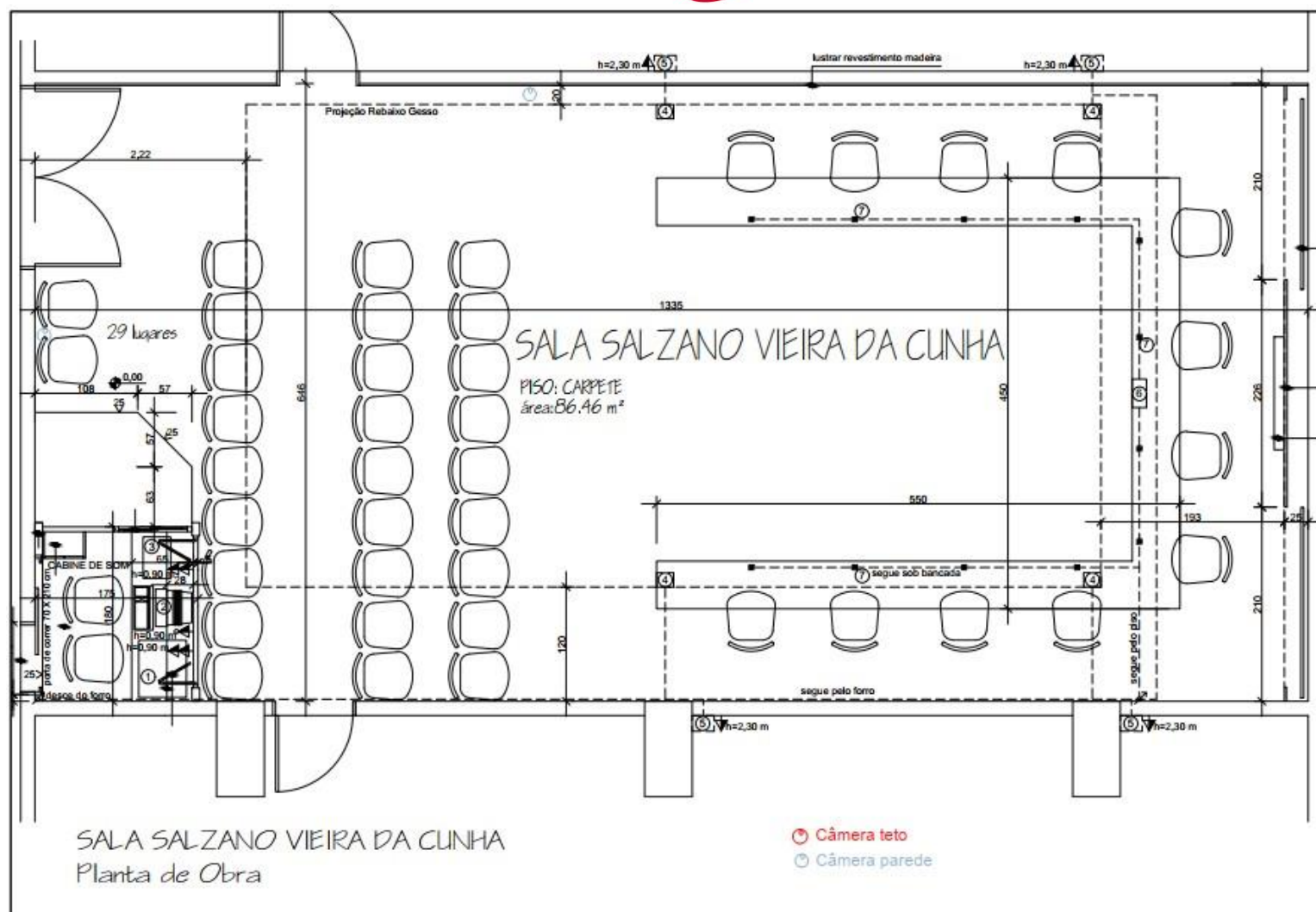


Figura 13 - Planta da Sala Salzano Vieira da Cunha

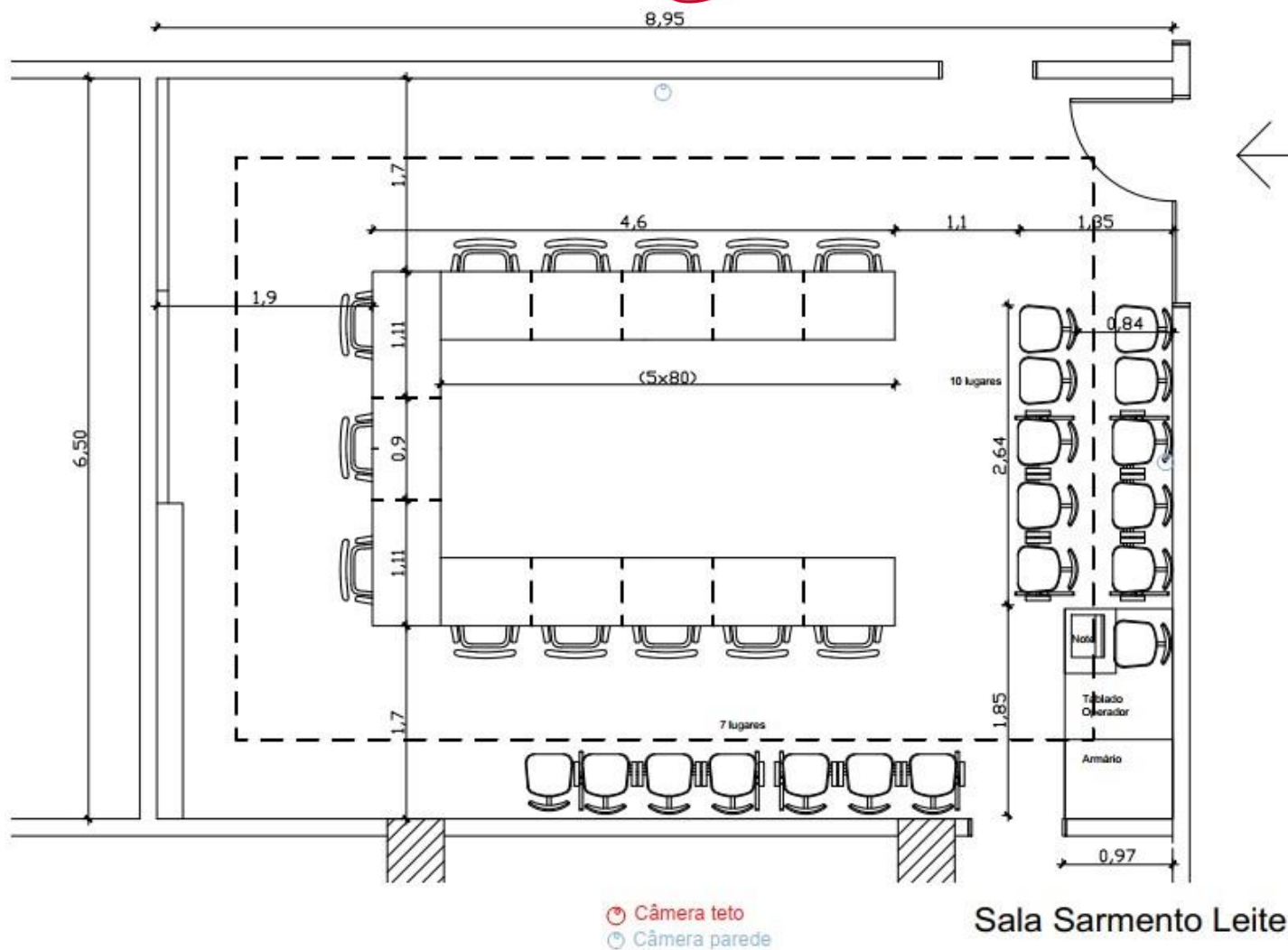


Figura 14 - Planta da Sala Sarmento Leite

ASSEMBLEIA LEGISLATIVA RUA BRITÂNICO DE MENDONÇA, 500 - JARDIM DEPARTAMENTO DE LOGÍSTICA - Divisão de Projetos Rua Antônio de Castro Alves, 1 - Centro Histórico - Salvador - BA - 41010-000			
projeto		Layout	
Projeto: PLANTA BAIXA		Local: Polícia Ferroviária	
Responsável Técnico: Engº Marco Kötter - CREA 56.960		Data: 02/09/2010	
Diretora do Departamento: Engª Tatiana Poltzen - CREA 64.406		Data: 02/09/2010	

Seal Telecom Comércio e Serviços de Telecomunicações Ltda.
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Filial – MS - Av Eng. Marcelo Miranda Soares, 1425 Vila Santo Antonio Paranaíba/MS – CEP: 79500-000
www.sealtelecom.com.br – Telefone da Matriz: 11.3877.4000 - Fax: 11.3877.4011

1.6. Configuração dos Equipamentos

Os equipamentos serão configurados de acordo com os objetivos do projeto, a fim de proporcionar o melhor desempenho e agilidade de operação. Serão executadas as devidas atualizações de firmwares necessárias no momento da configuração inicial.

1.7. Testes

A Seal irá produzir um caderno de testes com o objetivo de estressar o sistema instalado. Os testes serão aplicados em conjunto com o corpo técnico da ALRS.

1.8. Treinamentos

A Seal irá dividir o treinamento em dois tipos: técnico e operacional. O treinamento deverá ser oferecido para pelo menos 6 servidores da ALRS, com carga horária mínima de 8 hora.

1.9. As Built

A partir dos dados obtidos após a instalação, a Seal irá revisar o projeto executivo e irá entregar uma nova documentação contemplando lista de cabos e diagrama da solução implantada.

1.10. Aceite

Nesta etapa, a ALRS irá homologar a solução baseado no resultado positivo obtido após a aplicação do caderno de testes.

3. Cronograma

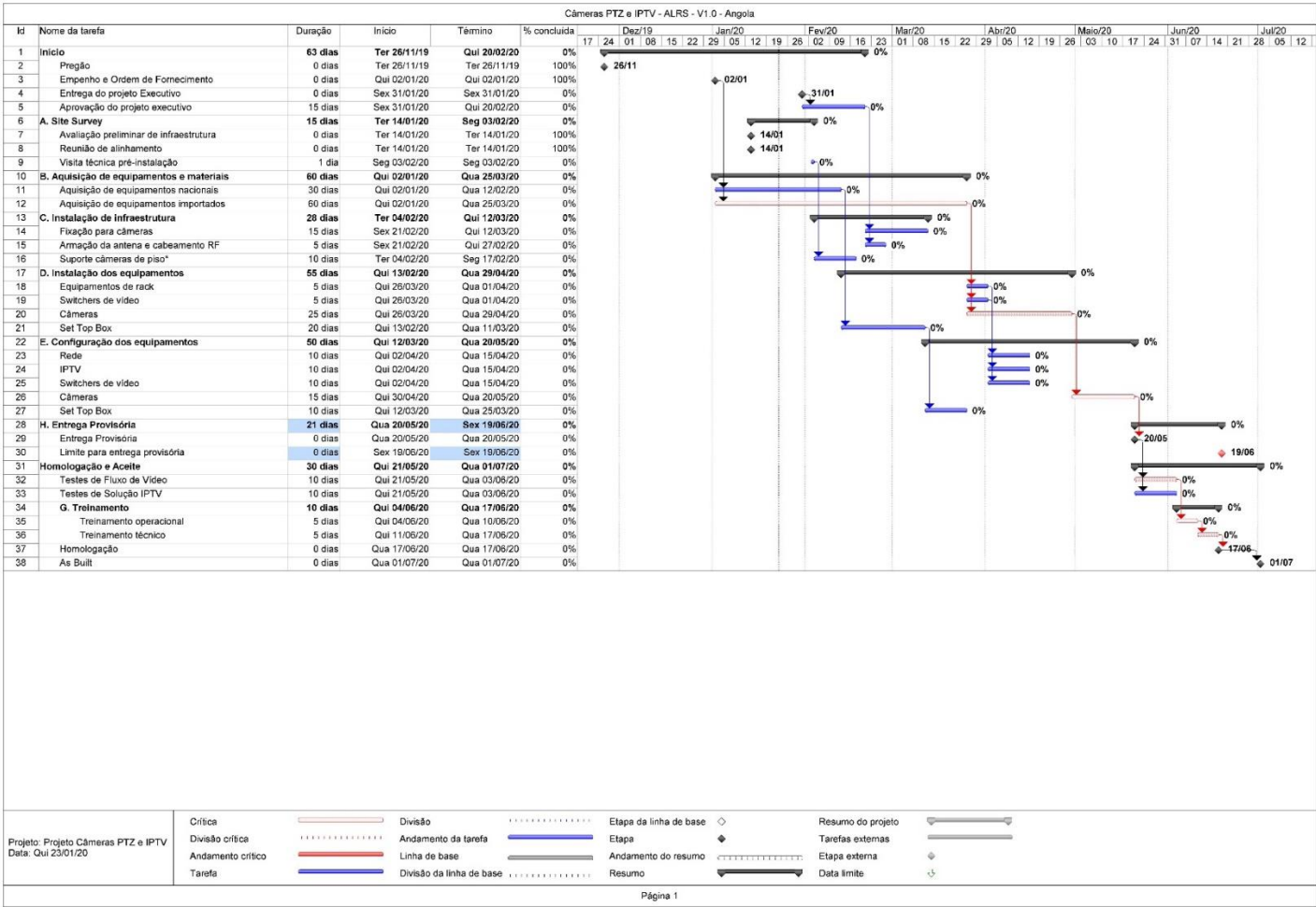


Figura 16 - Cronograma

4. Indicação dos Profissionais

Fillipe Santos

Fernando Peixoto

Dinarte Seabra

5. ART



Anotação de Responsabilidade Técnica - ART
Lei nº 6.496, de 7 de dezembro de 1977
Conselho Regional de Engenharia e Agronomia do Rio Grande do Sul



CREA-RS
 Conselho Regional de Engenharia e Agronomia do Rio Grande do Sul

ART Número
10568296

Tipo: PRESTAÇÃO DE SERVIÇO	Participação Técnica: INDIVIDUAL/PRINCIPAL
Convênio: NÃO É CONVÊNIO	Motivo: NORMAL

Contratado

Carteira: SP34047	Profissional: DANIEL SKITNEVSKI	E-mail: nelson@sealtelecom.com.br
RNP: 2607613310	Título: Engenheiro Eletricista	
Empresa: SEAL TELECOM COMÉRCIO E SERVIÇOS DE TELECOMUNICAÇÕES LTDA	Nr.Reg.: 159512	

Contratante

Nome: ASSEMBLEIA LEGISLATIVA DO ESTADO DO RIO GRANDE DO	E-mail: nelson@sealtelecom.com.br
Endereço: PRAÇA MARECHAL DEODORO 101	Telefone: CPF/CNPJ: 88243688000181
Cidade: PORTO ALEGRE	Bairro: CENTRO HISTÓRICO CEP: 90010300 UF: RS

Identificação da Obra/Serviço

Proprietário: ASSEMBLEIA LEGISLATIVA DO ESTADO DO RIO GRANDE DO	CPF/CNPJ: 88243688000181
Endereço da Obra/Serviço: MARECHAL DEODORO 101	CEP: 90010300 UF: RS
Cidade: PORTO ALEGRE	Bairro: CENTRO HISTÓRICO
Finalidade: OUTRAS FINALIDADES	Vlr Contrato(R\$): 1.297.350,00 Honorários(R\$):
Data Início: 18/12/2019 Prev.Fim: 17/12/2022	Ent.Classe:

Atividade Técnica	Descrição da Obra/Serviço	Quantidade	Unid.
Instalações	Equipamento de Comunicação/Telecomunicação	1,00	UN

ART registrada (paga) no CREA-RS em 27/12/2019

Local e Data	Declaro serem verdadeiras as informações acima	De acordo
	DANIEL SKITNEVSKI	ASSEMBLEIA LEGISLATIVA DO ESTADO DO RIO GRANDE DO
	Profissional	Contratante



Anotação de Responsabilidade Técnica - ART
Lei nº 6.496, de 7 de dezembro de 1977
Conselho Regional de Engenharia e Agronomia do Rio Grande do Sul



CREA-RS
 Conselho Regional de Engenharia e Agronomia do Rio Grande do Sul

ART Número
10568296

Contratado

Nr.Carteira: SP34047	Profissional: DANIEL SKITNEVSKI	E-mail: nelson@sealtelecom.com.br
Nr.RNP: 2607613310	Título: Engenheiro Eletricista	
Empresa: SEAL TELECOM COMÉRCIO E SERVIÇOS DE TELECOMUNICAÇÕES LTDA	Nr.Reg.: 159512	

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Endereço: PRAÇA MARECHAL DEODORO 101	Telefone: CPF/CNPJ: 88243688000181
Cidade: PORTO ALEGRE	Bairro: CENTRO HISTÓRICO CEP: 90010300 UF: RS

RESUMO DO(S) CONTRATO(S)

Desenvolvimento e fornecimento de solução para transmissão e recepção de canais de TV internos através de streaming na rede TCP/IP interna da Assembleia Legislativa do Rio Grande do Sul e Internet (IPTV), compreendendo projeto executivo, equipamentos, software, serviços de instalação e configuração, garantia, suporte técnico e treinamento.

Local e Data	Declaro serem verdadeiras as informações acima	De acordo
	Profissional	Contratante

6. Índice de Figuras

Figura 1- Desenho esquemático de Rede.....	6
Figura 2 – Desenho esquemático de Fluxo de Vídeo de alto nível	9
Figura 3 - Desenho esquemático de Fluxo de Vídeo de baixo nível.....	13
Figura 4 – Diagrama executivo de áudio	15
Figura 5 - Diagrama executivo de rede	16
Figura 6 - Diagrama executivo de RF.....	17
Figura 8 - Planta da Sala Convergência	19
Figura 9 - Sala Alberto Pasqualini.....	20
Figura 10 - Planta do Plenarinho.....	21
Figura 11 – Planta do Plenário	22
Figura 12 - Planta da Sala José Antônio Lutzenberger	23
Figura 13 - Planta da Sala Maurício Cardoso.....	24
Figura 14 - Planta da Sala Salzano Vieira da Cunha	25
Figura 15 - Planta da Sala Sarmento Leite.....	26
Figura 16 - Planta do Teatro.....	27
Figura 17 - Cronograma.....	29

Color Video Camera

Operating Instructions Software Version 1.00

Before operating the unit, please read this manual thoroughly and retain it for future reference.

BRC-X400/X401
SRG-X400/201M2
SRG-X120/HD1M2

Table of Contents

Overview

Using This Manual	5
Precautions for Preventing Access to the Camera by an Unintended Third Party	6
Features	7

Location and Function of Parts

Camera	8
Infrared Remote Commander (supplied)	11

System Configuration

Operating a Single Camera Using the Supplied Remote Commander	13
Operating a Single Camera Using the Optional Remote Controller	14
Operating Multiple Cameras Using the Optional Remote Controller	15

Installation and Connection

Installing the Camera	16
Installing the camera on a desk	16
Attaching the Camera to a Tripod	16
Installing the Camera Using the M3 Fixing Screw Holes	16
Installing the camera on the ceiling	16
Connecting the Camera	19
Connecting to an AC power supply	19
Connecting the camera to a PoE+ (Power over Ethernet Plus) power supply device	20
Connecting a single camera to a switcher, recorder, or monitor	21
Connecting a single camera to a single remote controller (not supplied)	21
Connecting multiple cameras to a single remote controller (not supplied)	22
Connecting a commercially available video switcher	23
External synchronization (BRC-X400/ X401)	24
Connecting to commercially-available microphones etc.	25

Operations Using the Supplied Infrared Remote Commander

Before Starting Operations	26
Turning on the Power	26
Operating Multiple Cameras Using the Infrared Remote Commander	26
Pan/Tilt Operation	27
Zoom Operation	28
Adjusting the Camera	28
Focusing on a subject	28
Shooting with back lighting	28
Storing the Camera Settings in Memory– Preset Feature	29
Storing the camera status	29
Recalling the stored status	29
Clearing the preset memory	29
Operating Menus	30
Displaying a menu	30
Returning to the main menu	30
Canceling a menu	30

Adjusting and Configuring the Camera through On-Screen Menus

About On-Screen Menus	31
Confirming selection of menu items and settings/Executing operations	31
Main menu	31
Setting menu	32
Status	32
EXPOSURE Menu	32
COLOR Menu	34
DETAIL Menu	36
KNEE Menu (BRC-X400/X401)	37
GAMMA/VISIBILITY ENHANCER Menu (BRC-X400/X401)	37
GAMMA	37
VISIBILITY ENHANCER	38
VISIBILITY ENHANCER Menu (SRG-X400/ 201M2/X120/HD1M2)	38
ZOOM/FOCUS Menu (BRC-X400/X401, SRG-X400/201M2)	39
ZOOM	39
FOCUS	39
FOCUS Menu (SRG-X120/HD1M2)	40
PICTURE/OPTICAL FILTER Menu	40
PICTURE	40
OPTICAL FILTER	41
PAN TILT/PRESET RECALL Menu	41
PAN TILT	41
PRESET RECALL	42
PICTURE PROFILE Menu (BRC-X400/ X401)	43
VIDEO OUT Menu	44

HDMI	44
H PHASE (BRC-X400/X401)	44
SYSTEM Menu	44
STATUS Menu	45
DEVICE INFO (Device information of the camera and setting status of switches on the back of the camera)	46
NETWORK	46
Menu Configuration	47

Accessing the Camera from a Web Browser

Enabling HTTP/RTSP in the Camera	52
Setting-up the PC	52
OS	52
Web browser	52
CPU	52
Memory	52
Display	52
Accessing the Camera from a Web Browser	53
Changing the Initial Password	53
Displaying the Viewer Screen Properly	54
When You Use Antivirus Software on Your Computer	54
When the SSL Function is Used	55

Operating the Camera from a Web Browser

About Authentication	56
Operating the Camera	56
Main Menu	56
Control Panel Section	57
Monitor Screen	58

Configuring the Camera from a Web Browser

Basic Operations of the Administrator Menu	59
How to set up the Administrator menu	59
Common buttons in each menu	59
Notes for all aspects of the menu	60
Configuration of the Administrator Menu	60
System menu	60
Video menu	60
Audio menu	60
Network menu	60
Security menu	60

PTZF control menu	60
Streaming menu	60
Configuring the System – System Menu	61
Information tab	61
Date & time tab	61
Installation tab	62
Initialize tab	63
System log tab	63
Access log tab	64
Service tab	64
Setting the Camera Image – Video Menu	64
Picture tab	64
Video codec tab	68
Superimpose tab	69
Day/Night ICR tab	70
Setting the Audio – Audio Menu	71
Audio tab	71
Configuring the Network – Network Menu	72
Network tab	72
QoS tab	73
UPnP tab	74
CNS tab (BRC-X400/X401)	74
Setting the Security – Security Menu	74
Administrator and User	74
User tab	75
Access limit tab	75
SSL tab (BRC-X400, SRG-X400/X120) ..	76
802.1X tab	78
System configuration of the 802.1X network	78
Referer check tab	80
Brute force attack protection tab	80
Setting the PTZF Control – PTZF control Menu	81
PTZF control tab	81
Preset position tab	83
Setting the Streaming – Streaming Menu	84
Streaming tab	84
Using NDI HX	85

Appendix

Message List	86
Camera Lamp Display	86
Camera Screen Display (Main Menu) ...	86
Troubleshooting	87
Preset Items	88
PTZF Settings	88
Camera Settings	88
Specifications	89
Dimensions	91
SYSTEM SELECT switch settings	92
Pin array of the VISCA RS-422 terminal and how to use it	92

Overview

Safety Regulations (Supplied)

The important points for safe use of the camera are described.

Be sure to read the Safety Regulations.

Operating Instructions (This document/Web)

This document describes the names of the camera parts and how to install, connect, and operate the camera.

Using This Manual

This manual is designed to be read on a computer display. The content you need to know in order to use the camera is described here.

Read this manual before operation.

Jumping to a related page

When you read the instructions on a computer display, click the part displayed the relevant page to jump to the page. Relevant pages can be searched easily.

Software display examples

The software displays described in this manual are explanatory examples. Note that some displays may be different from the ones that actually appear. The menu displays and illustrations of the camera BRC-X400 are shown in the instructions as examples. Only supported functions are displayed.

Printing the Operating Instructions

When you print this document, note that the displays or illustrations printed on a paper may differ from those that appear on the screen depending on your system.

About the description in this document

Resolution and frame rate are described as follows.

4K	3840×2160/23.98p	
	3840×2160/25p	
	3840×2160/29.97p	
HD	1280×720/50p	1920×1080/50i
	1280×720/59.94p	1920×1080/50p
	1920×1080/23.98p	1920×1080/59.94i
	1920×1080/25p	1920×1080/59.94p
	1920×1080/29.97p	

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Other system names, product names appearing in this document are trademarks or registered trademarks of their respective manufacturers. Trademarked items are not indicated by ® or ™ symbols in this document.

Precautions for Preventing Access to the Camera by an Unintended Third Party

The camera settings may be changed by an unintended third party on the network, depending on the usage environment. The camera can be fraudulently accessed in a network environment where a device is connected or connectable to the network without the administrator's permission, or where a PC or other network device connected to the network can be used without any permission. After configuring the camera, immediately change the password you use for upgrading the firmware on the camera, from a Web browser on your PC, and for changing settings. For how to change password, see "Changing the Initial Password" (page 53).

Features

Pan/Tilt/Zoom CMOS video camera equipped with a small built-in pan-tilt head

The camera is equipped with a 1/2.5-type Exmor R[®] CMOS sensor and an optical zoom lens *1 with pan and tilt features integrated into a small built-in pan-tilt head.

*1: BRC-X400/X401 and SRG-X400/201M2 are equipped with a 20x zoom lens, and SRG-X120/HD1M2 is equipped with a 12x zoom lens.

Audio output

The camera is equipped with 2ch audio which is applicable for microphone/line input. Input audio signal is transmitted to IP/HDMI/SDI simultaneously.

Video output

In addition to IP video output, HDMI/SDI output can be performed simultaneously (SDI output does not support 4K).

H.264/H.265 video compression mode (video codec) achieves high compression rate while keeping the image quality.

The network bandwidth load required for video transmission decreases.

The camera supports multi-streaming output of IP transmission. Up to 3 codec modes can be selected.

Preset function

Up to 100 preset data can be stored in the VISCA command and up to 256 preset data in the CGI command.

Equipped with RS-422 interface

The camera is equipped with RS-422 interface which is the industry standard VISCA camera protocol in external communication.

Equipped with PoE+ (Power over Ethernet Plus)

The camera supports IEEE802.3at-compatible PoE+ (Power over Ethernet Plus) and a single LAN cable is used for power supply and control.

Compatible with VISCA over IP protocol

An IP connection can be established between the camera and the remote controller.

Equipped with external video sync function (BRC-X400/X401)

The camera is equipped with an external video sync function to synchronize the camera images on multiple cameras.

Equipped with tally lamp (BRC-X400/X401)

The camera is equipped with a tally lamp that instantly distinguishes cameras in use.

Supports network connection with RCP/MSU (BRC-X400/X401)

Network connection to an optional remote control panel (RCP) or master setup unit (MSU) is supported.

Picture profile preset function (BRC-X400/X401)

Picture profile presets from PP1 to PP6 can be loaded. By using these presets, an image texture gets close to the one shot with other cameras with the picture profile function, and the camera creates an image texture similar to the one of cinematic film.

Option

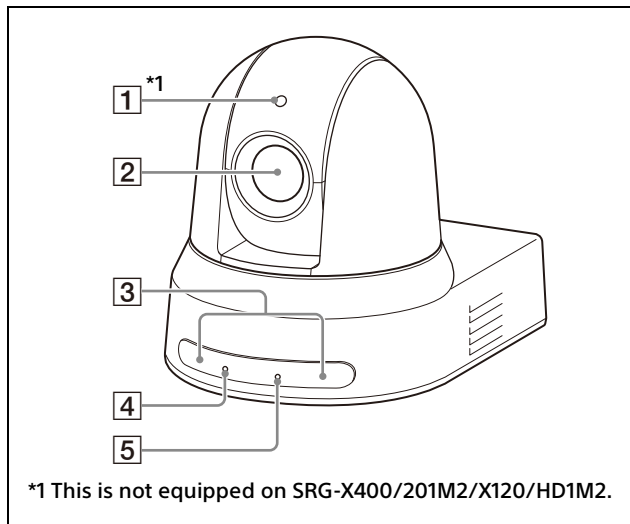
NDI|HX

This camera is compatible with NDI|HX of NewTek, Inc.

To use NDI|HX, you are required to purchase the license key (page 85).

Camera

Front



1 Tally lamp (BRC-X400/X401)

Lights up in red when a tally command is received or the camera is selected by an optional remote controller (depending on the setting mode). The brightness can be selected from [HIGH], [LOW], or [OFF] (the tally lamp does not light up) in [TALLY LEVEL] in the SYSTEM menu.

2 Lens

This is a 20× (BRC-X400/X401, SRG-X400/201M2) or 12× (SRG-X120/HD1M2) magnification-optical zoom lens. When [CLEAR IMAGE ZOOM] (Clear Image Zoom) is set to [ON] in the PAN TILT ZOOM menu, the camera can zoom up to 30× for 4K and 40× for HD. CLEAR IMAGE ZOOM is not available for SRG-X120/HD1M2.

Note

Do not touch the part around the lens when energized.

3 Remote commander sensors

These are sensors for the supplied remote commander.

4 POWER lamp

Flashes in green when the camera is connected to an outlet using the supplied AC adapter and power cord, or when power is being supplied by connecting the camera

and PoE+ power supply device with a LAN cable. The green lamp stops flashing and lights up when start-up is complete.

The green lamp flashes when the camera receives an operation command from the supplied remote commander.

The lamp lights up in orange when the POWER button on the supplied remote commander is pressed and the camera enters in the standby mode.

The yellow lamp flashes while upgrading the firmware.

The orange lamp flashes when there are defects in the camera (for instance, when rotations of fan motor slow down or stop etc.).

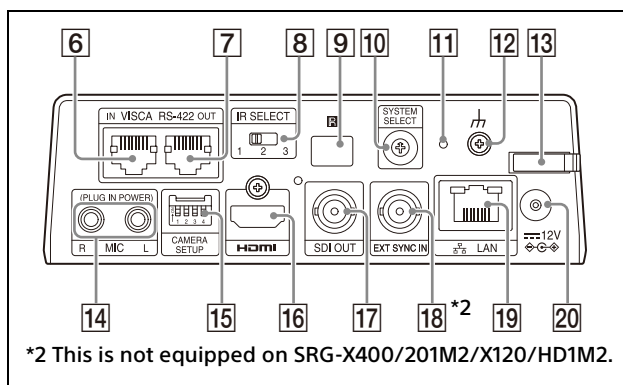
5 NETWORK lamp

Flashes during initialization when the camera is connected to the PoE+ power supply device with a LAN cable and power is being supplied. The lamp lights up when it is connected to the network once start-up is complete.

Lights up after start-up is complete if network is connected, when power is supplied to the camera from outlet using AC adapter and power cord. The lamp is unlit when not connected to the network. The lamp turns off while upgrading the firmware.

The lamp flashes when there are defects in the camera (for instance, when rotations of fan motor slow down or stop etc.).

Back



6 VISCA RS-422 IN terminal

Connect with an remote controller (not supplied).

When you connect multiple cameras, connect it to the VISCA RS-422 OUT terminal of the previous camera in the daisy chain connection.

7 VISCA RS-422 OUT terminal

When you connect multiple cameras, connect it to the VISCA RS-422 IN terminal of the next camera in the daisy chain connection.

8 IR SELECT switch

Select the camera number when you operate multiple cameras with the same remote commander.

9 Remote commander sensor

This is for the supplied remote commander.

10 SYSTEM SELECT switch

Used for selecting the video signal format to be output from the HDMI OUT and SDI OUT terminals.

For details, see "SYSTEM SELECT switch settings" (page 92).

11 Reset switch

Press the switch for 5 seconds or longer to return to the factory default.

12 ♂ (earth) terminal

13 AC adapter cord clamber

Fix the cord of an AC adapter with the cord clamber so that it does not come out.

14 MIC terminal (audio input terminal)

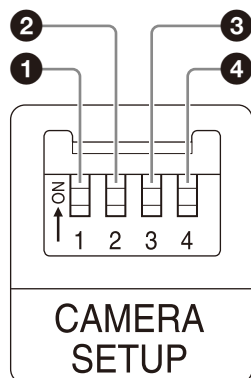
Input for commercially-available MIC or LINE to connect an audio device.

* Switch between MIC and LINE input, as indicated on "Connecting to commercially-available microphones etc." (page 25).

**15 CAMERA SETUP switches
SDI format/level settings**

Set the RS-422 baud rate for VISCA communication.

CAMERA SETUP switch settings



Switch No.	Setting items
1	Setting up 3G-SDI level
2	Termination setting of external synchronization
3	HTTP/RTSP communication usage setting
4	Baud Rate settings of RS-422 for VISCA communication

1 SDI format/level settings

This setting is enabled when the signal format is 1920×1080/50p or 1920×1080/59.94p.

Switch state	SDI format/level
ON	Level-B
OFF	Level-A

* Turn the power off or to standby, then turn the power on to reflect the changes after setting.

2 Termination setting of external synchronization

Use this setting during external synchronization (page 24).

When you use the external synchronization while multiple cameras are connected, turn OFF when this camera is in the middle of a daisy chain connection and turn ON when this camera is at the end.

When nothing is connected to the EXT SYNC terminal, turn ON.

Switch state	TERMINATION
ON	TERMINATE
OFF	OPEN

* The setting is applied instantly.

3 HTTP/RTSP communication usage setting

Use this setting when you set the HTTP/RTSP protocol setting.

Turn ON to forcibly enable the setting.

Turn OFF to configure the setting according to the OSD menu.

Switch state	HTTP/RTSP CONNECTION
ON	FORCED ON
OFF	MENU

* Turn the power off and on to reflect the changes after setting.

4 Baud Rate settings of RS-422 for VISCA communication

Switch state	Baud Rate
ON	38400 bps
OFF	9600 bps

* Turn the power off and on to reflect the changes after setting.

16 **HDMI OUT terminal**

Supplies the images as an HDMI video signal.

Note

When the SYSTEM SELECT switch is set to 7, VGA output from the HDMI OUT terminal degrades the image quality.

17 **SDI OUT terminal**

Outputs the image from the camera as an HD signal.

* Images are not output when 4K output is set.

18 **EXT SYNC IN (only BRC-X400/X401)**

Accepts an external sync signal.

19 **LAN (network) terminal (RJ-45)**

Network communication and PoE+ power supply are provided using the network cable (category 5e or higher, shielded twist pair). For more information on the connection, refer to the instruction manual of the PoE+ power supply device.

It lights up or flashes in orange when the network is connected by 1000BASE-TX.

It lights up or flashes in green when the network is connected by 100BASE-TX.

It is turned off when the network is connected by 10BASE-T or the network is disconnected.

When it is turned off and the NETWORK lamp on the front of the camera is lighting up, the network is connected by 10BASE-T.

20 **12 V (DC power input) terminal**

Connect the AC adapter (supplied).

Note

Do not use any AC adapter other than the supplied AC adapter. Otherwise, a fire or malfunction may occur.

Factory settings for network

IP address: 192.168.0.100

Subnet mask: 255.255.255.0

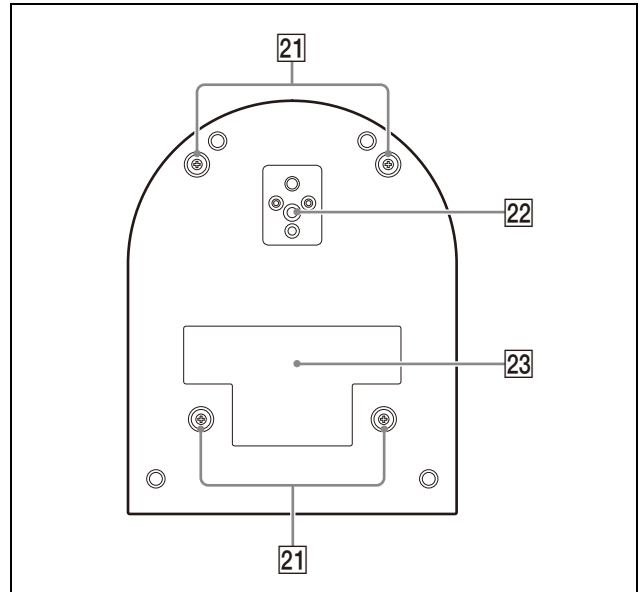
Default gateway: 192.168.0.254

Name: CAM1

User name: admin

Password: Admin_1234

Bottom



21 **Ceiling bracket mounting screw holes**

When installing on the ceiling, use the screw holes to attach the supplied ceiling bracket (A). For details, see "Installing the Camera" (page 16).

22 **Tripod socket hole**

Use this to attach the tripod, etc.

For details, see "Attaching the Camera to a Tripod" (page 16).

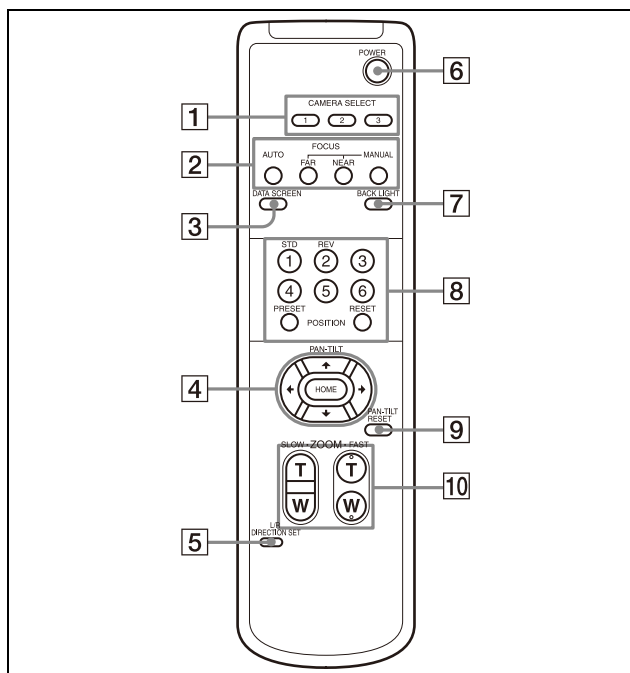
23 **Rating label**

This label shows the name of device and its electric rating.

Important

The product name and electric rating are located at the bottom of the unit.

Infrared Remote Commander (supplied)



1 CAMERA SELECT buttons

Press the button corresponding to the camera you want to operate with the remote commander. The camera number can be set using the IR SELECT switch on the back of the camera.

Note

If two or more cameras are adjacent and have the same camera number, they are operated simultaneously with the supplied remote commander. When you install the cameras close to each other, set different camera numbers.

For setting of camera number, see "Operating Multiple Cameras Using the Infrared Remote Commander" (page 26).

2 FOCUS buttons

Used for focus adjustment. Press the AUTO button to adjust the focus automatically. To adjust the focus manually, press the MANUAL button, and adjust it with the FAR and NEAR buttons.

Note

Press the MANUAL button and adjust the focus manually when shooting the following objects.

- White walls and other objects without contrast

- Objects behind glass
- Objects with horizontal stripes
- Objects on which bright lights are cast or reflected
- Nightscapes and other dark objects with blinking lights
- Lit objects shot with darkened exposure adjustment or exposure compensation settings

3 DATA SCREEN button

Press this button to display the main menu PAGE. Press it again to close the menu. If you press the button when a lower-level menu is selected, the display goes back to a higher-level menu.

Notes

- You cannot perform pan/tilt/zoom operations while the menu is displayed.
- The menus are output through SDI OUT and HDMI OUT.

4 PAN-TILT button

Press the arrow buttons to pan or tilt the camera. Press the HOME button to face the camera back to the front.

When the menu is displayed, use $\uparrow$ or $\downarrow$ to select the menu items and $\leftarrow$ or $\rightarrow$ to change the set values.

The selected setting menu is displayed by pressing the HOME button when the main menu is displayed.

5 L/R DIRECTION SET button

Hold down this button and press the REV button to change the direction of the camera movement to be opposite the direction of the arrows on the $\leftarrow$ and $\rightarrow$ buttons. To reset the direction of the camera movement, press the STD button while holding down this button.

6 POWER button

Press this button to turn on power or to put the camera in the standby mode.

7 BACK LIGHT button

Press this button to enable backlight compensation. Press it again to disable backlight compensation.

Note

The BACK LIGHT button is enabled when the exposure mode is set to [FULL AUTO] (Full auto), [SHUTTER Pri] (Shutter priority), or [IRIS Pri] (Iris priority).

8 POSITION buttons

Hold down the PRESET button and press button 1 to 6 to store the current camera direction, zoom, focus adjustment and backlight compensation in the memory of the pressed number button.

To erase the memory contents, hold down the RESET button and press button 1 to 6.

Notes

- These buttons do not function when the menu is displayed.
- Some memory contents may not be erased even if you use the RESET button. For details on items that can be stored by the PRESET button and erased by the RESET button, see "Preset Items" (page 88).

9 PAN-TILT RESET button

Press this button to reset the pan/tilt position.

10 ZOOM buttons

Use the SLOW button to zoom slowly, and the FAST button to zoom quickly. Press the T (telephoto) side of the button to zoom in, and the W (wide angle) side to zoom out.

Required batteries

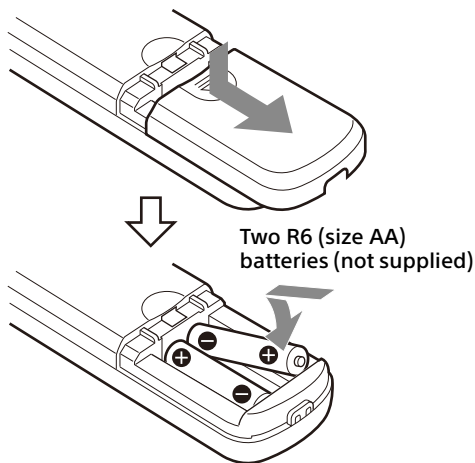
Two R6 (size AA) batteries are required for the remote commander. To avoid the risk of explosion, use R6 (size AA) manganese or alkaline batteries.

Note

Danger of explosion if the batteries are incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. When you dispose of the batteries, you must obey the laws of your area or country.

R6 (size AA) batteries are not supplied.

Installing batteries in the remote commander



System Configuration

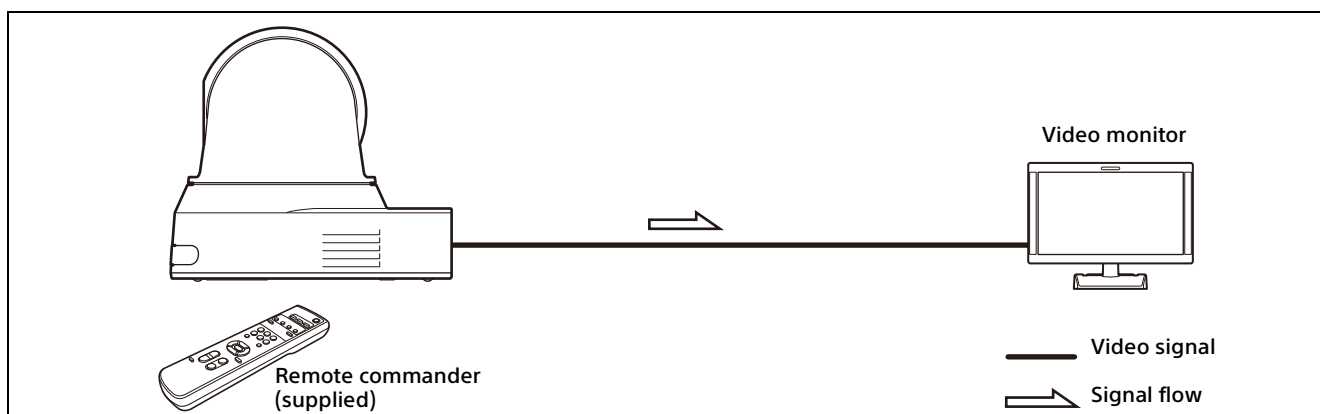
This camera can be arranged into various system configurations with other products (not supplied). This section describes typical system examples, with the required components and the main usage of each system.

Operating a Single Camera Using the Supplied Remote Commander

What you can do with this system

Operate the camera readily from a short distance.

System Configuration

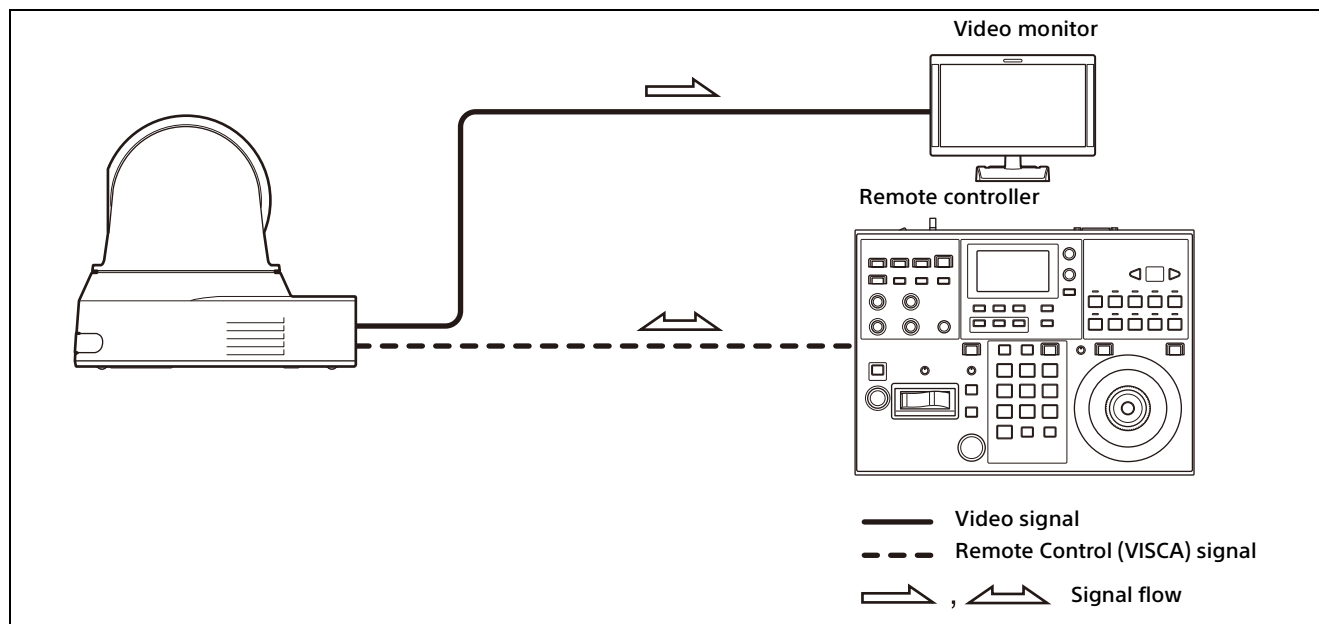


Operating a Single Camera Using the Optional Remote Controller

What you can do with this system

Perform pan/tilt and zoom operations using the joystick of the remote controller.

System Configuration

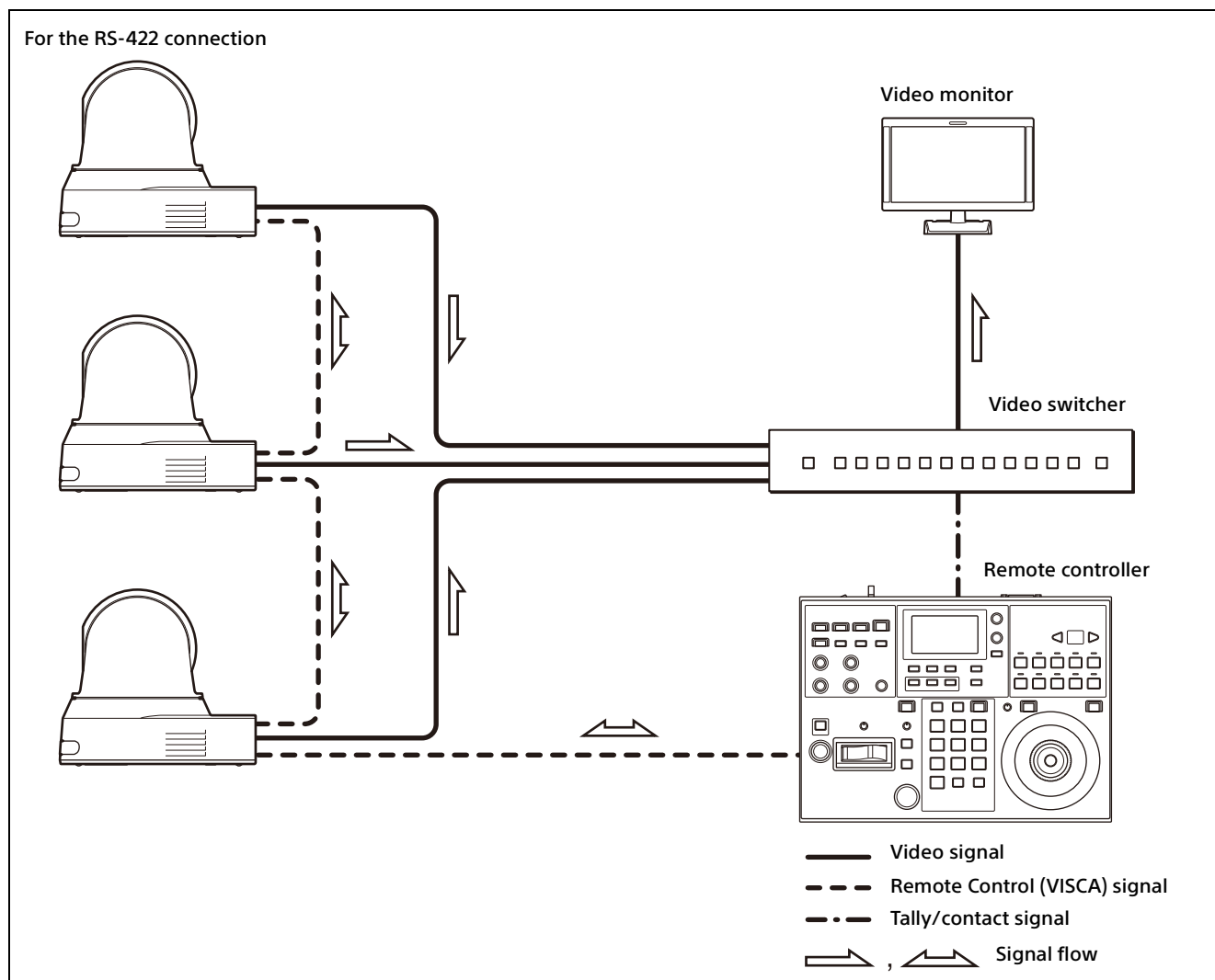


Operating Multiple Cameras Using the Optional Remote Controller

What you can do with this system

- For the RS-422 connection, you can remotely operate up to seven cameras with a single remote controller. Depending on the remote controller, the number of connectable cameras changes.
- Perform pan/tilt and zoom operations using the joystick.

System Configuration



Installation and Connection

Installing the Camera

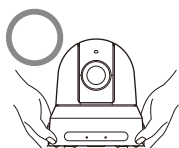
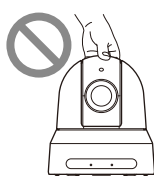
Installing the camera on a desk

Place the camera on a flat surface. If you have to place the camera on an inclined surface, make sure that the inclination is less than ± 15 degrees to guarantee pan/tilt performance, and take measures to prevent it from falling.



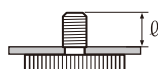
Notes

- Do not grasp the camera head when carrying the camera.
- Do not turn the camera head by hand. Doing so may result in a camera malfunction.



Attaching the Camera to a Tripod

Attach a tripod to the screw hole used for attaching a tripod on the bottom of the camera. The tripod must be set up on a flat surface and its screws tightened firmly by hand. Use a tripod with screws of the following specifications.



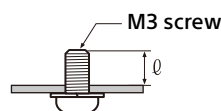
$$l = 4.5 - 7 \text{ mm}$$
$$l = \frac{3}{16} - \frac{9}{32} \text{ inches}$$

CAUTION

Installation of the camera using the tripod screws and screw holes should not be done for installation on a ceiling or a shelf, etc., in a high position.

Installing the Camera Using the M3 Fixing Screw Holes

Attach the camera using 4 M3 fixing screw holes located on the bottom of the camera. Attach the camera to a fitting with a flat surface using M3 screws with the following specifications.



$$l = 3 - 8 \text{ mm}$$
$$l = \frac{1}{8} - \frac{11}{32} \text{ inches}$$

Installing the camera on the ceiling

Using the supplied ceiling bracket (A)/(B), wire rope, and screws, you can attach the camera to the ceiling. When you install the camera, always install it on a level ceiling. If you have to install it on a sloping or uneven ceiling, make sure that the place where you install it is within ± 15 degrees of the horizontal.

CAUTION

- Entrust installation to an experienced contractor or installer when installing the camera on ceilings or other high locations.
- When installing the camera in a high location, be sure that the location and installation components (excluding the supplied accessories) are strong enough to support the camera and the mounting bracket, and install the camera securely. If the components are not strong enough, the camera may fall and cause serious injury.
- Always install the supplied wire rope to prevent the camera from falling.
- If you install the camera in a high location, check periodically, at least once a year, to ensure that the connection has not loosened. If conditions warrant, make this periodic check more frequently.

Before installing the camera

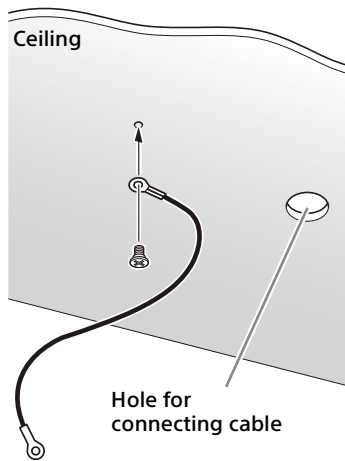
Determine the shooting direction of the camera, and then make the holes for the ceiling bracket (B) and the connecting cables on the ceiling.

Notes

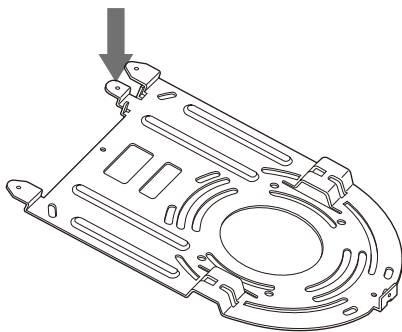
- The connecting cables cannot be passed through ceiling bracket (B). A hole for the wiring is required in the ceiling at the back of the camera where it is attached to the ceiling.
- The recommended tightening torque for each screw are described in below.
M3: 0.6 N·m (6.1 kgf·cm)
M2.6: 0.4 N·m (4.1 kgf·cm)

How to install the camera

1 Attach the wire rope to the ceiling.



1-2 In the case that a wire cannot be attached on the ceiling, attach the wire on the ceiling bracket (B) as illustrated below with the supplied screws (M3×8).

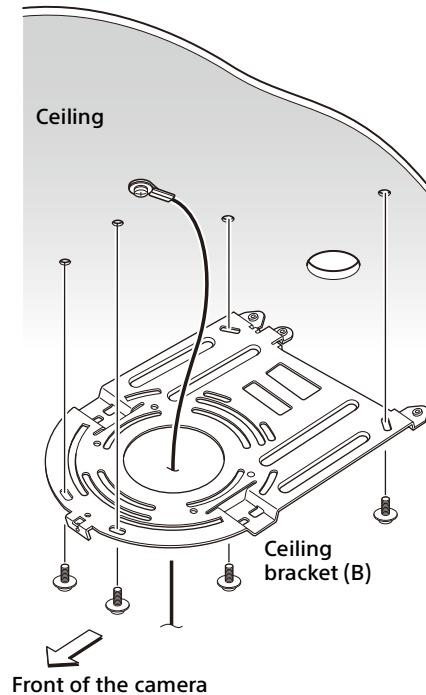


WARNING

Use the supplied screw. Otherwise, the wire rope may not function properly.

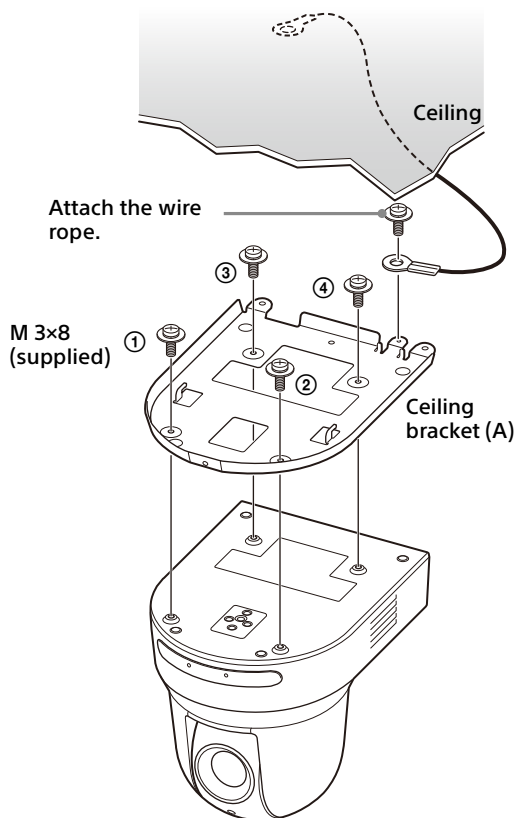
2 Attach the ceiling bracket (B) to the ceiling.

When attaching the ceiling bracket (B) to the ceiling, it is recommended to fix at the 4 positions illustrated below. There are elongated holes for the screws along the rounded edges of the ceiling bracket (B). Later, the front of the camera will be positioned along this edge. Face the camera to the front, adjust the aim, and attach it securely.



3 Attach the ceiling bracket (A) to the bottom of the camera using the 4 screws (M 3 × 8) supplied.

Align the bracket holes with the screw holes on the camera, and attach the bracket to the camera.

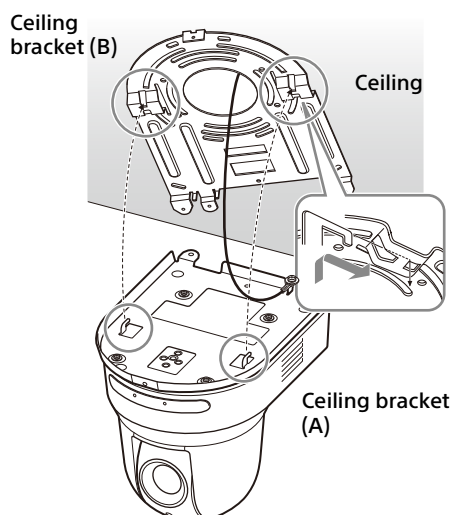


Lightly tighten screws temporarily in the order indicated in the figure. Afterwards, screw each of them firmly.

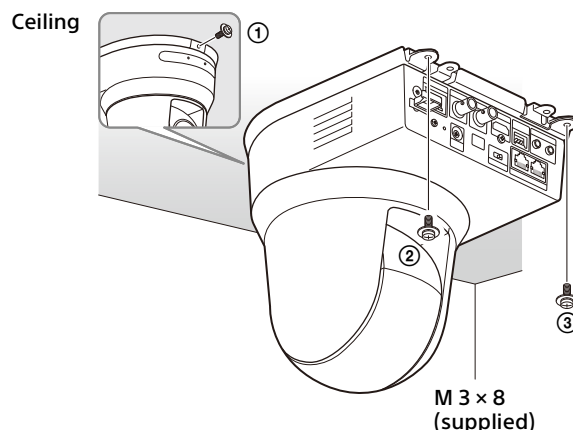
CAUTION

Use the supplied screws. Otherwise, you may break the internal parts of the camera.

- 4** Insert the protrusions raised on the ceiling bracket (A) into the spaces prepared in the ceiling bracket (B), and temporarily attach them by pushing the ceiling bracket (A) to the rear.

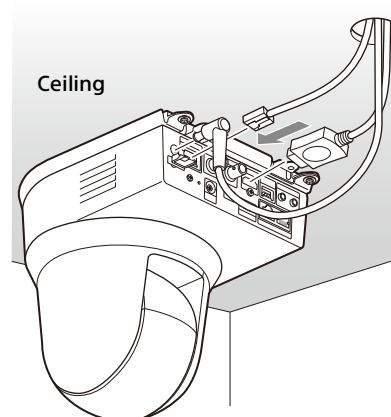


- 5** While pushing up the entire camera, attach it to the ceiling bracket (B) using the 3 screws (M3 × 8) supplied.



Lightly tighten screws temporarily in the order indicated in the figure. Afterwards, screw each of them firmly.

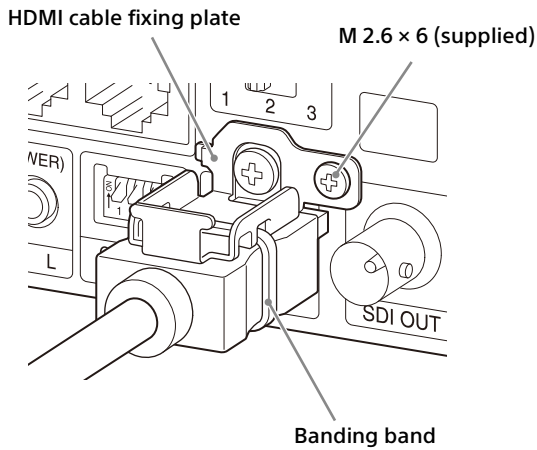
- 6-1** Connect the cables to the terminals at the back of the camera.



Notes

- Make sure no load is applied to the connectors of the cables.
- For measures that prevent the HDMI cable from being pulled out, proceed to "6-2" after connecting the HDMI cable. Then, connect all the other cables.

- 6-2** To prevent the HDMI cable from coming off, mount the HDMI cable fixing plate with the supplied screw (single, M2.6 × 6, black) on the back of the camera, then fix the HDMI cable with a banding band etc.



Note

Do not attach the HDMI cable on the camera, if you do not use them.

- 7** Adjust the image flip function to optimize the ceiling mounting status.

Note

All preset settings will return to their default settings when changing the setting of the image flip function. When setting, make sure to set the image flip function before the preset settings.

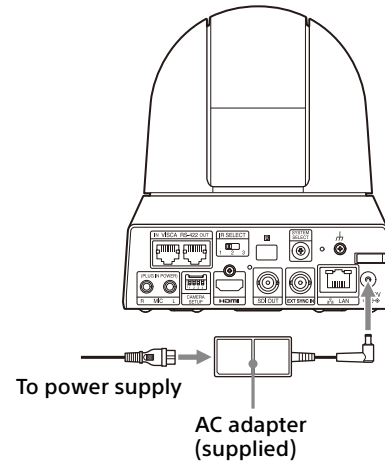
How to remove the camera

- 1** Remove the 3 screws used to attach the camera in step 5 of "How to install the camera".
- 2** While pushing the entire camera up towards the ceiling, move the camera to the front.
The hooks will disengage, and you can remove the camera.

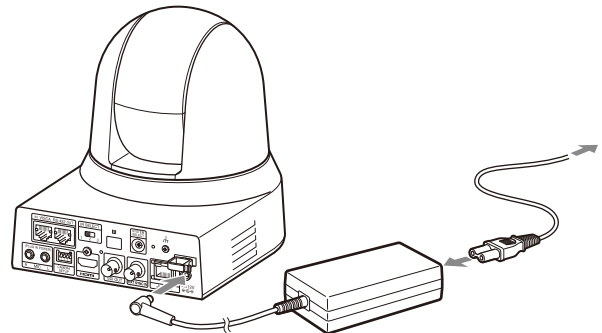
Connecting the Camera

Connecting to an AC power supply

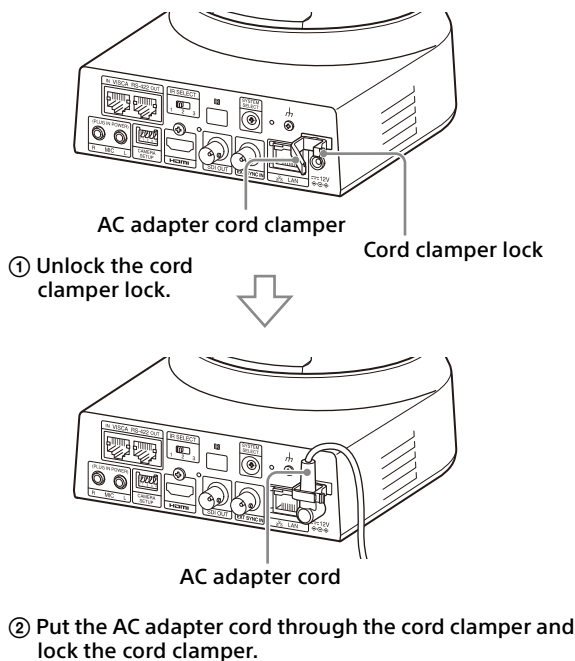
Connect the camera to an AC outlet using the supplied AC adapter and power cord.



- 1** Connect the supplied AC adapter and power cord.



- 2** Fix the cord of an AC adapter with the cord clamber so that it does not come out. Unlock the cord clamber and put the cord through it.

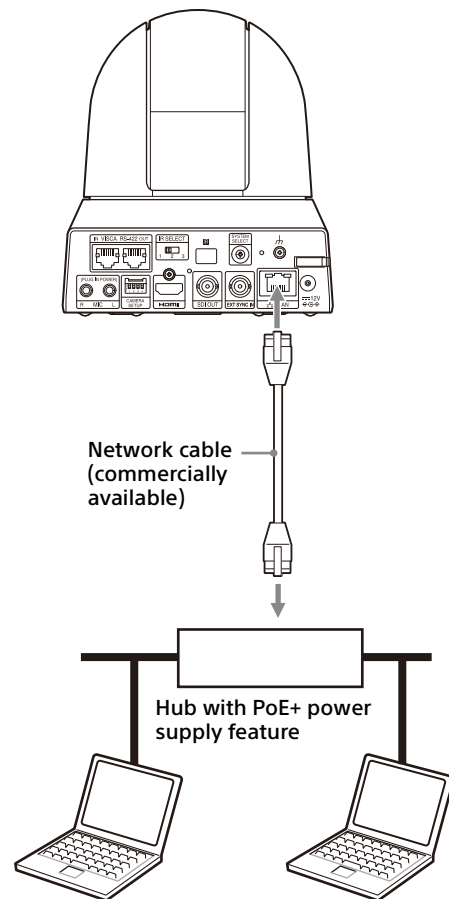


Note

Do not use any AC adapter other than the supplied AC adapter. Otherwise, a fire or malfunction may occur.

Connecting the camera to a PoE+ (Power over Ethernet Plus) power supply device

A PoE+ (IEEE802.3at compliant) power supply device supplies power through a commercially available network cable. For details, see the operating instructions of the power supply device.

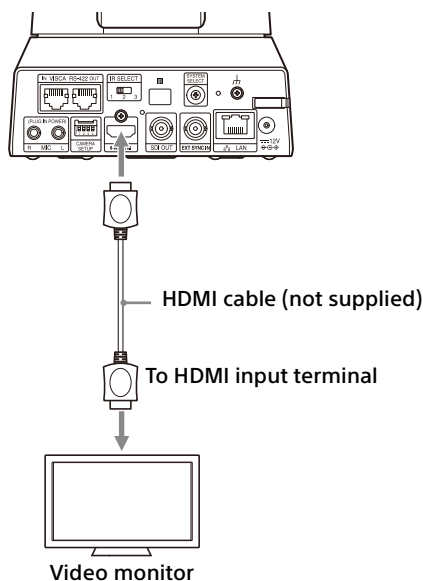


Notes

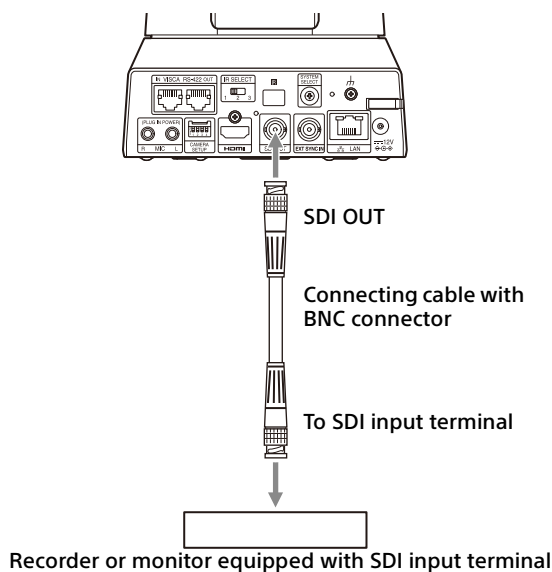
- When you supply power from a PoE+ power source, use a network cable of Category 5e or higher.
- When both the AC adapter and PoE+ power supply are connected, power is supplied through the AC adapter.
- When power is supplied from PoE+, both the POWER lamp (green) and NETWORK lamp (green) flash until the initial verification process is complete (approximately 1 minute, depending on the power supply device).
- When the network camera is powered by a PoE+ power supply, do not route the wiring outdoors.
- If a non PoE+ compatible device is connected, both the POWER lamp (green) and NETWORK lamp (green) flash, and the camera won't start.
- When you turn the power off, wait at least 10 seconds before you turn it on again.
- Use an STP (shielded) network cable.

Connecting a single camera to a switcher, recorder, or monitor

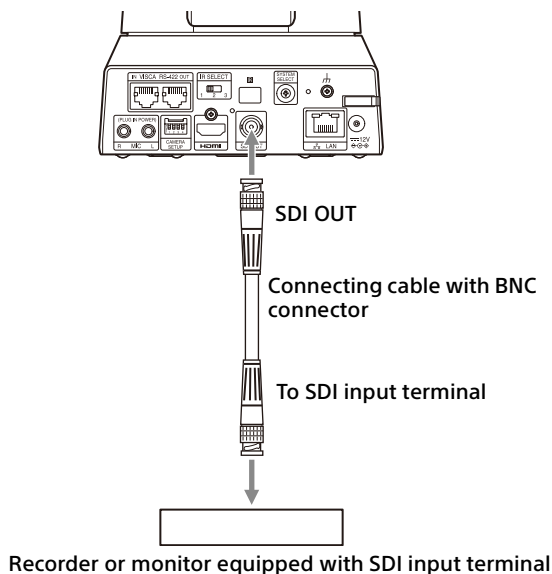
Devices equipped with an HDMI input terminal



Devices equipped with an SDI input terminal (HD output):
BRC-X400/X401

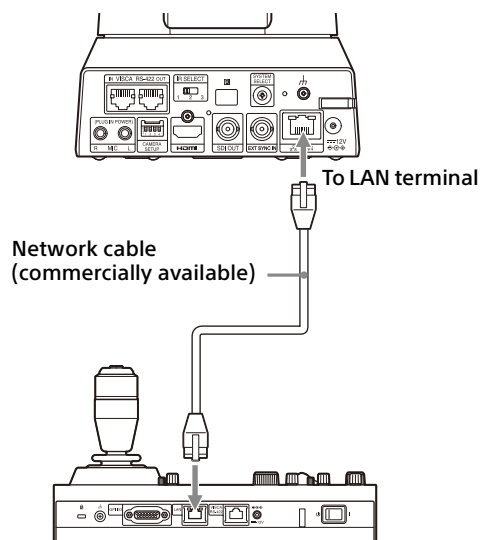


Devices equipped with an SDI input terminal (HD output):
SRG-X400/201M2/X120/HD1M2



Connecting a single camera to a single remote controller (not supplied)

Using VISCA over IP (LAN terminal)



When you connect multiple cameras to a single remote controller or when you connect multiple cameras to multiple remote controllers with a PC, use a switching hub for the connection. When you directly connect them, use a cross network cable.
For details, see the operating instructions of the remote controller.

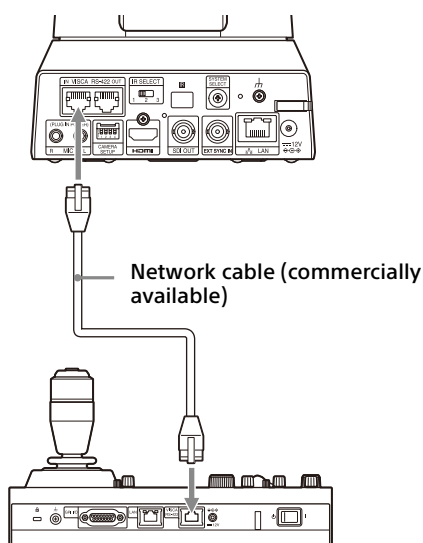
Using the VISCA RS-422 terminal

A remote controller can be connected via the VISCA RS-422 terminal. The VISCA RS-422 allows connections of up to 1.2 km in length.

Note

When RM-IP10 is used, make a connecting cable using the camera and the RS-422 terminal board connectors supplied with the remote controller. When you make the connecting cable, refer to the pin array of the VISCA RS-422 terminal (page 92) and the VISCA RS-422 connection diagram (page 92).

Check the setting of each switch of the remote controller. For details, refer to the operating instructions of the remote controller.



* Use straight network cable.

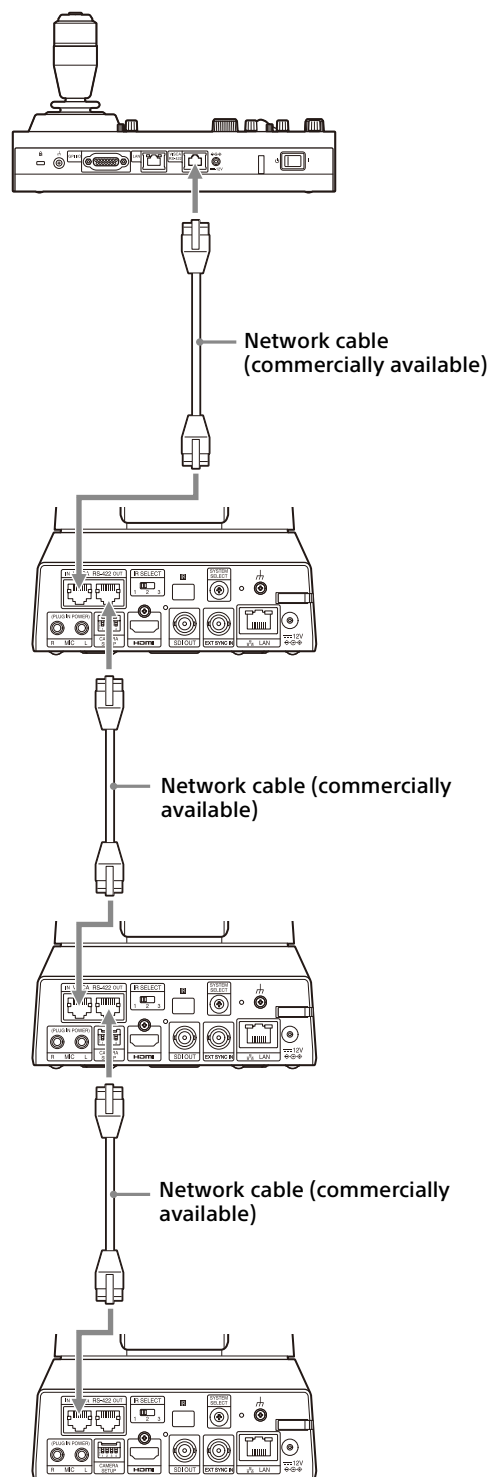
Connecting multiple cameras to a single remote controller (not supplied)

Multiple cameras can be connected via the VISCA RS-422 terminal. The VISCA RS-422 allows connections of up to 1.2 km in length.

Note

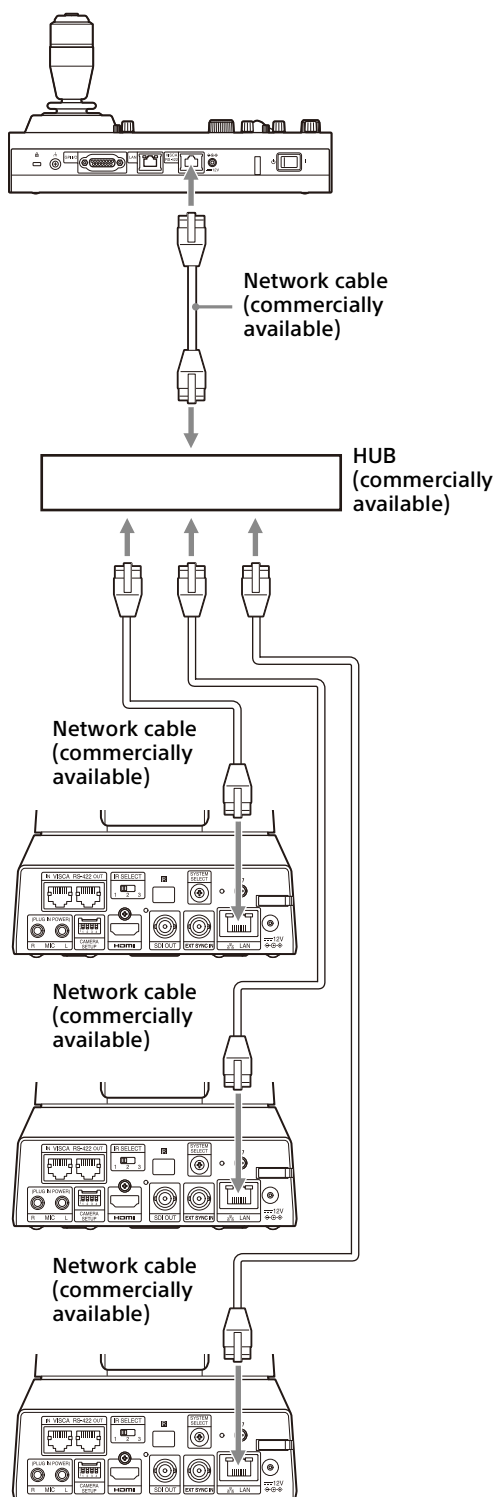
When RM-IP10 is used, make a connecting cable using the camera and the RS-422 terminal board connectors supplied with the remote controller. When you make the connecting cable, refer to the pin array of the VISCA RS-422 terminal (page 92) and the VISCA RS-422 connection diagram (page 92).

Check the setting of each switch of the remote controller. For details, refer to the operating instructions of the remote controller.



* Use straight network cables.

Connecting multiple cameras using VISCA over IP

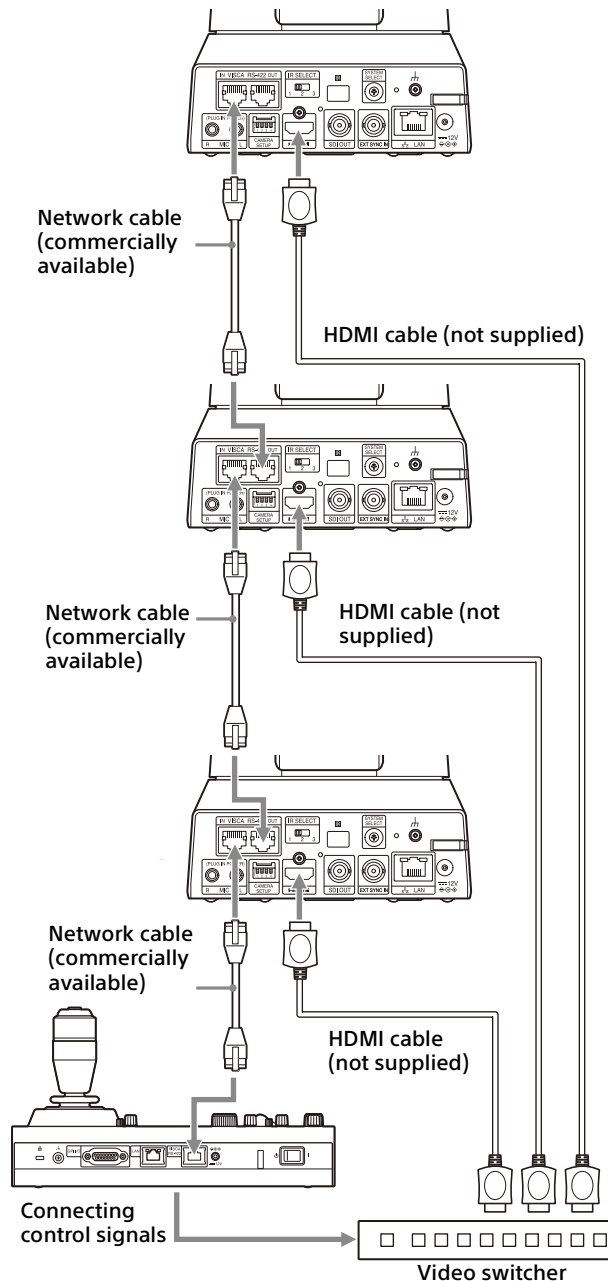


* Use straight network cables.

Connecting a commercially available video switcher

For 4K output (HDMI output only)

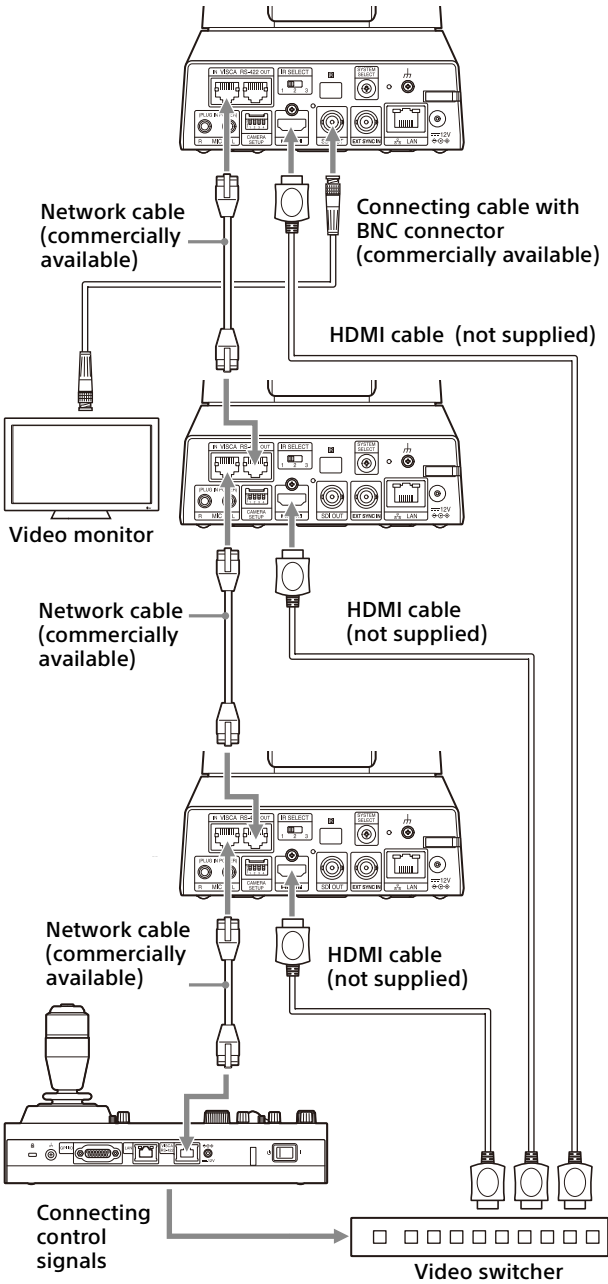
When you want to switch cameras, connect a commercially available video switcher. For the connection to the video switcher, refer to the operating instructions of the switcher.



* Use straight network cables.

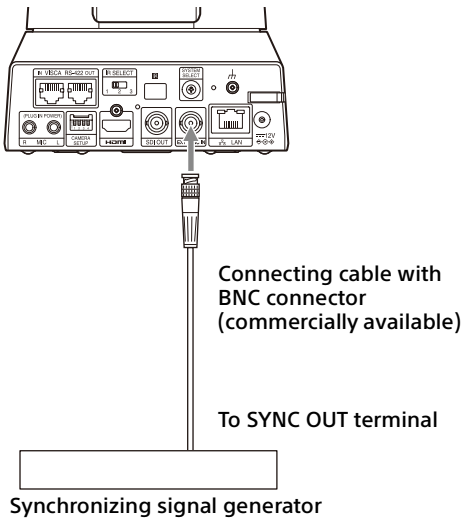
For HD output

When you want to switch cameras, connect a commercially available video switcher. For the connection to the video switcher, refer to the operating instructions of the switcher.



* Use straight network cables.

External synchronization (BRC-X400/X401)



For a single camera

Multiple cameras can be synchronized to a specific reference signal. Providing a reference signal to the EXT SYNC IN terminal (page 10) allows the camera to be synchronized in phase with the video signal. Depending on the system frequency, the compatible reference signal varies.

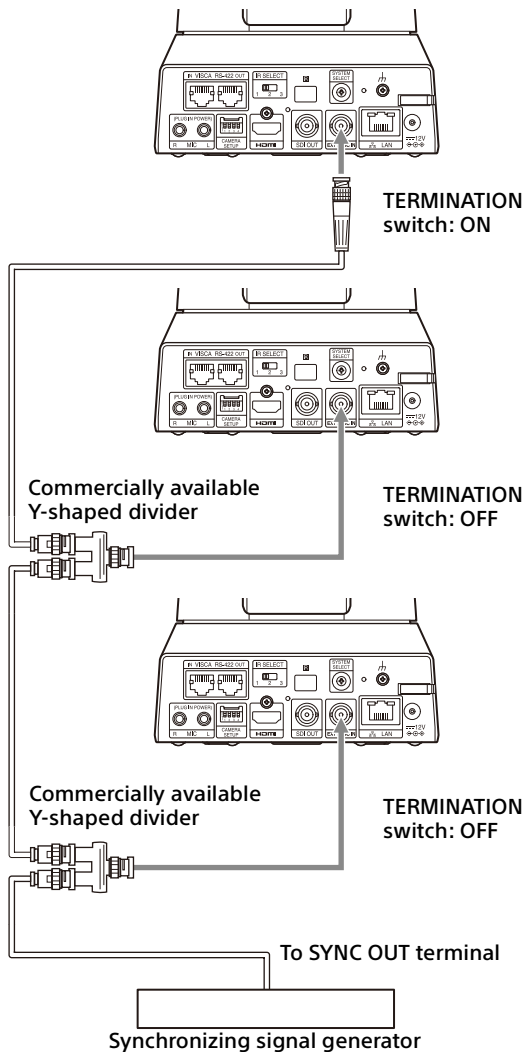
System select	Compatible reference signals
1: 1920×1080/59.94p	1920×1080/59.94i
2: 1920×1080/59.94i	720×486/59.94i (NTSC)
3: 1920×1080/29.97p	
4,7: 1280×720/59.94p	1920×1080/59.94i
	1280×720/59.94p
	720×486/59.94i (NTSC)
9: 1920×1080/50p	1920×1080/50i
A: 1920×1080/50i	720×576/50i (PAL)
B: 1920×1080/25p	
C: 1280×720/50p	1920×1080/50i
	1280×720/50p
	720×576/50i (PAL)
F: 1920×1080/23.98p	1920×1080/47.95i (23.98PsF)

Notes

- When the reference signal is unstable, the camera cannot be externally synchronized.
- Sub-carriers cannot be synchronized.
- 3840×2160 cannot be synchronized.

For multiple cameras

Up to 7 cameras can be connected.



Note

Star connection is recommended to connect more than 8 cameras.

Connecting to commercially-available microphones etc.

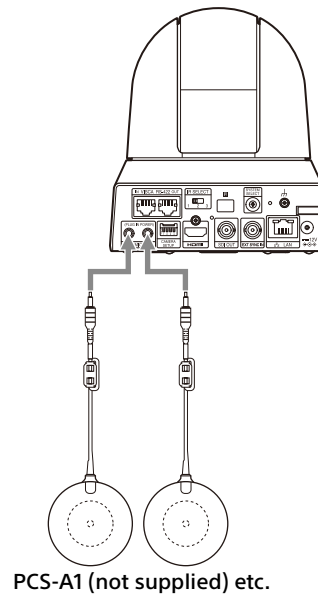
Connect a commercially-available microphone, mixer, etc.

Input audio will be superimposed to the HDMI OUT/SDI OUT/IP video output via stereo. Switch between the microphone input and line input by selecting either input on the web browser.

Connect a commercially-available microphone when using the microphone input.

Connect a commercially-available mixer when using the line input.

This camera



Notes

- Do not place the camera near devices that may generate noise.
- If you place a microphone near this camera, it may pick up the sound from the camera. Check the audio of the microphone input in advance when installing.
- When microphone input is selected, the camera supplies 2.5 VDC Plug-in-power. Do not connect a non-supported microphone when the microphone input is selected.

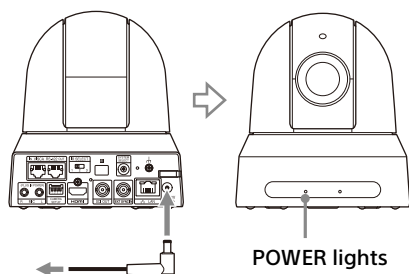
Operations Using the Supplied Infrared Remote Commander

Before Starting Operations

Before operating, check that the camera and peripheral devices are properly installed and connected.

For details, see "Installing the Camera" (page 16) and "Connecting the Camera" (page 19).

Turning on the Power



To the AC adapter (supplied)

- 1 **Connect the camera to an AC outlet using the supplied AC adapter and power cord.**
Or, connect the powered PoE+ power supply device and the camera with a LAN cable.

The power is turned on and the POWER lamp turns green.

The camera will automatically pan and tilt and then stop to the position stored as POSITION 1 (pan/tilt reset).

- 2 **Turn on the peripheral devices.**
If the POWER button on the remote commander is pressed while the camera is turned on, the camera goes into the standby mode. The POWER lamp turns from green to orange.

Note

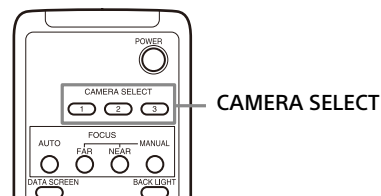
Wait at least 10 seconds if you want to turn on the camera again after putting it in the standby mode.

Operating Multiple Cameras Using the Infrared Remote Commander

- 1 **Set the IR SELECT switch on the back of the camera you want to operate to 1, 2, or 3.**

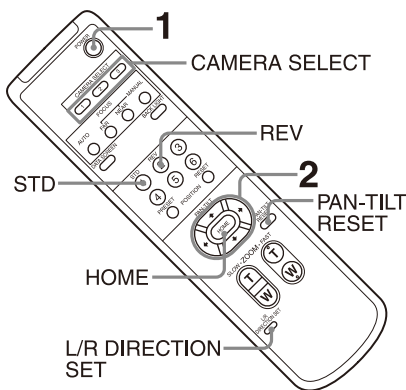


- 2 **Press the CAMERA SELECT button on the remote commander that corresponds to the number set in step 1.**



You can then operate the specified camera(s). Every time you operate the camera(s) using the remote commander, the CAMERA SELECT button pressed in step 2 lights up.

Pan/Tilt Operation



- 1

Press the POWER button.
The camera will turn on and perform the pan/tilt reset action automatically.
- 2

Press an arrow button to pan or tilt the camera.
While checking the picture on the screen, press the appropriate arrow button.
To move the camera little by little, press the button just for a moment.
To move the camera in a wide range, press and hold the button.
To move the camera diagonally, press the ◀ or ▶ button while holding down the ▲ or ▼ button.

To face the camera back to the front
Press the HOME button.

If you accidentally move the camera with your hand
Press the PAN-TILT RESET button to perform the pan/tilt reset action.

When the camera moves in a different direction from what you intended

The camera is preset to face toward the right whenever the ▶ button is pressed. You might wish to reverse the direction in which the camera moves, for example, when you change the direction of the camera while checking the picture on the screen. In such cases, press the 2 (REV) button while holding down the L/R DIRECTION SET button. To reset the setting, press the 1 (STD) button while holding down the L/R DIRECTION SET button.

Arrow button	Movement of the camera	Setting
		While holding down L/R DIRECTION SET Press STD 1
		While holding down L/R DIRECTION SET Press REV 2

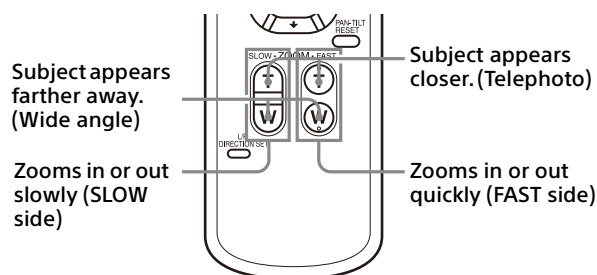
Note
The above setting changes only the signal emitted from the remote commander, and does not change the setting of the camera itself. Therefore, repeat the setting process for each remote commander if you are using more than one remote commander.

If the POWER lamp and NETWORK lamp on the camera flash simultaneously, and “PAN-TILT ERROR!” is displayed on the menu screen

If the camera is moved by external shock, or objects or your fingers are caught in the camera, the microcomputer inside the camera may not be able to store the pan/tilt position properly, in which case the motion automatically stops. To reset the pan/tilt position, press the PAN-TILT RESET button or turn off the camera and turn it on again.

Zoom Operation

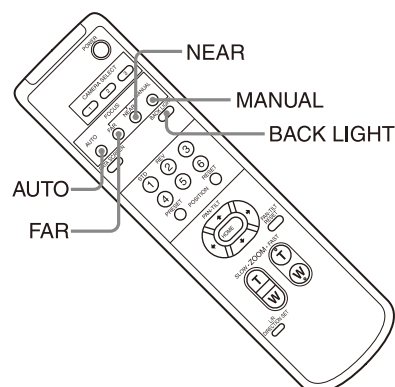
Press either of the ZOOM buttons.



Note

When you perform pan/tilt operations while the camera is in telephoto mode, the moving speed of the image on the screen may be a little jerky.

Adjusting the Camera



Focusing on a subject

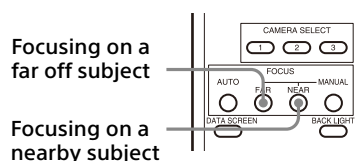
To adjust the focus automatically

Press the AUTO button.

The camera focuses on the subject in the center of the screen automatically.

To adjust the focus manually

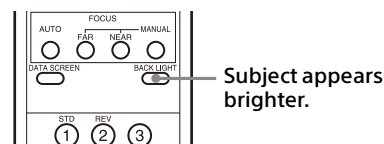
After pressing the MANUAL button, press either the FAR or the NEAR button to adjust the focus.



Shooting with back lighting

When you shoot a subject with a light source behind it, the subject becomes dark. In such cases, press the BACK LIGHT button.

To cancel the function, press the BACK LIGHT button again.



Note

The BACK LIGHT button is enabled when the exposure mode is set to [FULL AUTO] (Full auto), [SHUTTER Pri] (Shutter priority), or [IRIS Pri] (Iris priority).

Storing the Camera Settings in Memory- Preset Feature

Settings, including the camera position, zoom, focus, and backlighting, can be stored in a preset.

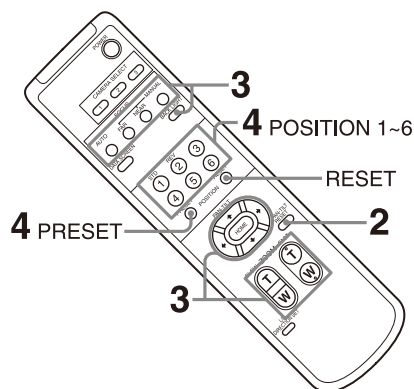
You can also store presets from a web browser. For details, see "Preset position tab" (page 83).

Notes

The camera supports up to 256 position presets. The number of positions that are supported will vary depending on the device used.

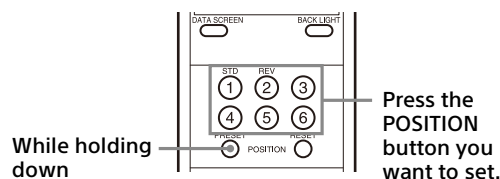
- For the RM-IP500 (sold separately), up to 100 positions.
- For the RM-IP10 (sold separately), up to 16 positions.
- For the remote commander (supplied), up to 6 positions.
- For a web browser, up to 256 positions.

For details on the camera settings that can be preset, see "Preset Items" (page 88).



Storing the camera status

- 1 Press the PAN-TILT RESET button to reset the pan/ tilt position.
- 2 Adjust the position, zoom, and focus of the camera (See pages 28 and 28).
- 3 Hold down the PRESET button and press any of the POSITION buttons, 1 to 6, in which you want to store the settings.



Note

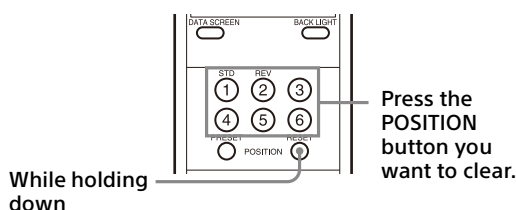
Before you store the position, zoom, focus, etc. of the camera, make sure to install and secure the camera in place to use it properly.

Recalling the stored status

Press any of the POSITION 1 to 6 buttons in which you have stored the settings.

Clearing the preset memory

Hold down the RESET button and press the desired POSITION button 1 to 6 for which you want to clear the settings.



Notes

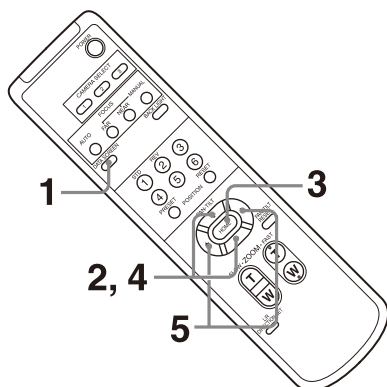
- If you want to retain the previous pan and tilt positions when the power is turned off and turned on again, store those positions in POSITION 1.
- Storing or clearing the settings in POSITION 1 takes about 2 seconds longer than for other positions.
- When you are storing or clearing the settings in one POSITION, you cannot restore, store or clear the settings in another POSITION.
- For details on the items that can be cleared from the memory, see "Preset Items" (page 88).
- When [PRESET MODE] is set to [MODE2] in the SYSTEM menu, only the pan/tilt, zoom, and focus positions of the camera are recalled (BRC-X400/X401).
- You can register, call, or delete the preset even while the menu is being displayed. However, you cannot change the position with the pan/ tilt operation.
- Note that if you flip the image, the set position will be cleared.

Operating Menus

This section explains how to configure the camera using the supplied remote commander.

For details on the menu items, refer to page 32 through page 46.

Displaying a menu



- 1** Press the **DATA SCREEN** button.
The main menu is displayed.
- 2** Use the **↑** or **↓** button to move the cursor to the menu item you want to change.
- 3** Press the **HOME** button.
The selected menu is displayed.
- 4** Use the **↑** or **↓** button to move the cursor to the setting item you want to change.
- 5** Use the **←** or **→** button to change the set value.

Note

[IR RECEIVE] cannot be set to [OFF] in the SYSTEM menu when you operate the menu with the supplied remote commander. To set [IR RECEIVE] to [OFF], use the remote controller (not supplied) or a web browser.

Returning to the main menu

Press the **DATA SCREEN** button.

Canceling a menu

When the main menu is displayed, press the **DATA SCREEN** button once. When a setting menu is displayed, press the **DATA SCREEN** button twice.

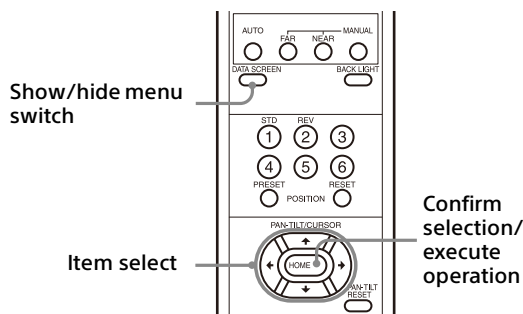
Adjusting and Configuring the Camera through On-Screen Menus

About On-Screen Menus

You can configure the shooting conditions and system setup of the camera from the menus displayed on an external monitor. Display settings menus are described as OSD menus in this document.

Menu operations can be performed using the supplied remote commander or a remote controller (sold separately).

For details, refer to the operating instructions of the remote controller.



This section explains how to read the on-screen menus before starting menu operations.

For the overall menu configurations, see page 47.

You can configure the camera from both the OSD menu and a web browser. Bracketed text on the right of the setting item indicates the setting item name of the web browser.

Values to be selected in the OSD menu are noted in square brackets [].

Notes

- You cannot perform pan/tilt/zoom operations while the menu is displayed.
- The menus are output through SDI OUT and HDMI OUT.

Confirming selection of menu items and settings/Executing operations

Icons for buttons used for setup operations are displayed along the bottom of the currently displayed menu screen.

SELECT or **SELECT**: Indicates use of the $\uparrow/\downarrow/\leftarrow/\rightarrow$ buttons to select menu items and settings. These correspond to the joystick directions on a remote controller.

ENTER/NEXT: Indicates use of the HOME button (equivalent to ENTER) to confirm the menu item or setting selection, or to advance to the next screen or next operation. This corresponds to the joystick button on a remote controller.

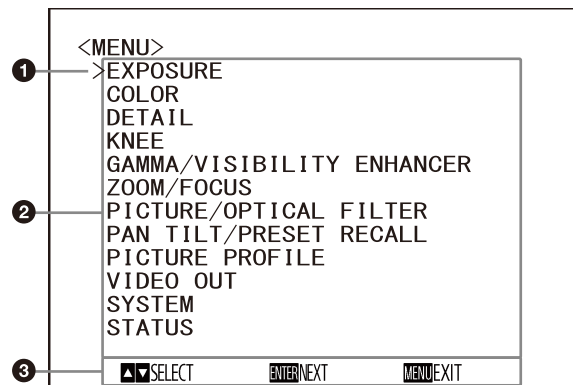
MENUEXIT: Indicates use of the DATA SCREEN button (equivalent to MENU) to show/hide the menu screen.

MENUBACK: Indicates that you can return to the main menu by pressing the DATA SCREEN button.

The method used to display the menu will vary depending on the remote controller model. Refer to the operating instructions of the remote controller (sold separately).

Main menu

Press the DATA SCREEN button on the remote commander to display the main menu.



1 Cursor

The cursor selects a setting menu. Press the $\uparrow$ or $\downarrow$ button of the remote commander to move the cursor up or down.

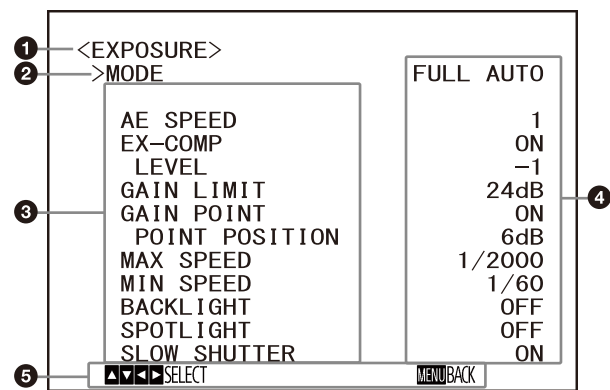
2 Menu items

Press the $\uparrow$ or $\downarrow$ button of the remote commander to select a setting menu, and then press the HOME button to display the selected setting menu.

3 Control button display section

Setting menu

The setting menu selected on the main menu is displayed.



- 1 Setting menu**
The name of the setting menu currently selected is displayed.
- 2 Cursor**
The cursor selects a setting item.
Press the **▲** or **▼** button of the remote commander to move the cursor up or down.
- 3 Setting items**
The setting items for this setting menu are displayed.
Press the **▲** or **▼** button of the remote commander to select a setting item. Press the **◀** or **▶** button to change the set value.
- 4 Set value**
The current set values are displayed.
Press the **◀** or **▶** button of the remote commander to change the set value.
- 5 Control button display section**

For the default value of each setting item, see "Menu Configuration" (page 47).

Status

Display the items selected in the menu and device information.

EXPOSURE Menu

The EXPOSURE menu is used to set the items regarding the exposure.
You can set the menu from a web browser.
For details, see "Picture tab" (page 64).

<EXPOSURE>		
>MODE		FULL AUTO
AE SPEED		1
EX-COMP		ON
LEVEL		-1
GAIN LIMIT		24dB
GAIN POINT		ON
POINT POSITION		6dB
MAX SPEED		1/2000
MIN SPEED		1/60
BACKLIGHT		OFF
SPOTLIGHT		OFF
SLOW SHUTTER		ON

Note
When the high-sensitivity mode is set to ON, the available setting range differs. High-sensitivity mode is set to OFF at the factory settings. To turn it ON, use the VISCA command.

MODE (Exposure - Mode)

- [FULL AUTO]:** The exposure is adjusted automatically using the gain, electronic shutter speed, and iris setting.
- [MANUAL]:** You can manually adjust the gain, electronic shutter speed, and iris setting individually.
- [SHUTTER Pri]:** You can adjust the electronic shutter speed manually. Automatically adjusts the exposure using the gain and iris.
- [IRIS Pri]:** You can adjust the iris setting manually. Automatically adjusts the exposure using the gain and electronic shutter speed.

When you select any of the above modes, you will see available options for the selected mode among the following setting items.

GAIN (Exposure - Gain)

Select the gain.
When [MODE] is [MANUAL], you can choose a value from 0 to 36 dB (in 3 dB increments). When high-sensitivity mode is set to ON, the available range is expanded from 0 to 48 dB (in 3 dB increments).

SPEED (Exposure - Shutter speed)

When [MODE] is either [MANUAL] or [SHUTTER Pri], select the electronic shutter speed.

When the signal format is 59.94 or 29.97

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/10], [1/15], [1/20], [1/30], [1/50], [1/60], [1/90], [1/100], [1/125], [1/180], [1/250], [1/350], [1/500], [1/725], [1/1000], [1/1500], [1/2000], [1/3000], [1/4000], [1/6000], [1/10000].

When the signal format is 50 or 25

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/12], [1/15], [1/20], [1/25], [1/30], [1/50], [1/60], [1/100], [1/120], [1/150], [1/215], [1/300], [1/425], [1/600], [1/1000], [1/1250], [1/1750], [1/2500], [1/3500], [1/6000], [1/10000].

When the signal format is 23.98

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/12], [1/20], [1/24], [1/25], [1/40], [1/48], [1/50], [1/60], [1/96], [1/100], [1/120], [1/144], [1/192], [1/200], [1/288], [1/400], [1/576], [1/1200], [1/2400], [1/4800], [1/10000].

IRIS (Exposure - Iris)

When [MODE] is either [MANUAL] or [IRIS Pri], you can change the iris setting.

You can choose from [F2.0], [F2.2], [F2.4], [F2.6], [F2.8], [F3.1], [F3.4], [F3.7], [F4.0], [F4.4], [F4.8], [F5.2], [F5.6], [F6.2], [F6.8], [F7.3], [F8.0], [F8.7], [F9.6], [F10], [F11], [CLOSE].

AE SPEED (Exposure - AE speed)

Select the adjustment speed for exposure adjustment.

You can adjust the speed at which the camera reaches the optimum exposure setting from [1] (standard) to [48] (slow). Adjust this when the brightness of the object changes instantaneously.

This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri].

EX-COMP (Exposure - Exposure compensation)

Turn this [ON] when you want to correct brightness of a picture whose exposure is already automatically adjusted. This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri]. The [LEVEL] setting is displayed when this is turned [ON].

LEVEL (Exposure - Exposure compensation)

Set a level to adjust the brightness of a picture whose exposure is already automatically adjusted. Choose a value from [-7] to [+7] for the level.

This is not displayed when [EX-COMP] is turned [OFF].

GAIN LIMIT (Exposure - Auto gain Max. value)

Set the maximum gain when exposure is automatically adjusted using gain. Choose a value from [9dB] to [36dB] (in 3 dB increments). When high-sensitivity mode is set to ON, the available range is expanded from [21dB] to [48dB] (in 3 dB increments).

This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri]. You cannot choose a value smaller than the [POINT POSITION] setting.

GAIN POINT (Exposure - Gain point)

When you set [MIN SPEED] to be slower than the output image frame rate, the shutter speed controls exposure based on the [GAIN POINT] setting. Normally, when exposure is controlled with gain, noise becomes prominent if gain is increased to make the image brighter. You can decrease noise by adjusting the exposure with lower shutter speeds after canceling gain adjustments. When you do this, set [GAIN POINT] to [ON] and set the [POINT POSITION] to the gain at which you want the shutter speed to change. When the shutter speed reaches [MIN SPEED] for exposure adjustment, the gain will increase to adjust exposure. This setting is available when [MODE] is either [FULL AUTO] or [IRIS Pri].

POINT POSITION (Exposure - Gain point level)

This is enabled when [GAIN POINT] is turned [ON]. When gain during exposure adjustment reaches the value for [POINT POSITION], exposure is adjusted through a slower shutter speed. This setting is available when [MODE] is either [FULL AUTO] or [IRIS Pri]. You cannot choose a value smaller than the [GAIN] setting.

MAX SPEED (Exposure - Fastest)

Set the maximum (fastest) shutter speed when exposure is automatically adjusted with the electronic shutter.

This setting is available when [MODE] is either [FULL AUTO] or [IRIS Pri]. You cannot choose a value slower than [MIN SPEED].

When the signal format is 59.94 or 29.97

You can choose from [1/30], [1/50], [1/60], [1/90], [1/100], [1/125], [1/180], [1/250], [1/350], [1/500], [1/725], [1/1000], [1/1500], [1/2000], [1/3000], [1/4000], [1/6000], [1/10000].

When the signal format is 50 or 25

You can choose from [1/25], [1/30], [1/50], [1/60], [1/100], [1/120], [1/150], [1/215], [1/300], [1/425], [1/600], [1/1000], [1/1250], [1/1750], [1/2500], [1/3500], [1/6000], [1/10000].

When the signal format is 23.98

You can choose from [1/24], [1/25], [1/40], [1/48], [1/50], [1/60], [1/96], [1/100], [1/120], [1/144], [1/192], [1/200], [1/288], [1/400], [1/576], [1/1200], [1/2400], [1/4800], [1/10000].

MIN SPEED (Exposure - Slowest)

Set the minimum (slowest) shutter speed when exposure is adjusted with the electronic shutter. This setting is available when [MODE] is either [FULL AUTO] or [IRIS Pri]. You cannot choose a value faster than [MAX SPEED].

When the signal format is 59.94 or 29.97

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/10], [1/15], [1/20], [1/30], [1/50], [1/60], [1/90], [1/100], [1/125], [1/180], [1/250], [1/350], [1/500], [1/725], [1/1000], [1/1500], [1/2000], [1/3000], [1/4000], [1/6000], [1/10000].

When the signal format is 50 or 25

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/12], [1/15], [1/20], [1/25], [1/30], [1/50], [1/60], [1/100], [1/120], [1/150], [1/215], [1/300], [1/425], [1/600], [1/1000], [1/1250], [1/1750], [1/2500], [1/3500], [1/6000], [1/10000].

When the signal format is 23.98

You can choose from [1/1], [2/3], [1/2], [1/3], [1/4], [1/6], [1/8], [1/12], [1/20], [1/24], [1/25], [1/40], [1/48], [1/50], [1/60], [1/96], [1/100], [1/120], [1/144], [1/192], [1/200], [1/288], [1/400], [1/576], [1/1200], [1/2400], [1/4800], [1/10000].

BACKLIGHT (Exposure - Backlight compensation)

This menu allows you to enable/disable backlight compensation so that exposure is optimized for backlight. You can choose either [ON] or [OFF]. This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri].

SPOTLIGHT (Exposure - Spotlight compensation)

This menu allows you to enable/disable spotlight compensation by adjusting the exposure darker when a part of the object is bright, such as a person's face in spotlight. You can choose either [ON] or [OFF]. This setting is available when [MODE] is [FULL AUTO], [SHUTTER Pri], or [IRIS Pri]. [SPOTLIGHT] becomes disabled when [BACKLIGHT] is [ON].

SLOW SHUTTER (Exposure - Auto slow shutter)

When you set the mode to [ON], the camera automatically uses slow shutter speed for exposure as the illumination of the object to be shot decreases. This menu is available when [MODE] is [FULL AUTO] or [IRIS Pri].

COLOR Menu

The COLOR menu is used to adjust the white balance and the color.

You can set the menu from a web browser.

For details, see "Picture tab" (page 64).

<COLOR>	
>WHITE BALANCE MODE	MANUAL
R. GAIN	+81
B. GAIN	+47
MATRIX	ON
SELECT	STD
LEVEL	4
PHASE	0
R-G	0
R-B	0
G-R	0
G-B	0
B-R	0
B-G	0

WHITE BALANCE MODE (White balance - Mode)

Select a white balance mode.

You can choose from [AUTO1], [AUTO2], [INDOOR], [OUTDOOR], [ONE PUSH], and [MANUAL].

[AUTO1]: Automatically adjusts the color to be closest to the image you are viewing.

[AUTO2]: Automatically adjusts the white balance to reproduce the original colors of the objects, eliminating the influences of ambient illumination.

[INDOOR]: Fixes R/B GAIN when the color temperature is 3200 K.

[OUTDOOR]: Fixes R/B GAIN when the color temperature is 5800 K.

[ONE PUSH]: White balance is adjusted when the ONE PUSH trigger command is received. When you operate from the remote controller, press the O.P.AWB button on RM-IP500 or the ONE PUSH AWB button on RM-IP10. Shoot a large white object in the center of the screen before adjustment. White balance is adjusted when you press the HOME button on the supplied remote commander or the joystick top button on the remote controller while [ONE PUSH] is selected in [WHITE BALANCE MODE] on the menu screen.

[MANUAL]: Allows you to manually adjust the white balance.

When you select any of the above modes, you will see available options for the selected mode among the following setting items.

SPEED (White balance - Speed)

Adjust the speed at which the camera reaches the white convergence point when [AUTO1] or [AUTO2] is chosen. Choose a value from [1], [2], [3], [4], and [5]. [5] is the fastest and [1] is the slowest.

OFFSET (White balance - Offset)

The shift amount of the white convergence point can be adjusted when [WHITE BALANCE MODE] is [AUTO1], [AUTO2], or [ONE PUSH]. The range is from [-7] to [0] to [+7]. White balance is shifted toward blue when a negative value is chosen, and it is shifted toward red when a positive value is chosen.

R.GAIN (White balance - R gain)

B.GAIN (White balance - B gain)

Displayed when [MANUAL] is chosen. White balance can be manually adjusted within the range from [-128] to [+127].

MATRIX (Color matrix - Enable) (BRC-X400/X401)

You can emphasize or weaken a specific color region while keeping the white convergence point unchanged. When you turn this [ON], the following items are displayed for adjustment.

SELECT (Color matrix - Matrix) (BRC-X400/X401)

You can choose an internal preset matrix for matrix calculation. You can choose from [STD], [HIGH SAT], [FL LIGHT], [MOVIE], [STILL], [CINEMA], [PRO], [ITU709], and [B&W]. This becomes disabled when [MATRIX] is turned [OFF].

LEVEL (Color matrix - Saturation) (BRC-X400/X401)

You can adjust the color density of the picture. Choose a value in the range from [0] to [14]. The greater the number, the denser the colors, and vice versa. This becomes disabled when [MATRIX] is turned [OFF].

PHASE (Color matrix - Hue) (BRC-X400/X401)

You can adjust the color tone of the entire picture. Choose a value from [-7] to [0] to [+7]. This becomes disabled when [MATRIX] is turned [OFF].

R-G, R-B, G-R, G-B, B-R, B-G (Color matrix - R-G, R-B, G-R, G-B, B-R, B-G) (BRC-X400/X401)

You can set a coefficient for each combination of RGB individually, to adjust the hue of the entire picture.

Choose a value from [-99] to [0] to [+99]. This becomes disabled when [MATRIX] is turned [OFF].

DETAIL Menu

The DETAIL menu is used to adjust the image enhancer function.

You can set the menu from a web browser.

For details, see "Picture tab" (page 64).

<DETAIL>	
>MODE	MANUAL
LEVEL	0
BAND WIDTH	DEFAULT
CRISPENING	0
HV BALANCE	0
BW BALANCE	TYPE2
LIMIT	3
HIGHLIGHT DETAIL	0
SUPER LOW	3

MODE (Detail - Mode)

When you choose [AUTO], contour correction signal is automatically added.

When you want to make adjustment by yourself, choose [MANUAL].

Only [LEVEL] will be displayed when you choose [AUTO].

LEVEL (Detail - Level)

You can set the volume of the contour correction signal. Choose a value from [-7] to [0] to [+8]. The greater the value, the stronger the contour correction signal.

BAND WIDTH (Detail - Bandwidth)

You can set the bandwidth for signals undergoing contour emphasis. Choose a bandwidth from [DEFAULT], [LOW], [MIDDLE], [HIGH], and [WIDE]. For example, when you choose [MIDDLE], the middle range of the signals is elevated, and contours in that middle range are emphasized.

CRISPENING (Detail - Crispening)

You can choose the fineness for the objects to which contour correction signals are added. Choose a value from [0] to [7]. When you choose a higher value, minute contour correction signal elements are removed, and only the high level contour correction signals are left, which reduces noise. When you choose a lower value, minute contour correction signal elements are added to the picture, which increases noise.

HV BALANCE (Detail - HV balance)

You can choose the ratio for horizontal and vertical contour correction signal elements. Choose a value from [-2] to [0] to [+2]. When you choose a higher value, the horizontal contour

correction elements become greater compared to the vertical elements.

BW BALANCE (Detail - BW balance)

You can adjust the balance between contours in black on the low brightness side of the spectrum and contours in white on the high brightness side. Choose from [TYPE0] to [TYPE4]. The ratio of contours in black is higher for [TYPE0] while the ratio of contours in white is higher for [TYPE4].

LIMIT (Detail - Limit)

You can set the maximum value for the amount of contour emphasis in black on the low brightness side of the spectrum and in white on the high brightness side. Choose a value from [0] to [7].

HIGHLIGHT DETAIL (Detail - Highlight detail)

You can adjust the level of contour added to brightly-lit objects. Choose a value from [0] to [4]. The higher the value, the greater the contour emphasis. Adjust this when you want to emphasize the contour of a brightly-lit object in a bright background.

SUPER LOW (Detail - Super low)

Emphasizes contours in the super low range. Choose a value from [0] to [7]. The greater the value, the greater the contour emphasis. Contrast and resolution increase.

KNEE Menu (BRC-X400/X401)

The KNEE menu is used to adjust the KNEE. You can set the menu from a web browser. For details, see "Picture tab" (page 64).

<KNEE>	
>SETTING	ON
KNEE MODE	MANUAL
KNEE SLOPE	+7
KNEE POINT	5

SETTING (Knee - Knee setting)

When you turn this [ON], the following [KNEE MODE] setting items are displayed for adjustment.

KNEE MODE (Knee - Knee mode)

When you choose [AUTO], the KNEE level is automatically calculated based on the brightness level of the picture being shot. When you choose [MANUAL], you can manually adjust the KNEE level irrespective of the brightness level of the picture.

KNEE SLOPE (Knee - Knee slope)

When [KNEE MODE] is [MANUAL], you can adjust the gradient of KNEE (compression rate). Choose a value from [-7] to [0] to [+7]. This is disabled when [KNEE MODE] is [AUTO].

KNEE POINT (Knee - Knee point)

When [KNEE MODE] is [MANUAL], you can adjust the knee point. Choose a value from [0] to [12]. This is disabled when [KNEE MODE] is [AUTO].

GAMMA/VISIBILITY ENHANCER Menu (BRC-X400/X401)

The GAMMA/VISIBILITY ENHANCER menu is used to adjust GAMMA correction and VISIBILITY ENHANCER function. You can set the menu from a web browser. For details, see "Picture tab" (page 64).

<GAMMA/VISIBILITY ENHANCER>	
GAMMA	
>SELECT	PATTERN
PATTERN	25
PATTERN FINE	6
OFFSET	0
LEVEL	0
BLACK GAMMA	0
BLACK GAMMA RANGE	LOW
BLACK LEVEL	-48
VISIBILITY ENHANCER	
SETTING	ON
EFFECT	0

GAMMA

SELECT (Gamma - Gamma)

You can choose the type of basic curve for GAMMA correction.

[STD]: Standard setting (same as the [MOVIE] setting on the camera).

[STRAIGHT]: Set a straight gamma curve.

[PATTERN]: Choose a gamma curve from 512 patterns stored in the camera. You can specify the pattern out of 512 patterns using the following [PATTERN] and [PATTERN FINE]. [PATTERN] defines the upper two digits of the pattern, and [PATTERN FINE] defines the last digit.

[MOVIE]: Use a standard gamma curve for movies.

[STILL]: Use a gamma curve for the tone of a still image.

[CINE1]: Softens the contrast in darker regions and emphasizes gradation changes in lighter regions, producing a subdued tone overall.

[CINE2]: Similar to [CINE1] but optimized for editing with up to 100% video signal.

[CINE3]: Stronger contrast between dark and light regions and greater emphasis on black gradation changes (compared to [CINE1] and [CINE2]).

[CINE4]: Stronger contrast than [CINE3] in darker regions. Compared to the [STD] curve, has

less contrast in darker regions and more contrast in lighter regions.

[ITU709]: Gamma curve equivalent to ITU-709.

PATTERN (Gamma - Pattern)

Choose a value from [0] to [51]. This can be chosen when [SELECT] is set to [PATTERN].

PATTERN FINE

Choose a value from [0] to [9]. When [PATTERN] is [0], [0] cannot be chosen for [PATTERN FINE]. When [PATTERN] is [51], a value larger than [3] cannot be chosen for [PATTERN FINE]. This can be chosen when [SELECT] is set to [PATTERN].

OFFSET (Gamma - Offset)

You can adjust the offset of the output level of gamma curves.

Choose a value from [-64] to [0] to [+64].

LEVEL (Gamma - Level)

You can adjust the correction level of the gamma curve. Choose a value from [-7] to [0] to [+7].

BLACK GAMMA (Gamma - Black gamma level)

You can adjust the black gamma level to recreate gradation in the dark areas of the picture or to suppress noise with black-out. Choose a value from [-7] to [0] to [+7].

BLACK GAMMA RANGE (Gamma - Black gamma range)

You can adjust the brightness range for which the black gamma becomes effective. Choose from [LOW], [MIDDLE], and [HIGH]. The range becomes small when [LOW] is chosen, and it becomes large when [HIGH] is chosen.

BLACK LEVEL (Gamma - Black level)

You can adjust the master black level. Choose a value from [-48] to [0] to [+48].

VISIBILITY ENHANCER

SETTING (Exposure - Visibility Enhancer)

When this is turned [ON], gradation correction is adaptively performed according to the scene being shot.

EFFECT (Exposure - Effect)

You can adjust the brightness of the shadows on the screen. Choose a value from [-3] to [0] to [+3].

VISIBILITY ENHANCER Menu (SRG-X400/201M2/X120/ HD1M2)

You can set the menu from a web browser. For details, see "Picture tab" (page 64).

<VISIBILITY ENHANCER>	
>SETTING	ON
EFFECT	0

SETTING (Exposure - Visibility Enhancer)

When this is turned [ON], gradation correction is adaptively performed according to the scene being shot.

EFFECT (Exposure - Effect)

You can adjust the brightness of the shadows on the screen. Choose a value from [-3] to [0] to [+3].

ZOOM/FOCUS Menu (BRC-X400/X401, SRG-X400/201M2)

The ZOOM/FOCUS menu is used to select the zoom/focus mode.

You can set the menu from a web browser.
For details, see “PTZF control tab” (page 81).

- Lit objects shot with darkened exposure adjustment or exposure compensation settings

<ZOOM/FOCUS>	
ZOOM	
>MODE	CLEAR IMAGE ZOOM
FOCUS	
MODE	AUTO

ZOOM

MODE (Zoom - Zoom mode)

Select the zoom mode.

[OPTICAL]: Zooms objects within the optical zoom range (up to 20x) of the camera.

[CLEAR IMAGE ZOOM] (Clear Image Zoom): An image is zoomed with less deterioration of image quality over the optical region. Zooming is up to 1.5x when the video output format (video format) is 3840×2160, and up to 2x for other formats.

[DIGITAL]: An image can be zoomed up to 20× optical zoom and 12× digital zoom (including Clear Image Zoom) with up to a total of 240× zoom.

FOCUS

MODE (Focus - Focus mode)

Select the focus mode.

[AUTO]: The camera focuses automatically.

[MANUAL]: You can focus manually. Adjust using the supplied remote commander or optional remote controller.

Notes

Select [MANUAL] and adjust the focus manually when shooting the following objects.

- White walls and other objects without contrast
- Objects behind glass
- Objects with horizontal stripes
- Objects on which bright lights are cast or reflected
- Nightscapes and other dark objects with blinking lights

FOCUS Menu (SRG-X120/HD1M2)

The FOCUS menu is used to select the focus mode.
You can set the menu from a web browser.
For details, see "PTZF control tab" (page 81).

<FOCUS> MODE	AUTO
-----------------	------

MODE (Focus - Focus mode)

Select the focus mode.
[AUTO]: The camera focuses automatically.
[MANUAL]: You can focus manually. Adjust using the supplied remote commander or optional remote controller.

Notes

Select [MANUAL] and adjust the focus manually when shooting the following objects.

- White walls and other objects without contrast
- Objects behind glass
- Objects with horizontal stripes
- Objects on which bright lights are cast or reflected
- Nightscapes and other dark objects with blinking lights
- Lit objects shot with darkened exposure adjustment or exposure compensation settings

PICTURE/OPTICAL FILTER Menu

The PICTURE/OPTICAL FILTER menu is used to adjust picture quality improvement features and optical filters.
You can set the menu from a web browser.
For details, see "Picture tab" (page 64).

<PICTURE/OPTICAL FILTER>	
PICTURE	
HIGH RESOLUTION	OFF
>NOISE REDUCTION	ADVANCED
2D NR LEVEL	3
3D NR LEVEL	3
FLICKER CANCEL	ON
IMAGE STABILIZER	ON
OPTICAL FILTER	
IR CUT FILTER	NIGHT

PICTURE

HIGH RESOLUTION (Picture - High resolution mode)

You can set [HIGH RESOLUTION] (High resolution mode) to [ON] or [OFF]. When set to [ON], you can enjoy emphasized edge and high-resolution images.

Notes

- When set to [ON], image noise may increase more than when set to [OFF].
- When [MODE] is set to [MANUAL] in [DETAIL], the function is not available.

NOISE REDUCTION (Picture - NR mode)

You can obtain clearer images by removing unnecessary noise (fixed pattern and randomized noise) with [NOISE REDUCTION]. Choose from [OFF] or level 1 through level 5. When you select [ADVANCED], you can set up [2D NR LEVEL] and [3D NR LEVEL] independently.

2D NR LEVEL (Picture - 2D NR level)

This is enabled when [NOISE REDUCTION] is [ADVANCED]. Choose from [OFF] or level [1] through level [5] for noise reduction.

3D NR LEVEL (Picture - 3D NR level)

This is enabled when [NOISE REDUCTION] is [ADVANCED]. Choose from [OFF] or level [1] through level [5] for noise reduction.

FLICKER CANCEL (Picture - Flicker cancel)

When this is turned [ON], the flicker correction feature becomes enabled.

When this is turned [OFF], the flicker correction feature becomes disabled.

Note

Depending on conditions such as the type of illumination and shutter speed, the flicker correction feature may not be effective. If the frame rate is close to the power supply frequency, the flicker correction feature may not be able to fully remove flickers, even if it is enabled. If this happens, use the electronic shutter.

We recommend to set [FLICKER CANCEL] to [OFF] under lights where no flicker is generated, such as outdoors.

IMAGE STABILIZER (Picture - Image stabilizer)

You can select this function according to the shooting conditions.

[OFF]: The image stabilization feature becomes disabled.

[ON]: The image stabilization feature becomes enabled.

When set to [ON], you can obtain steadier images if vibration is present.

Notes

- The image stabilizer function is not effective during pan/tilt operations. It may take some time for the image to stabilize after performing pan/tilt operations.
- If the image stabilizer function is already enabled, it may take some time for the image to stabilize after turning on the power of the camera.
- Depending on the installation conditions, the image stabilizer may not be effective.

OPTICAL FILTER

IR CUT FILTER (Day/Night ICR - Night mode)

You can choose either to enable or disable the IR cut filter feature.

By disabling the IR cut filter feature, the gain in the IR region is increased allowing the camera to capture images in shadow.

[DAY]: IR cut filter feature is enabled to remove unnecessary IR.

[NIGHT]: IR cut filter feature is disabled. The picture becomes monochrome.

PAN TILT/PRESET RECALL Menu

The PAN TILT/PRESET RECALL menu is used to select the pan/tilt/preset recall mode.

You can set the menu from a web browser.

For details, see "PTZF control tab" (page 81).

<PAN TILT/PRESET RECALL>	
PAN TILT	
PAN LIMIT	ON
LEFT	+170°
RIGHT	-170°
TILT LIMIT	ON
DOWN	-20°
UP	+90°
RAMP CURVE	MODE1
PAN TILT SLOW	OFF
PRESET RECALL	
RECALL SPEED	COMMON
COMMON SPEED	24
PICT FREEZE PRESET	OFF

PAN TILT

PAN LIMIT (Pan-Tilt - Pan limit)

Set whether to limit the pan rotation range.

[OFF]: Do not apply range limit.

[ON]: Apply range limit.

LEFT (Pan-Tilt - Left)

-170° to +169°, adjustable in 1° increment.

RIGHT (Pan-Tilt - Right)

-169° to +170°, adjustable in 1° increment.

TILT LIMIT (Pan-Tilt - Tilt limit)

Set whether to limit the tilt rotation range.

[OFF]: Do not apply range limit.

[ON]: Apply range limit.

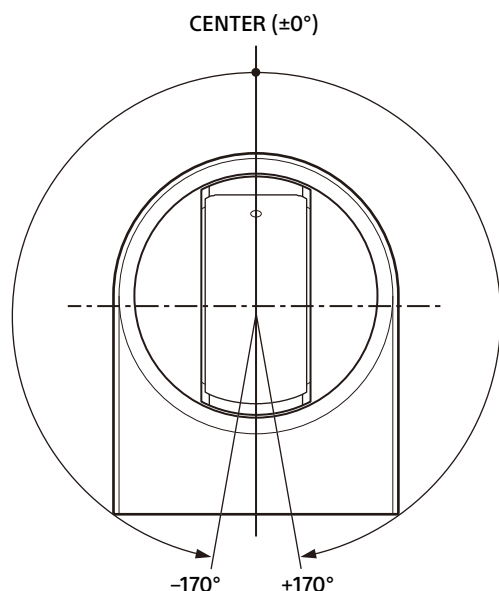
DOWN (Pan-Tilt - Down)

-20° to +89° when [IMG FLIP] is set to [OFF], and -90° to +19° when [IMG FLIP] is set to [ON], adjustable in 1° increment.

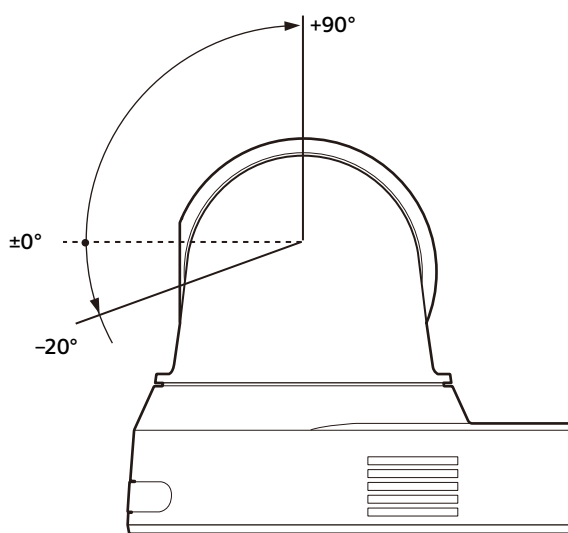
UP (Pan-Tilt - Up)

-19° to +90° when [IMG FLIP] is set to [OFF], and -89° to +20° when [IMG FLIP] is set to [ON], adjustable in 1° increment.

Setting range of LEFT/RIGHT



Setting range of DOWN/UP



Notes

- Configure [PAN LIMIT] and [TILT LIMIT] before storing the camera position in a preset memory. If the camera position is out of the range of the [PAN LIMIT] and [TILT LIMIT] settings, you cannot store the camera position in the preset memory.
- When you change the [IMG FLIP] setting in the SYSTEM menu, the [PAN LIMIT] and [TILT LIMIT] settings are reset to the factory settings.

RAMP CURVE (Pan-Tilt - Ramp curve)

Acceleration/deceleration curve for pan and tilt.

Note

This is fixed to [MODE1] for this camera.

PAN TILT SLOW (Pan-Tilt - Slow Pan-Tilt mode)

You can select slow speed panning/tilting.

[OFF]: The camera pans/tilts at the standard speed.

[ON]: The camera pans/tilt speed is slower.

PRESET RECALL

You can select preset recall settings.

RECALL SPEED (Preset - Speed select)

You can select preset recall speed.

[COMPATIBLE]: Work differently depending on the commands for preset recall.

- **For VISCA command:** Pan/tilt work with the speed set by each preset number.
- **For CGI:** Pan/tilt work with the speed specified by the CGI command of preset recall.

[SEPARATE]: Pan/tilt work with the speed set by each preset number.

[COMMON]: Pan/tilt work with the common speed to all preset numbers.

COMMON SPEED (Preset - Common speed)

This is enabled when [RECALL SPEED] is [COMMON]. Pan/tilt speed for preset recall, which is common to all preset numbers.

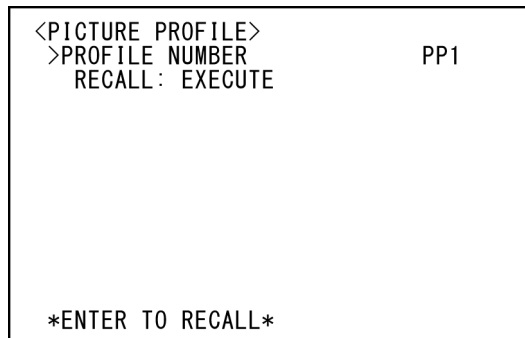
PICT FREEZE PRESET (Preset - Pict freeze preset)

You can select output image for preset recall.

[OFF]: Output image directly from the camera.

[ON]: Output frozen image during preset recalling.

PICTURE PROFILE Menu (BRC-X400/X401)



PROFILE NUMBER

Select the picture profile number.

The camera is equipped with 6 types of picture profiles.

You can match the image texture with other types of camcorders that support the picture profile function, or create an image texture that is similar to that of cinematic film.

[PP1]: Set to image quality that uses MOVIE gamma.

[PP2]: Set to image quality that uses STILL gamma.

[PP3]: Set to image quality that uses ITU-709 gamma for natural color tones.

[PP4]: Set to image quality for ITU-709 standard color tones.

[PP5]: Set to image quality that uses CINE1 gamma.

[PP6]: Set to image quality that uses CINE2 gamma.

RECALL:EXECUTE

Recall the selected picture profile.

The following settings are changed when PP1 to PP6 are recalled.

- GAMMA/VISIBILITY ENHANCER
 - SELECT,
 - OFFSET,
 - LEVEL,
 - BLACK GAMMA,
 - BLACK GAMMA RANGE,
 - BLACK LEVEL,
 - VISIBILITY ENHANCER SETTING
- KNEE
 - SETTING,
 - KNEE MODE

- COLOR
 - MATRIX,
 - SELECT,
 - LEVEL,
 - PHASE,
 - R-G,
 - R-B,
 - G-R,
 - G-B,
 - B-R,
 - B-G
- DETAIL
 - LEVEL,
 - MODE

Settings can be adjusted individually after recalling a picture profile.

To save settings, save to a preset.

Notes

- The settings for a picture profile cannot be changed.
- To load preferred settings at startup, recall the picture profile and save it in preset position 1.
- A picture profile cannot be set from a web browser.

VIDEO OUT Menu

You can set [COLOR SPACE] from a web browser. For details, see "Installation tab" (page 62).

<VIDEO OUT>	
HDMI	
COLOR SPACE	YCbCr
H PHASE	
H PHASE	31
H PHASE FINE	0

HDMI

COLOR SPACE (Video out - Color space)

Set the color space of HDMI output.

H PHASE (BRC-X400/X401)

This feature allows you to regulate phase differences between the external sync signal input to the EXT SYNC IN terminal of the camera and the video signal of the camera, when a device which generates the synchronizing signal is connected. The adjustment range is from 0 to 959.

The video signal is advanced in the + direction and delayed in the – direction for the external sync signal.

1 STEP time for [H PHASE] is 0.0135 μ s.

H PHASE

This allows you to adjust by 10 STEP increments. Choose a value from [0] to [3] to [95].

H PHASE FINE

This allows you to adjust by 1 STEP increment. Choose a value from [0] to [9].

If you increase the value beyond 9, the tens digit automatically increases (+1 to [H PHASE]).

If you decrease the value beyond 0, the tens digit automatically decreases (–1 to [H PHASE]).

Notes

- [H PHASE] regulates phase differences only for SDI OUT.
- [H PHASE] is not displayed when the SYSTEM SELECT switch is set to 4K.
- [H PHASE] cannot be set from a web browser.

SYSTEM Menu

You can set the menu from a web browser. For details, see "Installation tab" (page 62) or "PTZF control tab" (page 81).

<SYSTEM>	
>IMG FLIP	OFF
IR RECEIVE	ON
TALLY LEVEL	HIGH
TELE CONVERT MODE	2x
HTTP/RTSP	OFF
PRESET MODE	MODE1

IMG FLIP (System - Image flip)

When [IMG FLIP] is set to [ON], the picture is flipped vertically and picture shift direction by the pan/tilt operation is also reversed.

After the [IMG FLIP] setting is changed, turn off the camera and turn it on again to activate the change.

Note

When the [IMG FLIP] setting is changed, the coordinates for pan and tilt are flipped and the following are reset.

- Pan-Tilt limit (PAN-TILT LIMIT)
- Preset

IR RECEIVE (System - IR receive)

If this is turned [OFF], the camera does not receive signals from the supplied remote commander.

Be sure to turn this [ON] when you use the supplied remote commander.

Note

You cannot set [IR RECEIVE] to [OFF] when using the supplied remote commander. To turn off [IR RECEIVE], use the remote controller (not supplied) or VISCA command.

TALLY LEVEL (System - Tally level) (BRC-X400/X401)

This allows you to configure the settings related to the tally lamp on the front of the camera. Choose from [HIGH], [LOW], and [OFF].

[HIGH]: When the tally lamp is turned on, it comes on bright.

[LOW]: When the tally lamp is turned on, it comes on dim.

[OFF]: Even when the tally-lamp-ON command is received, the tally lamp does not light up.

Note

When [TALLY LEVEL] is set to [OFF], the tally lamp does not light up.

TELE CONVERT MODE (System - Tele convert) (BRC-X400/X401)

You can shoot using 2× magnification.

[OFF]: Does not use the magnification function.

[2x]: Uses the magnification function.

Notes

- This is enabled only when the SYSTEM SELECT switch is set to 1920×1080.
- The angle of view when [TELE CONVERT MODE] is set to [2x] is narrower than when set to [OFF].
- When used with the image stabilizer function, image quality may be degraded. Set [IMAGE STABILIZER] (Image stabilizer) to [OFF] if desired.

HTTP/RTSP

When the setting of the HTTP/RTSP switch on the back of the camera is "MENU," use this setting to turn ON/OFF the HTTP/RTSP communication. Turn ON the HTTP/RTSP communication to set the camera with the web browser or acquire streaming.

[OFF]: Turn OFF the HTTP/RTSP communication function of the camera.

[ON]: Turn ON the HTTP/RTSP communication function of the camera.

After the [HTTP/RTSP] setting is changed, turn off the camera and turn it on again to activate the change.

Note

[HTTP/RTSP] cannot be set from a web browser.

PRESET MODE (Preset - Preset mode) (BRC-X400/X401)

Set preset mode.

[MODE1]: Recall all saved settings when recalling a preset.

[MODE2]: Recall only the pan, tilt, zoom, and focus positions when recalling a preset.

STATUS Menu

<STATUS>EXPOSURE MODE	PAGE1	
	FULL	AUTO
AE SPEED		1
EX-COMP		ON
LEVEL		-1
GAIN LIMIT		24dB
GAIN POINT		ON
POINT POSITION		6dB
MAX SPEED		1/2000
MIN SPEED		1/60
BACKLIGHT		OFF
SPOTLIGHT		OFF
SLOW SHUTTER		ON

The STATUS menu is used to display the settings selected with the menus. This menu only displays the current menu settings, and you cannot change them with this menu. The current menu settings will vary depending on the camera model. Press the ◀ or ▶ button of the remote commander to switch PAGE.

For BRC-X400/X401

PAGE1: Items in the EXPOSURE menu

PAGE2: Items in the COLOR menu

PAGE3: Items in the DETAIL menu

PAGE4: Items in the KNEE menu

PAGE5: Items in the GAMMA/VE menu

PAGE6: Items in the ZOOM/FOCUS menu

PAGE7: Items in the PICTURE/OPT.FILTER menu

PAGE8: Items in the PAN TILT/PRESET menu

PAGE9: Items in the VIDEO OUT menu

PAGE10: Items in the SYSTEM menu

PAGE11: Device information of the camera and status of switch settings on the back of the camera

PAGE12: Network settings

For SRG-X400/201M2

PAGE1: Items in the EXPOSURE menu

PAGE2: Items in the COLOR menu

PAGE3: Items in the DETAIL menu

PAGE4: Items in the VE menu

PAGE5: Items in the ZOOM/FOCUS menu

PAGE6: Items in the PICTURE/OPT.FILTER menu

PAGE7: Items in the PAN TILT/PRESET menu

PAGE8: Items in the VIDEO OUT menu

PAGE9: Items in the SYSTEM menu

PAGE10: Device information of the camera and status of switch settings on the back of the camera

PAGE11: Network settings

For SRG-X120/HD1M2

PAGE1: Items in the EXPOSURE menu

PAGE2: Items in the COLOR menu

PAGE3: Items in the DETAIL menu

PAGE4: Items in the VE menu

PAGE5: Items in the FOCUS menu

PAGE6: Items in the PICTURE/OPT.FILTER menu

PAGE7: Items in the PAN TILT/PRESET menu

PAGE8: Items in the VIDEO OUT menu

PAGE9: Items in the SYSTEM menu

PAGE10: Device information of the camera and status of switch settings on the back of the camera

PAGE11: Network settings

The [DEVICE INFO] and [NETWORK] screens are only in the STATUS menu.

DEVICE INFO (Device information of the camera and setting status of switches on the back of the camera)

Displays the device information. No setting is available for this display.

MODEL NAME (Information - Model Name)

Displays the model name of the camera.

SERIAL NUMBER (Information - Serial number)

Displays the serial number of the camera.

VERSION (Information - Software version)

Displays the software version of the camera.

NAME (Common setting - Camera name)

Displays the name applied to the camera. You can change the name with the web browser or VISCA/CGI command.

For details on VISCA/CGI command, refer to the Command List.

SYSTEM MODE (Video out - Format)

Displays the video output format (video format) of the camera.

IR SELECT

Displays the number of the IR SELECT switch on the back of the camera.

SDI LEVEL

Displays the level of the SDI LEVEL switch on the back of the camera.

VISCA RATE

Displays the rate of the BAUD RATE SELECT switch on the back of the camera.

NETWORK

The NETWORK menu is used to configure Network settings.

MAC ADDRESS (Status - MAC address)

Displays the MAC address of the camera.

IP ADDRESS (Status - IP address)

Displays the IP address set up on the camera.

SUBNET MASK (Status - Subnet mask)

Displays the subnet mask currently set up for the camera.

GATEWAY (Status - Default gateway)

Displays the default gateway address currently set up for the camera.

Note

You should set up the IP address, subnet mask, and default gateway before you first use the Network features. Configure these settings using the setup application "RM-IP Setup Tool" on your PC.

For details on the settings, refer to the "RM-IP Setup Tool Guide."

Menu Configuration

The camera menu is configured as described below. For more details, refer to the pages in parentheses. The initial settings of each item are in bold. Only supported functions are displayed.

EXPOSURE (page 32)	MODE	FULL AUTO , SHUTTER Pri, IRIS Pri, MANUAL
	GAIN	0dB, 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB (When high-sensitivity mode is set to OFF) 0dB, 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB, 39dB, 42dB, 45dB, 48dB (When high-sensitivity mode is set to ON) (Adjustable only when MODE in the EXPOSURE menu is set to MANUAL.)
	SPEED	For the 59.94 or 29.97 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/10, 1/15, 1/20, 1/30, 1/50, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 For the 50 or 25 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/15, 1/20, 1/25, 1/30, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 For the 23.98 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/20, 1/24, 1/25, 1/40, 1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/144, 1/192, 1/200, 1/288, 1/400, 1/576, 1/1200, 1/2400, 1/4800, 1/10000 (Adjustable only when MODE in the EXPOSURE menu is set to MANUAL or SHUTTER Pri.)
	IRIS	F2.0 /F2.2/F2.4/F2.6/F2.8/F3.1/F3.4/F3.7/F4.0/F4.4/F4.8/F5.2/F5.6/F6.2/F6.8/F7.3/F8.0/F8.7/F9.6/F10/F11/CLOSE (Adjustable only when MODE in the EXPOSURE menu is set to MANUAL or IRIS Pri.)
	AE SPEED	1 ~ 48 (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
	EX-COMP	OFF , ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
	LEVEL	-7, -6, -5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5, +6, +7 (Adjustable when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri, and EX COMP is set to ON.)
	GAIN LIMIT	9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB (When high-sensitivity mode is set to OFF) 21dB, 24dB, 27dB, 30dB, 33dB, 36dB, 39dB, 42dB, 45dB, 48dB (When high-sensitivity mode is set to ON) (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
	GAIN POINT	OFF, ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri.)
	POINT POSITION	0dB , 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB (When high-sensitivity mode is set to OFF) 0dB , 3dB, 6dB, 9dB, 12dB, 15dB, 18dB, 21dB, 24dB, 27dB, 30dB, 33dB, 36dB, 39dB, 42dB, 45dB, 48dB (When high-sensitivity mode is set to ON) (Adjustable when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri, and GAIN POINT is set to ON.)

MAX SPEED	For the 59.94 or 29.97 frame rate of video output: 1/30, 1/50, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 For the 50 or 25 frame rate of video output: 1/25, 1/30, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 For the 23.98 frame rate of video output: 1/24, 1/25, 1/40, 1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/144, 1/192, 1/200, 1/288, 1/400, 1/576, 1/1200, 1/2400, 1/4800, 1/10000 (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri.)
MIN SPEED	For the 59.94 or 29.97 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/10, 1/15, 1/20, 1/30, 1/50, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 For the 50 or 25 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/15, 1/20, 1/25, 1/30, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 For the 23.98 frame rate of video output: 1/1, 2/3, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/20, 1/24, 1/25, 1/40, 1/48, 1/50, 1/60, 1/96, 1/100, 1/120, 1/144, 1/192, 1/200, 1/288, 1/400, 1/576, 1/1200, 1/2400, 1/4800, 1/10000 (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri.)
BACKLIGHT	OFF , ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
SPOTLIGHT	OFF , ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO, SHUTTER Pri, or IRIS Pri.)
SLOW SHUTTER	OFF , ON (Adjustable only when MODE in the EXPOSURE menu is set to FULL AUTO or IRIS Pri.)

COLOR (BRC-X400/ X401) (page 34)	WHITE BALANCE
	MODE — AUTO1 , AUTO2, INDOOR, OUTDOOR, ONE PUSH, MANUAL
	SPEED — 1, 2, 3 , 4, 5 (Adjustable only when WHITE BALANCE MODE is set to AUTO1 or AUTO2.)
	OFFSET — -7, -6, -5, -4, -3, -2, -1, 0 , +1, +2, +3, +4, +5, +6, +7 (Adjustable only when WHITE BALANCE MODE is set to AUTO1, AUTO2, or ONE PUSH.)
	R.GAIN — -128~ 0 ~+127 (Adjustable only when WHITE BALANCE MODE is set to MANUAL.)
	B.GAIN — -128~ 0 ~+127 (Adjustable only when WHITE BALANCE MODE is set to MANUAL.)
	MATRIX — OFF, ON
	SELECT — STD , HIGH SAT, FL LIGHT, MOVIE, STILL, CINEMA, PRO, ITU709, B&W (Adjustable only when MATRIX is set to ON.)
	LEVEL — 0, 1, 2, 3, 4 , 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 (Adjustable only when MATRIX is set to ON.)
	PHASE — -7, -6, -5, -4, -3, -2, -1, 0 , +1, +2, +3, +4, +5, +6, +7 (Adjustable only when MATRIX is set to ON.)
	R-G — -99~ 0 ~+99 (Adjustable only when MATRIX is set to ON.)
	R-B — -99~ 0 ~+99 (Adjustable only when MATRIX is set to ON.)
	G-R — -99~ 0 ~+99 (Adjustable only when MATRIX is set to ON.)
	G-B — -99~ 0 ~+99 (Adjustable only when MATRIX is set to ON.)
	B-R — -99~ 0 ~+99 (Adjustable only when MATRIX is set to ON.)
	B-G — -99~ 0 ~+99 (Adjustable only when MATRIX is set to ON.)

COLOR (SRG-X400/ 201M2/X120/ HD1M2) (page 34)	WHITE BALANCE	
	MODE	AUTO1 , AUTO2, INDOOR, OUTDOOR, ONE PUSH, MANUAL
	SPEED	1, 2, 3 , 4, 5 (Adjustable only when WHITE BALANCE MODE is set to AUTO1 or AUTO2.)
	OFFSET	-7, -6, -5, -4, -3, -2, -1, 0 , +1, +2, +3, +4, +5, +6, +7 (Adjustable only when WHITE BALANCE MODE is set to AUTO1, AUTO2, or ONE PUSH.)
	R.GAIN	-128~ 0 ~+127 (Adjustable only when WHITE BALANCE MODE is set to MANUAL.)
	B.GAIN	-128~ 0 ~+127 (Adjustable only when WHITE BALANCE MODE is set to MANUAL.)

DETAIL (page 36)	MODE		AUTO , MANUAL
	LEVEL		-7, -6, -5, -4, -3, -2, -1, 0 , +1, +2, +3, +4, +5, +6, +7, +8
	BAND WIDTH		DEFAULT , LOW, MIDDLE, HIGH, WIDE (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	CRISPENING		0, 1, 2, 3 , 4, 5, 6, 7 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	HV BALANCE		-2, -1, 0 , +1, +2 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	BW BALANCE		TYPE0, TYPE1, TYPE2 , TYPE3, TYPE4 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	LIMIT		0, 1, 2, 3 , 4, 5, 6, 7 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	HIGHLIGHT DETAIL		0 , 1, 2, 3, 4 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)
	SUPER LOW		0, 1, 2, 3 , 4, 5, 6, 7 (Adjustable only when MODE in the DETAIL menu is set to MANUAL.)

KNEE (BRC-X400/ X401) (page 37)	SETTING		ON , OFF
	KNEE MODE		AUTO , MANUAL (Adjustable only when SETTING in the KNEE menu is set to ON.)
	KNEE SLOPE		-7, -6, -5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5, +6, +7 (Adjustable only when KNEE MODE is set to MANUAL.)
	KNEE POINT		0, 1, 2, 3, 4, 5 , 6, 7, 8, 9, 10, 11, 12 (Adjustable only when KNEE MODE is set to MANUAL.)

GAMMA / VISIBILITY ENHANCER (BRC-X400/ X401) (page 37)	GAMMA		
	SELECT		STD , STRAIGHT, PATTERN, MOVIE, STILL, CINE1, CINE2, CINE3, CINE4, ITU709
	PATTERN		0~ 25 ~51 (Adjustable only when SELECT is set to PATTERN.)
	PATTERN FINE		0~ 6 ~9 (Adjustable only when SELECT is set to PATTERN.)
	OFFSET		-64~ 0 ~+64
	LEVEL		-7~ 0 ~+7
	BLACK GAMMA		-7~ 0 ~+7
	BLACK GAMMA		
	RANGE		LOW , MIDDLE, HIGH
	BLACK LEVEL		-48~ 0 ~+48
	VISIBILITY ENHANCER		
	SETTING		OFF , ON
	EFFECT		-3, -2, -1, 0 , +1, +2, +3

VISIBILITY ENHANCER (SRG-X400/ 201M2/X120/ HD1M2) (page 38)	SETTING		OFF , ON
	EFFECT		-3, -2, -1, 0 , +1, +2, +3

ZOOM/FOCUS (BRC-X400/
X401,
SRG-X400/
201M2)
(page 39)

- ZOOM MODE — **OPTICAL**, CLEAR IMAGE ZOOM, DIGITAL
- FOCUS MODE — **AUTO**, MANUAL

FOCUS (SRG-X120/
HD1M2)
(page 40)

- MODE — **AUTO**, MANUAL

PICTURE / OPTICAL FILTER (page 40)

- PICTURE
 - HIGH RESOLUTION - **OFF**, ON
 - NOISE REDUCTION - OFF, 1, 2, **3**, 4, 5, ADVANCED
 - 2D NR LEVEL — OFF, 1, 2, **3**, 4, 5 (Adjustable only when NOISE REDUCTION is set to ADVANCED.)
 - 3D NR LEVEL — OFF, 1, 2, **3**, 4, 5 (Adjustable only when NOISE REDUCTION is set to ADVANCED.)
 - FLICKER CANCEL — **OFF**, ON
 - IMAGE STABILIZER — **OFF**, ON
- OPTICAL FILTER
 - IR CUT FILTER — NIGHT, **DAY**

PAN TILT / PRESET RECALL (page 41)

- PAN TILT
 - PAN LIMIT — OFF, ON
 - LEFT — END, -170~169 (Adjustable only when PAN LIMIT is set to ON.)
 - RIGHT — END, -169~170 (Adjustable only when PAN LIMIT is set to ON.)
 - TILT LIMIT — OFF, ON
 - DOWN — END, -19~89 (Adjustable only when TILT LIMIT is set to ON.)
 - UP — END, 90~-19 (Adjustable only when TILT LIMIT is set to ON.)
 - RAMP CURVE — **MODE1**
 - PAN TILT SLOW — **OFF**, ON
- PRESET RECALL
 - RECALL SPEED — COMPATIBLE, SEPARATE, COMMON
 - COMMON SPEED — 1~25 (Adjustable only when RECALL SPEED is set to COMMON.)
 - PICT FREEZE PRESET - OFF, ON

PICTURE PROFILE (BRC-X400/
X401)
(page 43)

- PROFILE NUMBER — PP1, PP2, PP3, PP4, PP5, PP6
- RECALL:EXECUTE

VIDEO OUT (BRC-X400/
X401)
(page 44)

- HDMI
 - COLOR SPACE — **YCbCr**, RGB
- H PHASE
 - H PHASE — 0~**3**~95
 - H PHASE FINE — **0**~9 (Adjustable when the video format of the camera is set to other than 3840×2160.)

VIDEO OUT — HDMI
 (SRG-X400/
 201M2/X120/
 HD1M2)
 (page 44)

COLOR SPACE — **YCbCr**, RGB

SYSTEM — (BRC-X400/
 X401)
 (page 44)

IMG FLIP — ON, **OFF**
 IR RECEIVE — **ON**, OFF
 TALLY LEVEL — OFF, **LOW**, HIGH
 TELE CONVERT
 MODE — **OFF**, 2x (Only OFF is available when the SYSTEM SELECT switch is set
 to other than 1920×1080.)
 HTTP/RTSP — **OFF**, ON
 PRESET MODE — **MODE1**, MODE2

SYSTEM — (SRG-X400/
 201M2/
 X120/HD1M2)
 (page 44)

IMG FLIP — ON, **OFF**
 IR RECEIVE — **ON**, OFF
 HTTP/RTSP — **OFF**, ON

STATUS — (page 45)

EXPOSURE
 COLOR
 DETAIL
 KNEE (BRC-X400/X401)
 GAMMA/VE (BRC-X400/X401) or VE (SRG-X400/201M2/X120/HD1M2)
 ZOOM/FOCUS (BRC-X400/X401, SRG-X400/201M2) or FOCUS (SRG-X120/HD1M2)
 PICTURE/OPT.FILTER
 PAN TILT/PRESET
 VIDEO OUT
 SYSTEM
 DEVICE INFO
 NETWORK

Accessing the Camera from a Web Browser

You can access the camera from a web browser on a PC to upgrade the firmware and to change settings.

An IP address must be set on the camera for access from a web browser. For details on IP address settings, refer to "RM-IP Setup Tool Guide."

Note

Start up the camera before you access the camera from a web browser. You cannot access the camera when the camera is in the standby mode.

Enabling HTTP/RTSP in the Camera

HTTP/RTSP in the camera must be turned ON to access the camera from a web browser. To turn ON/OFF the HTTP/RTSP communication, use the HTTP/RTSP switch on the back of the camera and the menu (SYSTEM – HTTP/RTSP).

HTTP/RTSP switch on the back of the camera	SYSTEM – HTTP/RTSP menu	HTTP/RTSP communication
FORCED ON	–	ON
MENU	ON	ON
	OFF	OFF

Notes

- After the HTTP/RTSP switch on the back of the camera is changed, turn off the camera and turn it on again.
- After the SYSTEM - HTTP/RTSP setting is changed in the OSD menu, restart the camera.

Setting-up the PC

System configurations required for the PC are shown in the following (as of October 2019).

OS

Windows 8.1 (64-bit version)
Windows 10 (64-bit version)

Web browser

Google Chrome (Recommended)
Microsoft Internet Explorer Ver.11.0

CPU

Intel® Core™ 7th generation (Kaby Lake) or later (Recommended)

Memory

8 GB (Recommended)

Display

1920×1080 (Recommended)

Notes

- If the required system configurations are not implemented, or depending on the PC usage status, it may affect video-play operation on a web browser.
- For Windows 8.1, use the Internet Explorer desktop user interface (desktop UI) version.
- For Windows 10, turn off the tablet mode.
- Every page is optimized when the zoom percentage is [100%] and font size is [Medium] on a web browser.
- If an image does not fit to the screen, set the display setting (zoom percentage) of your computer to 100%.
- If you use a display with high pixel density, the zoom percentage may change automatically.
- Web pages displayed when you access the camera are JavaScript. Web pages may not be displayed correctly if some antivirus softwares are used on your computer.
- When you make an SSL connection to the camera with Internet Explorer, you may not be able to access the camera with an IPv6 address. In that case, access the camera with an IPv4 address or consider using Google Chrome.

Accessing the Camera from a Web Browser

Start a web browser on the computer and enter the IP address of the camera in the address bar.



Authentication by user ID and password is required to access the camera.

Changing the Initial Password

Accessing the camera from a web browser for the first time requires to change the administrator password. The default administrator name and password are as follows.
Administrator name: admin
Password: Admin_1234

Administrator name should be between 5 and 16 characters and the password should be between 8 and 64 characters. The password must contain alphanumeric characters.

You can turn off the RTSP authentication for H.264/H.265 streaming. When the authentication for viewing H.264 streaming on a web browser is not necessary, uncheck the [RTSP Authentication].

Note

The RTSP authentication setting affects getting the RTSP streaming on programs other than a web browser. When you want to prevent unset users from getting the streaming, turn on the [RTSP Authentication].

Displaying the Viewer Screen Properly

To operate the viewer screen correctly, set the security level of Internet Explorer to [Medium] or lower as follows.

- 1** Select [Tools] from the menu bar for Internet Explorer, then select [Internet Options] and click the [Security] tab.
- 2** Click the [Internet] icon (when using the camera via the Internet), or [Local intranet] icon (when using the camera via a local network).
- 3** Set the security level to [Medium] or lower by the slider (If the slider is not displayed, click [Default Level]).

When You Use Antivirus Software on Your Computer

- When you use antivirus software, security software, personal firewall, or pop-up blocker on your computer, the camera performance may be reduced, for example, the frame rate for displaying the image may be lower.
- Web pages displayed when you access the camera are JavaScript. Web pages may not be displayed correctly if some antivirus softwares are used on your computer.

When the SSL Function is Used

When Internet Explorer is used

When you enter the camera IP address, "Certificate Error" may appear according to the status of the certificate set on the camera. In this case, click [Continue to this website (not recommended)] to continue. The live viewer window appears (in the SSL communication).

When [Enable (Allow HTTP connection for some clients)] (page 76) is selected

To access the HTTP or SSL connection, enter the following in the address box of the web browser.

For HTTP connection

<http://192.168.0.100/index.html>

For SSL connection

<https://192.168.0.100/index.html>

Operating the Camera from a Web Browser

This section explains how to monitor the image from the camera using a web browser.

Camera settings should be set by administrator. For details on the camera settings, see “Configuring the Camera from a Web Browser” (page 59).

When you operate pan, tilt, zoom, etc with the remote controller, see “Operations Using the Supplied Infrared Remote Commander” (page 26).

Notes

- Do not operate the camera from a network and with a remote controller simultaneously.
- About 2 minutes after turning on the power, the camera will be automatically reset to the pan/tilt position and the camera settings stored in Preset 1 (Pan/tilt reset). For details on the setting items applied for start-up, see “Preset Items” (page 88).
- If the camera settings are not stored in Preset 1, the camera settings are not stored in the memory and reset to the default settings when the power is turned on.

About Authentication

To access the camera from a web browser, two authentication types are required. Therefore, the authentication screen is displayed twice when you access the camera from a web browser.

HTTP authentication: Sends/receives CGI commands that controls the camera settings.

RTSP authentication: Displays H.264 streaming on a web browser.

When video codec H.265 is applied, One Shot JPEG image is displayed on a web browser and RTSP authentication is not required. RTSP authentication can be turned off in [RTSP Authentication] of the User tab on the setting screen.

Note

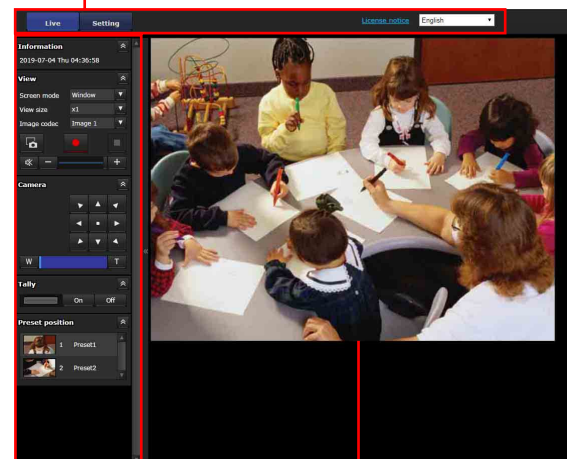
The RTSP authentication setting affects getting the RTSP streaming on programs other than a web browser. When you want to prevent unset users from getting the streaming, turn on the [RTSP Authentication].

Operating the Camera

This section explains the names and functions of the parts of the live viewer. For details, see the specified pages.

Live viewer

Main menu



Control panel section

Monitor screen

Main Menu

Live

Displays the live viewer window.

Setting

Displays the administrator setting menu (page 59).

You need to log in as an administrator to operate this function.

License notice

Displays the software license agreements, etc.

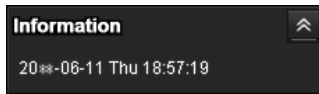
Language

Set the language to be used in the viewer display.

Control Panel Section

Click  to hide the detailed setting screen. Click it again to show the screen.

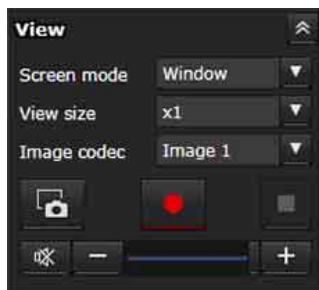
Information panel



Current date & time

It displays the current date and time set on the camera.

View panel



The screen mode, view size of the image, and image codec can be changed. Still images and videos can be stored (storing video can also be stopped) and audio output volume can be adjusted.

Screen mode

Select the display mode of the live viewer from [Window] or [Full Screen].

View size

Select the image view size on the monitor screen.

Select [x1/4] to display in one-quarter of the image size.

Select [x1/2] to display in one-half of the image size.

Select [x1] to display the image size selected in [Size] (page 68) of the Video menu.

Select [Full] to display images according to the display size.

Select [Fit] to display images with fixed aspect ratio according to the display size.

Image codec

Select the video mode of the image displayed on the monitor screen from [Image 1], [Image 2], or [Image 3].

You can select [Image 2] or [Image 3] when the codec setting is set to other than Off.

Still image capture

Click to capture a still image shot by the camera and to store it in the computer.

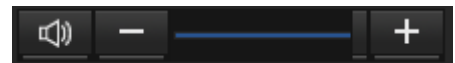
 **Start storing Video/**  **Stop storing Video**
Click to start or stop storing the video.

Notes

- While One Shot JPEG image is displayed, you cannot store the video. You cannot start/stop storing video.
- Still images cannot be captured and videos cannot be stored if the protection mode is enabled in Internet Options > Security properties in Control Panel of Windows.

Volume control

This is displayed when you check [Enable] in the Audio tab of the Audio menu.



Use the slide bar to adjust the volume for audio output.

When you click , the icon is changed to  and audio does not output from the speaker. To output audio again, click .

Notes

- While One Shot JPEG image is displayed, audio is not output. Volume control is not displayed.
- When you open the live screen, audio output is stopped in the default setting. To output audio, click  before use.

Camera panel



By using the control panel, you can operate the pan/tilt, moving to the home position, zoom, and focus of the camera for the monitor image currently displayed.

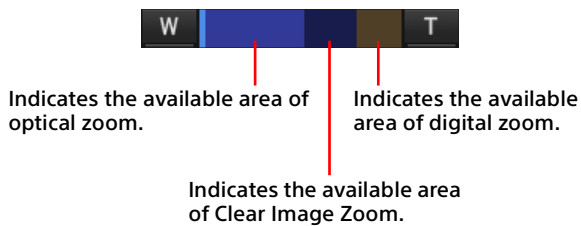
Pan/Tilt control

Click the arrow button of the direction you want to turn the camera. To turn the camera continuously, click and hold the arrow button. Click  to return to the front.

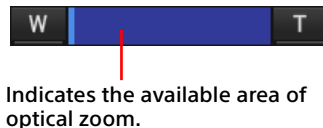
Zoom control

Click  to zoom out and click  to zoom in. Zoom continues while the button is being clicked.

BRC-X400/X401, SRG-X400/201M2



SRG-X120/HD1M2



Focus control

This function is displayed when [Focus mode] is set to [Manual] in the PTZF control menu (page 81).

Tally panel (BRC-X400/X401)



Tally lamp control

Clicking the [On]/[Off] button controls the tally lamp on the camera. The indicator lights up when the tally lamp is [On]. It does not light up when the tally lamp is [Off].

Preset position panel



Preset control

This is displayed only when preset positions for the camera are stored in memory. Stored preset positions are displayed. If you select a thumbnail when storing a preset position, it will be displayed with a thumbnail. When you select the preset position name from the list, the camera will turn to the position that you have stored in memory in the Preset position menu.

Monitor Screen

Streaming video from the camera is displayed.

- Video mode image selected in [Image codec] is displayed.
For H.264, the video is displayed. However, when the RTSP streaming is not enabled, the image is displayed after obtaining One Shot JPEG.
For H.265, the image is displayed after obtaining One Shot JPEG.
- The video is displayed in size selected in [View size].

Configuring the Camera from a Web Browser

This section explains how to set the functions of the camera by an administrator.

For details on monitoring of the camera image, see “Operating the Camera from a Web Browser” (page 56).

To configure the camera with the remote controller, see “Operations Using the Supplied Infrared Remote Commander” (page 26).

This section explains the basic operations for setting the Administrator menu, then explains each option in the menu.

Note on the display of menu options

Only the current available options in the setting menus of the camera are clearly displayed.

Grayed out options are not available.

Only supported functions are displayed.

Basic Operations of the Administrator Menu

You can set all functions of the camera in the Administrator menu according to the user's usage.

Click [Setting] on the viewer screen to display the Administrator menu.

How to set up the Administrator menu

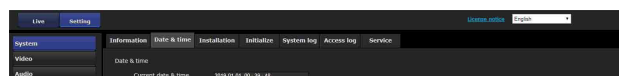
- 1 Access the camera to display the viewer screen.**
For details, see “Accessing the Camera from a Web Browser” (page 53).
- 2 Click [Setting] on the main menu.**
The authentication dialog appears. When you enter the user name and password for administrator, the Administrator menu appears.
- 3 Click the menu (example: System) on the left of the Administrator menu.**
The selected menu is displayed.

Example: [System] menu



- 4 Select the desired tab above the menu and set each option in the tab.**

Example: [Date & time] tab of the [System] menu



For details on the menu tabs and setting options, see page 61.

- 5 After the settings are completed, click [OK].**
The settings you have made become active.

Click [Cancel] to nullify the settings and return to the previous settings.

Common buttons in each menu

The following common buttons are displayed in the tab of each menu as required.

OK

Click to enable the settings in each tab. The settings are not applied to the camera until you click this button.

Cancel

Click to nullify the settings and return to the previous settings.

Reload

Click to cancel the operation changed on a web browser and update the display on a web browser after obtaining the information from the camera.

Notes for all aspects of the menu

- After changing a setting on a menu, wait at least 2 minutes before powering off the camera. If you power off the camera immediately, the changed setting may not be stored correctly.
- Even though the camera settings are changed while viewing on the live viewer, some settings are not applied. To apply the changes to the opening live viewer, click [Refresh] on a web browser.
- You can configure the camera from both the OSD menu and a web browser. Bracketed text on the right of the setting item indicates the setting item name of the OSD menu.
- Values to be selected in the web browser are noted in square brackets [].

Configuration of the Administrator Menu

System menu

Displays the System menu ("Configuring the System — System Menu" (page 61)).

Video menu

Displays the Video menu for setting the camera image ("Setting the Camera Image — Video Menu" (page 64)).

Audio menu

Displays the Audio menu for setting the camera audio ("Setting the Audio — Audio Menu" (page 71)).

Network menu

Displays the Network menu for setting the network connection ("Configuring the Network — Network Menu" (page 72)).

Security menu

Displays the Security menu for setting the login user and specifying the computer(s) connected to the camera ("Setting the Security — Security Menu" (page 74)).

PTZF control menu

Displays the PTZF control menu for pan, tilt, zoom, and focus operations and serial communication setting ("Setting the PTZF Control — PTZF control Menu" (page 81)).

Streaming menu

Displays the Streaming menu for distribution settings ("Setting the Streaming — Streaming Menu" (page 84)).

Configuring the System

— System Menu

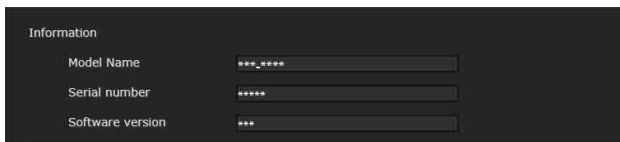
When you click **System** in the Administrator menu, the System menu appears.

Use this menu to set the basic settings of the camera.

The System menu consists of the [Information], [Date & time], [Installation], [Initialize], [System log], and [Access log] tabs.

Information tab

You can also refer from the OSD menu. For details, see “DEVICE INFO (Device information of the camera and setting status of switches on the back of the camera)” (page 46).



Information

Model Name (DEVICE INFO - MODEL NAME)

Displays the model name of the camera.

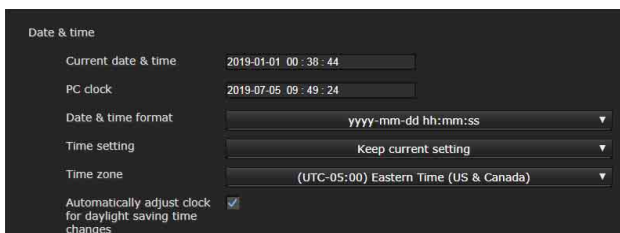
Serial number (DEVICE INFO - SERIAL NUMBER)

Displays the serial number of the camera.

Software version (DEVICE INFO - VERSION)

Displays the software version of the camera.

Date & time tab



Date & time

Current date & time

Displays the date and time set on the camera.

Notes

- Time may not be set correctly at the time of purchase. Be sure to check the date and time of the camera and set as necessary.
- Time setting is initialized at factory default settings.

PC clock

Displays the date and time set on your computer.

Date & time format

Select the date and time format to be displayed on the viewer from the drop-down list.

You can select the format from [yyyy-mm-dd hh:mm:ss] (year-month-day hours:minutes:seconds), [mm-dd-yyyy hh:mm:ss] (month-day-year hours:minutes:seconds), and [dd-mm-yyyy hh:mm:ss] (day-month-year hours:minutes:seconds).

Time setting

Select how to set the date and time.

[Keep current setting]: Select when you do not set the date and time of the camera.

[Synchronize with PC]: Select when you synchronize the date and time between the camera and the computer.

[Manual setting]: Select when you set the date and time of the camera manually.

Select the year, month, day, hours, minutes, and seconds from each drop-down list.

[Synchronize with NTP]: Select when you synchronize the date and time between the camera and the time server called NTP (Network Time Protocol) server.

Set the NTP server when [Synchronize with NTP] is selected.

NTP Auto

Select the checkbox when you obtain the NTP server information from the DHCP server.

Clear the checkbox when you specify the NTP server directly.

NTP server

When [NTP Auto] is not selected, specify the NTP server for synchronization.

NTP interval

Specify the interval for time synchronization with the NTP server.

You can set from 100 to 86,400 seconds.

Time zone

Set the time difference from Greenwich Mean Time according to the area where the camera is installed. Select the time zone of the area where the camera is installed from the drop-down list.

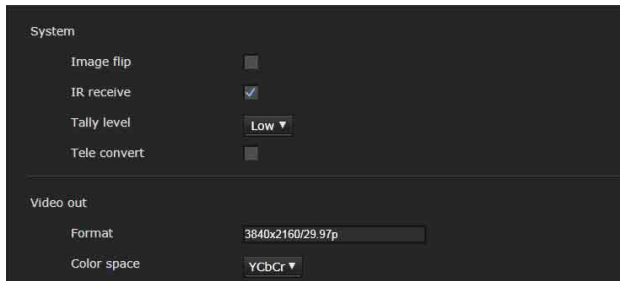
Automatically adjust clock for daylight saving time changes

The clock time is automatically adjusted according to the daylight saving time of the selected time zone.

Note

If the time zone selected in [Time zone] is different from that set on the computer, the date and time applied the time zone difference to are set on the camera.

Installation tab



Use this tab to perform settings related to installation.

You can configure the settings from the OSD menu. For details, see "SYSTEM Menu" (page 44) or "VIDEO OUT Menu" (page 44).

System

Image flip (SYSTEM - IMG FLIP)

Flip an image vertically. Normally clear the checkbox before use. Select the checkbox when installing the camera on the ceiling.

Note

When the [Image flip] setting is changed, the coordinates for pan and tilt are flipped and the following are reset.

- Pan-Tilt limit (PAN-TILT LIMIT)
- Preset

IR receive (SYSTEM - IR RECEIVE)

If you clear the checkbox, the camera does not receive signals from the supplied remote commander. Be sure to select the checkbox when you use the supplied remote commander.

Tally level (SYSTEM - TALLY LEVEL) (BRC-X400/X401)

This is the setting related to the tally lamp.

[High]: Brightens the tally lamp.

[Low]: Darkens the tally lamp.

[Off]: Even when the tally-lamp-ON command is issued, the tally lamp does not light up.

Tele convert (SYSTEM - TELE CONVERT MODE) (BRC-X400/X401)

You can shoot using 2× magnification.

Notes

- This is enabled only when the SYSTEM SELECT switch is set to 1920×1080.
- Selecting the checkbox of [Tele convert] narrows the angle of view.

Video out

Format (DEVICE INFO - SYSTEM MODE)

Displays the video format output from the SDI/HDMI terminal.

	Video format
59.94 Hz system	3840×2160/29.97p
	1920×1080/59.94p (Level A)
	1920×1080/59.94p (Level B)
	1920×1080/59.94i
	1920×1080/29.97p
	1280×720/59.94p
	1280×720/59.94p (HDMI: VGA)
50 Hz system	3840×2160/25p
	1920×1080/50p (Level A)
	1920×1080/50p (Level B)
	1920×1080/50i
	1920×1080/25p
	1280×720/50p
24 Hz system	3840×2160/23.98p
	1920×1080/23.98p

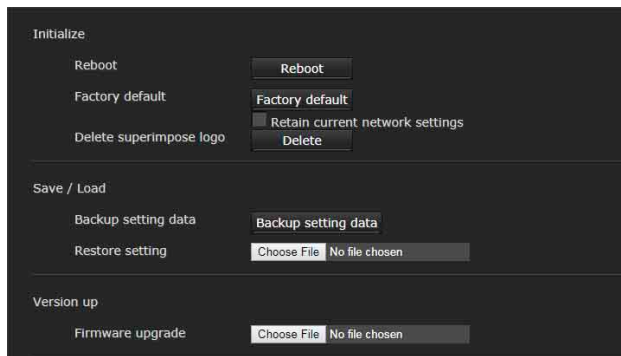
Notes

- [3840×2160/29.97p], [3840×2160/25p], and [3840×2160/23.98p] are output only from HDMI. They are not output from SDI.
- When [1280×720/59.94p (HDMI:VGA)] is displayed, [1280×720/59.94p] is output only from SDI, and HDMI output at this time is VGA.

Color space (VIDEO OUT - COLOR SPACE)

You can set the color space of HDMI output.

Initialize tab



Initialize

Reboot

Used when forcibly rebooting the system. When you click [Reboot], the message “This System will be rebooted. Are you sure?” appears. Click [OK] to reboot the camera. It takes about 2 minutes to reboot.

Factory default

Resets the camera to the default settings.

Retain current network settings

When this is selected, the current network and security settings can be retained even when the camera is reset to the factory default settings. When you click [Factory default], the message “This System will be rebooted. Are you sure?” appears. When you click [OK], the network indicator on the camera starts to flash. When the default settings are completed, the camera reboots automatically. Do not turn off the camera before the camera reboots.

Tip

The camera can be reset to the factory default settings by pressing the reset switch for 5 seconds or longer.

Delete superimpose logo

Click [Delete] to delete the superimpose logo, specified at [Position] in the Superimpose tab of the Video menu, from the camera.

To set whether to show or hide the superimpose logo, configure the setting in the Superimpose tab.

Save / Load

Backup setting data

Used when you save the setting data of the camera in a file.

To save the setting data of the camera, click [Backup setting data] and specify the destination folder according to the instructions on a web browser.

Note

The following settings are not saved.

- Preset items (page 88)
- Network settings

Restore setting

Used when you load the stored setting data of the camera.

Click [Choose File] to select the file in which the setting data is stored. The camera is configured according to the setting data.

Notes

- The following items cannot be stored or restored in [Backup setting data] or [Restore setting].
 - Network settings
 - QoS settings
 - User settings
 - Access limit settings
 - 802.1X function settings/certificate
 - SSL function settings/certificate
 - Referer check settings
 - Brute force attack protection settings
 - Superimpose logo
 - Preset settings
 - Preset items (page 88)
 - NDI|HX settings
- The Video codec setting is not restored if there is an image size or frame rate that the stored setting by changing the SYSTEM SELECT switch cannot be applied on.

Version up

Firmware upgrade

Use this to upgrade the firmware. Click [Choose File] to select the desired firmware file.

The confirmation dialog is displayed. Follow the on-line instructions.

System log tab

System log

Software performance data of the camera is recorded in the log. It includes useful data for troubleshooting.

Click [Reload] to reload the latest data.

Log level

Set the range of data recorded in the camera.

Log size

Set the maximum number of data recorded in the camera.

Download as file

Logs recorded in the camera can be stored as files.

Access log tab

Access log

Displays the access history of the camera.
Click [Reload] to reload the latest data.

Log level

Set the range of data recorded in the camera.

Log size

Set the maximum number of data recorded in the camera.

Download as file

Logs recorded in the camera can be stored as files.

Service tab

Consent

I agree to download device information.

Download the device information data to use for service.

Select the checkbox of [I agree to download device information.] and click [OK] for download.

Device information

Select the checkbox of [I agree to download device information.] and click [OK] for display. To save the device information, click [Device information] and specify the destination folder according to the instructions on a web browser.

Data file will be saved in binary format.

Setting the Camera Image – Video Menu

Picture tab

You can configure the settings from the OSD menu. For details, see “EXPOSURE Menu” (page 32), “COLOR Menu” (page 34), “DETAIL Menu” (page 36), “KNEE Menu (BRC-X400/X401)” (page 37), “GAMMA/VISIBILITY ENHANCER Menu (BRC-X400/X401)” (page 37), “VISIBILITY ENHANCER Menu (SRG-X400/201M2/X120/HD1M2)” (page 38), or “PICTURE/OPTICAL FILTER Menu” (page 40).

Exposure

Mode (EXPOSURE - MODE)

Adjust the exposure settings.

[Full auto]: The camera performs gain, iris, and shutter speed adjustments automatically.

[Shutter priority]: The camera performs gain and iris adjustments automatically, and you can select shutter speed.

[Iris priority]: The camera performs gain and shutter speed adjustments automatically, and you can select iris (aperture).

[Manual]: You can manually adjust gain, iris, and shutter speed.

Note

Depending on the setting options, the range set by turning On/Off the high-sensitivity mode may differ. You cannot set the high-sensitivity mode from the menu. With reference to the Command List, change the setting from the VISCA/CGI command.

Visibility Enhancer (VISIBILITY ENHANCER - SETTING)

In high-contrast scenes such as against a back light, this function reduces overexposure and underexposure. Selecting the checkbox enables the function.

Effect (VISIBILITY ENHANCER - EFFECT)

Set the level of Visibility Enhancer.

Iris (EXPOSURE - IRIS)

Select the iris value from the drop-down list. This function can be selected only when [Mode] is set to [Iris priority] or [Manual].

Gain (EXPOSURE - GAIN)

Select the gain from the drop-down list. This function can be selected only when [Mode] is set to [Manual].

Auto gain Max. value (EXPOSURE - GAIN LIMIT)

Select the maximum gain value of automatic exposure control from the drop-down list. This function can be selected only when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority]. You cannot set the value lower than [Gain point level].

Gain point (EXPOSURE - GAIN POINT)

When you set [Slowest] (lower limit of the shutter speed) to be lower than the output image frame rate, the shutter speed controls exposure based on the [Gain point] setting. Normally, when exposure is adjusted with sensitivity, noise is prominent when sensitivity is increased to brighten the image. You can decrease noise by adjusting the exposure through lower shutter speeds instead of adjusting with sensitivity. When the exposure is adjusted, select the checkbox of [Gain point] and set [Gain point level] to the value of sensitivity position that exposure is adjusted through shutter speeds. When shutter speeds reaches [Slowest] for exposure adjustment, sensitivity will increase again to adjust exposure. This setting is available when [Mode] is set to [Full auto] or [Iris priority].

Gain point level (EXPOSURE - POINT POSITION)

This is enabled when the checkbox of [Gain point] is selected. When sensitivity during exposure adjustment reaches the value of [Gain point level], exposure will be adjusted through a lower shutter speed.

You cannot select a value that exceeds [Auto gain Max. value].

This setting is available when [Mode] is set to [Full auto] or [Iris priority] and the checkbox of [Gain point] is selected.

Shutter speed (EXPOSURE - SPEED)

Select shutter speed from the drop-down list. This function can be selected only when [Mode] is set to [Shutter priority] or [Manual].

Note

When you switch to the shutter speed value with a great change, it may take some time to apply the setting value.

During that time, the setting value on the display does not match with the actual setting value. By reloading the web browser, the correct setting value is displayed.

Fastest (EXPOSURE - MAX SPEED)

Set the maximum shutter speed.

This setting is available when [Mode] is set to [Full auto] or [Iris priority].

Slowest (EXPOSURE - MIN SPEED)

Set the minimum shutter speed.

This setting is available when [Mode] is set to [Full auto] or [Iris priority].

Auto slow shutter (EXPOSURE - SLOW SHUTTER)

Select the checkbox to enable the auto slow shutter function. This function can be selected only when [Mode] is set to [Full auto].

Exposure compensation (EXPOSURE - EX-COMP, LEVEL)

Select the exposure correction value from the drop-down list to adjust the target brightness for the automatic exposure setting. Selecting higher value brightens the image and lower value darkens the image. This function can be selected only when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority].

Backlight compensation (EXPOSURE - BACKLIGHT)

Select the checkbox to enable the backlight compensation function. This function can be selected only when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority].

Spotlight compensation (EXPOSURE - SPOTLIGHT)

It darkens the exposure when a part of the object is bright, such as a spotlighted face. Spotlight compensation function is disabled when the checkbox of [Backlight compensation] is selected. This setting is available when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority].

AE speed (EXPOSURE - AE SPEED)

Select the adjustment speed for exposure adjustment.

You can select the speed at which the camera reaches the optimum exposure setting from 1 (standard) to 48 (slow). Select when the brightness of the object changes instantaneously.

This setting is available when [Mode] is set to [Full auto], [Shutter priority], or [Iris priority].

White balance**Mode (COLOR - WHITE BALANCE MODE)**

Select a white balance mode.

[Auto1]: Automatically adjusts the color reproduction closer to the image you are viewing (approximately 2500 K to 7500 K).

[Auto2]: Eliminating the influences caused by environmental illumination or lights, automatically adjusts the color reproduction closer to the original color of the object (approximately 2000 K to 10000 K).

[Indoor]: Set a white balance suitable for indoor photography.

[Outdoor]: Set a white balance suitable for outdoor photography.

[One push WB]: Select to enable [Offset] and [One push trigger].

[Manual]: Set [R gain] and [B gain]. Select gain values from 0 to 255.

[One push trigger]: Click [On] to adjust the white balance. Shoot and zoom a large white object in the center of the screen before adjustment.

Speed (COLOR - SPEED)

When [Mode] is set to [Auto1] or [Auto2], you can adjust the speed at which the camera reaches the white convergence point. select a value from [1], [2], [3], [4], or [5]. [5] is the fastest and [1] is the slowest.

Offset (COLOR - OFFSET)

When [Mode] is set to [Auto1], [Auto2], or [One push WB], you can adjust the shift amount of the white convergence point in a range from 0 to 14. White balance is shifted toward blue when a lower value is selected, and it is shifted toward red when a higher value is selected.

R gain (COLOR - R.GAIN)

White balance can be manually adjusted in a range from 0 to 255.

This setting is enabled only when [Mode] is set to [Manual].

B gain (COLOR - B.GAIN)

White balance can be manually adjusted in a range from 0 to 255.

This setting is enabled only when [Mode] is set to [Manual].

Color matrix (BRC-X400/X401)

Enable (COLOR - MATRIX)

Enables the color matrix setting.

Matrix (COLOR - SELECT)

Select an internal preset matrix for matrix calculation. You can select from [STD], [HIGH SAT], [FL LIGHT], [MOVIE], [STILL], [CINEMA], [PRO], [ITU709], or [B&W]. This setting is available when the checkbox of [Enable] is selected.

Saturation (COLOR - LEVEL)

Adjust the color density of the image. Select a value from [0] to [14]. The higher the value, the darker the color and the smaller the value, the lighter the color. This setting is available when the checkbox of [Enable] is selected.

Hue (COLOR - PHASE)

Adjust the color tone of the entire video. Select a value from [-7] to [0] to [+7]. This setting is available when the checkbox of [Enable] is selected.

R-G, R-B, G-R, G-B, B-R, B-G (COLOR - R-G, R-B, G-R, G-B, B-R, B-G)

Adjusts the hue in the range of [-99] to [99]. This setting is available when the checkbox of [Enable] is selected.

Detail

Select the sharpness.

Mode (DETAIL - MODE)

When you select [Auto], contour correction signal is automatically added.

When you make adjustment manually, select [Manual].

Only [Level] is displayed when you select [Auto].

Level (DETAIL - LEVEL)

The higher the value, the sharper the image. The lower the value, the softer the image.

You can select from [-7] (MIN) to [0] to [+8] (MAX).

Bandwidth (DETAIL - BAND WIDTH)

You can set the bandwidth for signals undergoing contour emphasis. Select from [Standard], [Low], [Middle], [High], or [Wide]. For example, when you select [Middle], the middle range of the signals is elevated, and contours in that middle range are emphasized.

Crispening (DETAIL - CRISPENING)

You can set the fineness for the objects to which contour correction signals are added. Select a value from [0] to [7]. When you select a higher value, minute contour correction signal elements are removed, and only the high level contour correction signals are left, which reduces noise. When you select a lower value, minute contour correction signal elements are added to the video, which increases noise.

HV balance (DETAIL - HV BALANCE)

You can set the aspect ratio for contour correction signal elements. Select a value from [-2] to [0] to [+2]. When you select a higher value, the horizontal contour correction elements become greater compared to the vertical elements.

BW balance (DETAIL - BW BALANCE)

You can adjust the balance between contours in black on the low brightness side and contours in white on the high brightness side. Select a value from [Type 0] to [Type 4]. The ratio of contours in black is higher for [Type 0] while the ratio of contours in white is higher for [Type 4].

Limit (DETAIL - LIMIT)

You can set the maximum value for the amount of contour emphasis in black on the low brightness side and in white on the high brightness side. Select a value from [0] to [7].

Highlight detail (DETAIL - HIGHLIGHT DETAIL)

You can adjust the contour level added to brightly-lit objects. Select a value from [0] to [4]. The higher the value, the greater the contour emphasis. Set when you want to emphasize the contour of a brightly-lit object in a bright background.

Super low (DETAIL - SUPER LOW)

Emphasizes contours in the super low range. Select a value from [0] to [7]. The higher the value, the greater the contour emphasis. Contrast and resolution increase.

Gamma (BRC-X400/X401)**Gamma (GAMMA - SELECT)**

You can select the type of basic curve for GAMMA correction.

[STD]: Standard setting (same as the [MOVIE] setting on the camera).

[STRAIGHT]: Set a straight gamma curve.

[PATTERN]: Select a gamma curve from 512 patterns stored in the camera.

[MOVIE]: Use a standard gamma curve for movies.

[STILL]: Use a gamma curve for the tone of a still image.

[CINE1]: Softens the contrast in darker areas and emphasizes gradation changes in lighter areas, producing a subdued tone overall.

[CINE2]: Almost the same effect as [CINE1] can be obtained. Select to optimize editing with up to 100% video signal.

[CINE3]: Compared to [CINE1] and [CINE2], this enhances the contrast between dark and light areas and emphasizes black gradation changes.

[CINE4]: Compared to [CINE3], this enhances contrast in dark areas. Compared to the standard curve, this has less contrast in dark areas and more contrast in light areas.

[ITU709]: Gamma curve equivalent to ITU-709.

Pattern (GAMMA - PATTERN)

You can select one of gamma curve settings from 512 patterns stored in the camera. This setting is available when [Pattern] is selected in [Gamma].

Offset (GAMMA - OFFSET)

You can select the offset of the output level of gamma curves. Select a value from [-64] to [0] to [+64].

Level (GAMMA - LEVEL)

You can adjust the correction level of the gamma curve. Select a value from [-7] to [0] to [+7].

Black gamma level (GAMMA - BLACK GAMMA)

You can adjust the black gamma level to enhance gradation only in dark areas of the video or to suppress noise with black-out. Select a value from [-7] to [0] to [+7].

Black gamma range (GAMMA - BLACK GAMMA RANGE)

You can adjust the brightness range that black gamma works. Select from [Low], [Middle], and [High]. The brightness range becomes narrow when you select [Low], and it becomes large when you select [High].

Black level (GAMMA - BLACK LEVEL)

You can adjust the master black level. Select a value from [-48] to [0] to [+48].

Knee (BRC-X400/X401)**Knee setting (KNEE - SETTING)**

Select the checkbox to set the Knee.

Knee mode (KNEE - KNEE MODE)

When you select [Auto], the knee level is automatically optimized based on the brightness level of the video being shot. When you select [Manual], you can manually adjust the knee level irrespective of the brightness level of the video being shot. This setting is available when the checkbox of [Knee setting] is selected.

Knee slope (KNEE - KNEE SLOPE)

When [Knee mode] is set to [Manual], you can adjust the gradient of knee (compression rate). Select a value from [-7] to [0] to [+7]. This setting is available when the checkbox of [Knee setting] is selected and [Knee mode] is set to [Manual].

Knee point (KNEE - KNEE POINT)

When [Knee mode] is set to [Manual], you can adjust the knee point. Select a value from [0] to [12]. This setting is available when the checkbox of [Knee setting] is selected and [Knee mode] is set to [Manual].

Picture**High resolution mode (PICTURE - HIGH RESOLUTION)**

Select the checkbox to emphasize edges for higher-resolution images.

Notes

- When you select the checkbox, image noise may increase.
- When [Mode] is set to [Manual] in [Detail], the function is not available.

NR mode (PICTURE - NOISE REDUCTION)

Select the noise reduction setting.

[Simple]: Set the noise reduction strength of 2D/3D at the same level and removes noise simultaneously.

[Advanced]: Set the noise reduction strength of 2D/3D individually and removes noise simultaneously.

NR (XDNR)

This setting is available when [NR mode] is set to [Simple].

Select from Off (minimum) or level [1] through level [5] (maximum) for noise reduction.

2D NR level (PICTURE - 2D NR LEVEL)

This setting is available when [NR mode] is set to [Advanced].

Select from [0] to [5] for noise reduction.

3D NR level (PICTURE - 3D NR LEVEL)

This setting is available when [NR mode] is set to [Advanced].

Select from [0] to [5] for noise reduction.

Image stabilizer (PICTURE - IMAGE STABILIZER)

Select the checkbox to display steadier images when the camera is installed in a place subject to vibration.

Notes

- When the Image stabilizer function is set, the angle of view of the image will be smaller than usual.
- Depending on the vibration frequency, Image stabilizer may not work even when it is set.
- Select the checkbox of [Image stabilizer] when installing the camera.

Flicker cancel (PICTURE - FLICKER CANCEL)

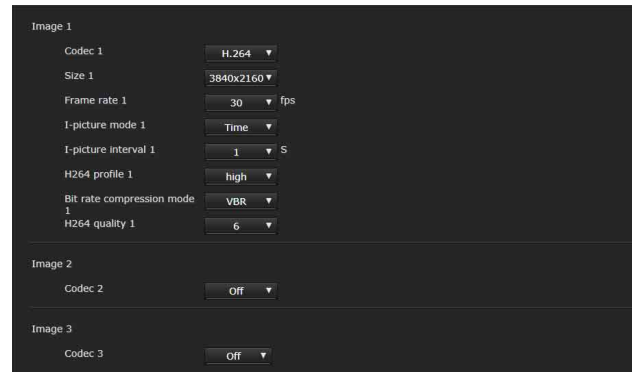
When you select the checkbox, the flicker correction feature is enabled.

Note

Depending on conditions such as the type of illumination and shutter speed, the flicker correction feature may not be effective.

If the shooting frame rate is close to the power supply frequency, the flicker correction feature may not be able to fully remove flickers even when it is enabled. If this happens, adjust the shutter speed. We recommend you to clear the checkbox of [Flicker cancel] when shooting under lights where no flicker is generated, such as outdoors.

Video codec tab



Use this tab to perform settings related to video codec. Up to 5 users can simultaneously view images of a single camera. However, when multiple users view images, the images may be corrupted depending on the codec setting.

Image 1, Image 2, Image 3

Up to three video codec modes can be set. Configure the following setting for each image mode.

Note

Selectable image size and frame rate may change depending on the setting of the SDI video format.

Codec

Select [H.264], [H.265], or [Off]. However, you cannot select [Off] for [Image 1].

Note

The following symptoms may occur depending on combinations of various settings such as the Size, Frame rate, Bit rate, etc. for Image 1, 2, and 3.

- Image delay increases.
- A frame skip occurs when playing an image.
- Audio is interrupted.
- Camera response to commands is slow.
- Camera response to operation from the remote controller is slow.
- Displaying the monitor screen and configuring camera settings are slow.

In this case, adjust by lowering the parameter values of the Size, Frame rate, and Bit rate, or changing other setting parameter values.

Size

Select the image size transmitted from the camera. Selectable image size is changed depending on the video output format (video format) which is selected by the SYSTEM SELECT switch on the back of the camera.

Frame rate

Set the frame rate of the image.

“fps” is a unit indicating the number of frames transmitted per second.

Selectable frame rate is changed depending on the video output format (video format) which is selected by the SYSTEM SELECT switch on the back of the camera.

I-picture mode

Select from [Time] or [Frame] to specify the insertion interval of H.264/H.265 I-picture.

[Time]: Set I-picture insertion interval by time.

[Frame]: Set I-picture insertion interval by number of frames.

I-picture interval

Set the I-picture insertion interval in seconds.

I-picture ratio

Set the insertion interval of H.264/H.265 I-picture by number of frames.

H264 profile

Select the profile for H.264 video codec from [high], [main], or [baseline]. The video compression efficiency is high in the sequence of [high], [main], and [baseline]. Select the suitable profile for your program.

Bit rate compression mode

Select [CBR] or [VBR].

When you want to maintain the constant bit rate, select [CBR] and to stabilize the image quality, select [VBR].

Note

The frame rate or bit rate that is actually transmitted may be different from the setting value depending on image size, scene, and network environment.

Bit rate

When [Bit rate compression mode] is set to [CBR], you can set the bit rate for each line of image distribution. When the bit rate is set to a higher value, higher-quality images can be distributed.

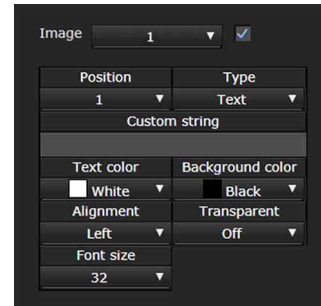
H264 quality

Set the image quality when [Bit rate compression mode] is set to [VBR] and [Codec] is set to [H.264]. Select a value from [1] to [10]. Selecting [10] provides the maximum image quality.

H265 quality

Set the image quality when [Bit rate compression mode] is set to [VBR] and [Codec] is set to [H.265]. Select a value from [1] to [10]. Selecting [10] provides the maximum image quality.

Superimpose tab



Select whether to superimpose the custom string on the image.

Three strings and one logo (still image) can be superimposed simultaneously.

Notes

- Before setting the superimposition, set the maximum value for [Size 1] in the Video codec tab of the Video menu.
- Clear the checkbox when [Image stabilizer] is selected in the Picture tab of the Video menu. After setting the superimposition, select the checkbox.

Image

Select the video codec number for which you want to set the superimposition.

To set the superimposition, select the checkbox next to the list box.

For details on the video codec number, see the Video codec tab in the Video menu.

Position

Select the display position number or logo on the preview screen. When Logo is selected, the screen prompts you to select a logo file.

Note

Only the following logo files can be used.

File format: PNG8 with alpha channel

Image size: 16 × 8 (minimum) to 640 × 120 (maximum)

You can cancel the logo file in the Initialize tab.

When you select [1], [2], or [3] in [Position], the following setting menus appear.

Type

Set [Date & time], [Text], [Zoom ratio], and [Camera name] for the display information type.

[Date & time]: Displays the date and time set on the camera.

[Text]: Displays the custom string.

[Zoom ratio]: Displays the zoom ratio information.

[Camera name]: Displays the camera name set for the camera.

Custom string

The superimposed content for each position is described.

<datetime> is displayed for Date & time,
<zoomratio> for Zoom ratio, and <name> for Camera name. You can add an arbitrary string around them.

Text color

Select the font color of the superimposed text.

Background color

Select the background color of the superimposed text.

Alignment

Set the horizontal position of the superimposed text.

Transparent

Select the background color transparency of the superimposed text. When you select [Off], transparent is not available. Background color is not displayed when [Full] is selected.

Font size

Set the font size. The higher the number, the bigger the font.

File select

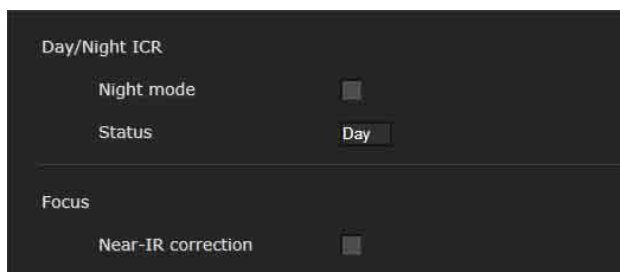
Select a file to display for a logo.

Focus

Near-IR correction

Adjust background light when using the IR lamp or where there is much near short infrared ray. Select the checkbox to increase auto-focus accuracy in night mode.

Day/Night ICR tab



Use this tab to set the Day/Night ICR function of the camera.

You can set [Night mode] from the OSD menu. For details, see "PICTURE/OPTICAL FILTER Menu" (page 40).

Day/Night ICR

Night mode (OPTICAL FILTER - IR CUT FILTER)

When the checkbox of the [Night mode] is selected, the camera works in night mode. Otherwise, the camera works in day mode.

Status

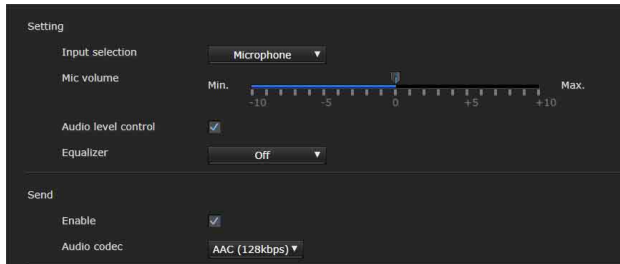
Displays the Day/Night function status.

Setting the Audio

— Audio Menu

When you click **Audio** in the Administrator menu, the Audio menu appears.
Use this menu to set the audio functions of the camera.
The Audio menu consists of the [Audio] tab.

Audio tab



[AAC (128kbps)]: Select this type when you prioritize the data capacity.
This setting will not effect on the audio signal superimposed on HDMI/SDI.

Setting

Make settings for sending audio.

Input selection

Select microphone input or line input.

Mic volume

When [Microphone] is selected in [Input selection], set the volume level of the audio input from the MIC terminal (audio input terminal). Choose a level in the range from [-10] to [+10].

Audio level control

Select the checkbox to control the audio input level to a suitable volume level automatically.

Equalizer

Use to change the frequency response of audio in accordance with its use environment.

[Off]: Disable the Equalizer setting.

[Low cut]: Reduces the noise from air conditioners and a projector, etc., and cuts low-frequency.

[Voice enhancement]: Enhances the voice clearly, cutting low- and high-frequency.

Send

Enable

Select the checkbox to deliver streaming audio from the camera.

Audio codec

Select the codec type for sending audio.

[AAC (256kbps)]: Select this type when you prioritize the audio quality.

Configuring the Network

— Network Menu

When you click **Network** in the Administrator menu, the Network menu appears. Use this menu to configure the network to connect the camera and the computer. The Network menu consists of the [Network] tab.

Network tab

Status

MAC address: xx:xx:xx:xx:xx:xx

Ethernet status: 1000full

IP address: 192.168.0.100

Subnet mask: 255.255.252.0

Default gateway: 192.168.0.1

Primary DNS server:

Secondary DNS server:

IPv6 address 1: :::::xxxx:xxxx:xxxx:xxxx

IPv6 address 2:

IPv6 default gateway: :::::xxxx:xxxx:xxxx:xxxx

LinkLocal IPv6 address: :::::xxxx:xxxx:xxxx:xxxx

IPv4 setting

Obtain an IP address automatically (DHCP): ☐

IP address: 192.168.0.100

Subnet mask: 255.255.252.0

Default gateway: 192.168.0.1

IPv6 setting

Obtain an IP address automatically: ☒

Common setting

HTTP port number: 80 (80, 1024 to 65534)

Obtain DNS server address automatically: ☒

Camera name: CAM1

This section provides the menus for connecting the camera through the network cable.

Status

MAC address (NETWORK - MAC ADDRESS)

Displays the MAC address of the camera.

Ethernet status

Displays the current transmission rate.

IP address (NETWORK - IP ADDRESS)

Displays the current IP address.

Subnet mask (NETWORK - SUBNET MASK)

Displays the current subnet mask.

Default gateway (NETWORK - GATEWAY)

Displays the current default gateway.

Primary DNS server

Displays the current primary DNS server.

Secondary DNS server

Displays the current secondary DNS server.

IPv6 address 1

IPv6 address 2

Displays the current IPv6 address.

IPv6 default gateway

Displays the current IPv6 default gateway.

LinkLocal IPv6 address

Displays the current link-local IP address.

IPv4 setting

Configure the IPv4 network setting.

Obtain an IP address automatically (DHCP)

Select [Obtain an IP address automatically (DHCP)]. The IP address, subnet mask, default gateway are assigned automatically.

Note

When you select [Obtain an IP address automatically (DHCP)], make sure that a DHCP server is operating on the network.

IP address

Enter the IP address of the camera.

Subnet mask

Enter the subnet mask value.

Default gateway

Enter the default gateway.

IPv6 setting

Configure the IPv6 network setting.

Obtain an IP address automatically

Select [Obtain an IP address automatically]. The IP address, prefix length, default gateway are assigned automatically.

Note

If you select [Obtain an IP address automatically], ask the network administrator whether an IPv6 address can be assigned. This function is not available in a multi-prefix environment. The transmission may not work properly.

IP address

Enter the IP address of the camera.

Prefix length

Enter the prefix length value.

Default gateway

Enter the default gateway.

Common setting

Configure the common setting for IPv4 and IPv6 network.

HTTP port number

Enter the HTTP port number. Normally select 80.

Obtain DNS server address automatically

Select [Obtain DNS server address automatically].
The addresses of [Primary DNS server] and [Secondary DNS server] are assigned automatically.

Note

To obtain a DNS server address automatically, first enable [Obtain an IP address automatically (DHCP)] in the IPv4 setting, or [Obtain an IP address automatically] in the IPv6 setting.
Ask the network administrator whether a DNS server address can be obtained automatically.

Primary DNS server

Enter the IP address of the primary DNS server.

Secondary DNS server

Enter the IP address of the secondary DNS server, if necessary.

Camera name (DEVICE INFO - NAME)

Name for the camera.

Up to 8 alphanumeric characters can be used to set the name.

IPv4 QoS

Enable

Select the checkbox to configure the QoS setting for IPv4.

Rule

Used to register, edit and delete QoS.

No.

Select the number to use when registering on the QoS table.
When you select a registered number, the registered QoS information is displayed.

Network address

Enter the network address of the target on which to perform QoS.

Subnet

Enter the subnet mask values of the target on which to perform QoS.

Tip

The subnet mask value represents the number of bits from the left side of the network address.

Protocol

Select the protocol.

Port

Enter the port number for the data traffic of the device (e.g. HTTP: 80).

DSCP

Set a value to mark the data traffic (0 to 63).
This value is set in the DSCP field included in the IP header of the data traffic.

Set

Used when registering on the QoS table.
QoS is set according to the following procedure:

- 1 Select number for registration from [No.] and enter the necessary conditions for [Network address], [Subnet], [Protocol] and/or [Port].
- 2 Enter values in [DSCP].
- 3 Click [Set] and configure the QoS.

Delete

Select number from [No.] to delete the setting and click [Delete].

QoS tab

No.	Network address	Subnet	Protocol	Port	DSCP
1	1	0	TCP	0	0
2					
3					
4					
5					
6					
7					
8					
9					
10					

Use this menu to mark the data traffic packets sent from the device and configure the settings for QoS control. Rules for the types of data traffic can be created using IPv4 address, port number, protocol, etc. A maximum of 10 rules can be registered.

Move up

Increases the priority of the rule.

Select a rule from the QoS table to prioritize and click [Move up].

Move down

Decreases the priority of the rule.

Select a rule from the QoS table to lower its priority and click [Move down].

UPnP tab

Set UPnP (Universal Plug and Play).

Discovery

Enable

When this function is enabled, you can search the camera by using UPnP. To disable this function, clear the checkbox.

CNS tab (BRC-X400/X401)

The camera can be connected to an optional remote control panel (RCP) or master setup unit (MSU) for operation. For details about supported devices, contact your Sony sales representative.

Configure the following settings on the CNS tab to connect with an RCP/MSU.

Camera network system

Mode

[Bridge]: Set to Bridge mode to connect directly with an RCP on a LAN.

[MCS]: Set to MCS mode when building a multi-camera system on a LAN.

Master IP address

Set the IP address of the master device when building a multi-camera system on a LAN.

Camera No.

Set the camera number when building a multi-camera system on a LAN. Set so that the number is not duplicated within the system.

Notes

- Configure settings on the RCP/MSU side as required.
- An MSU is required in a multi-camera system.
- If there are multiple MSUs, set one MSU as the master, and set all other MSUs as clients.

Setting the Security – Security Menu

When you click **Security** in the Administrator menu, the Security menu appears.

The Security menu consists of the [User], [Access limit], [SSL], [802.1X], [Referer check] and [Brute force attack protection] tabs.

Administrator and User

This camera identifies those who log in as the “Administrator” or “User”.

The “Administrator” can use all the functions of this camera, including camera settings.

“User” can select user sections specified as available functions (access rights) in the [Viewer mode]. User section includes [Administrator] which can set all the functions as well as [Full] and [Light].

Each type of user can use the corresponding functions below.

Function	Administrator	User	
		Full	Light
Monitor a live image	☐	☐	☐
View the date and time	☐	☐	☐
Control the image view size	☐	☐	☐
Save a still image and movie in the computer	☐	☐	☐
Perform the pan/tilt/zoom/focus operation	☐	☐	–
Receive audio	☐	☐	☐
Select the codec mode	☐	☐	☐
Perform the tally control	☐	☐	–
Perform the preset position setting and recalling	☐	☐	–
Control the setting menu	☐	–	–

☐ Usable function, – Not usable function

User tab

	User name	Current password	Password	Re-type password	Viewer mode
Administrator	admin				
User 1					Full ▼
User 2					Full ▼
User 3					Full ▼
User 4					Full ▼
User 5					Full ▼
User 6					Full ▼
User 7					Full ▼
User 8					Full ▼
User 9					Full ▼

RTSP Authentication ☒

Set the user names and passwords of Administrator and up to 9 types of user (User 1 to User 9), and the viewer mode of each user. Enter your password in [Current password] when changing the user name and password or deleting the user.

When adding a new user, it is unnecessary to enter [Current password]. Enter a new user name in [User name] and enter a password in [Password] and [Re-type password].

Administrator

Specify [User name], [Current password], [Password], and [Re-type password] for each user ID.

User name

Enter a user name between 5 and 16 alphanumeric characters.

Current password

Enter the current password.

Password

Enter a password between 8 and 64 alphanumeric characters. Your password should be alphanumeric.

Re-type password

To confirm the password, retype the password that you entered in the [Password] box.

User 1 to 9

Specify [User name], [Current password], [Password], [Re-type password], and [Viewer mode] for each user ID.

User name

Enter a user name between 5 and 16 alphanumeric characters.

Current password

Enter the current password.

Password

Enter a password between 8 and 64 alphanumeric characters. Your password should be alphanumeric.

Re-type password

To confirm the password, retype the password that you entered in the [Password] box.

Viewer mode

You can select the viewer mode to be displayed after authentication when the viewer is displayed.

[Administrator]: The user can operate all functions including the setting menu in this mode.

[Full]: The user can operate all functions other than the setting menu.

[Light]: The user can select the image size and codec of the live viewer and capture a still image.

RTSP Authentication

Set whether the user is authenticated or not when the viewer is displayed.

When the checkbox of [RTSP Authentication] is selected, user name and password specified in the User tab are authenticated.

Make sure to enter the correct user name and password to display the viewer.

When the checkbox is not selected, authentication is not performed.

Notes

- The RTSP authentication setting affects getting the RTSP streaming on programs other than a web browser. To prevent unspecified users from getting the streaming, select the checkbox of [RTSP Authentication] before use.
- When the setting is changed, RTSP streaming is temporarily interrupted. Therefore, while you display the viewer on another web browser, the screen turns black for a moment.

Access limit tab

Rule	Network address/Subnet	
Default policy		Allow ▼
Network address/Subnet 1	192.168.0.100	8 (8 to 128) Allow ▼
Network address/Subnet 2		8 (8 to 128) Allow ▼
Network address/Subnet 3		8 (8 to 128) Allow ▼
Network address/Subnet 4		8 (8 to 128) Allow ▼
Network address/Subnet 5		8 (8 to 128) Allow ▼
Network address/Subnet 6		8 (8 to 128) Allow ▼
Network address/Subnet 7		8 (8 to 128) Allow ▼
Network address/Subnet 8		8 (8 to 128) Allow ▼
Network address/Subnet 9		8 (8 to 128) Allow ▼
Network address/Subnet 10		8 (8 to 128) Allow ▼

This allows you to control which computers can have access to the camera.

Likewise, when using IPv6, security settings can be configured for each network.

Access limit

Set an access limit to the camera.

Enable

Select the checkbox to enable the access limit.

Rule

Set rules for the access limit of the camera.

Default policy

Select the basic policy of the limit from [Allow] and [Deny] for the computers with the network address that are not specified in the [Network address/Subnet 1] to [Network address/Subnet 10] menus below.

Network address/Subnet 1 to Network address/Subnet 10

Enter the network addresses and subnet mask values that you want to allow or deny access to the camera.

You can specify up to 10 network addresses and subnet mask values.

For a subnet mask, enter 8 to 32.

(For IPv6, enter a value between 8 and 128.)

Select [Allow] or [Deny] from the drop-down list on the right for each network address/subnet mask.

Tip

The subnet mask value represents the number of bits from the left side of the network address.

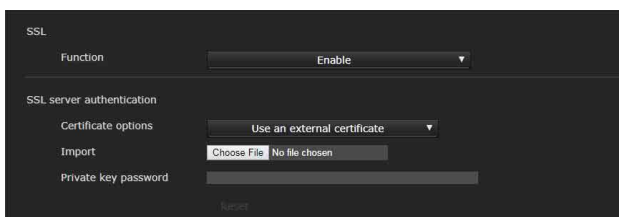
For example, the subnet mask value for "255.255.255.0" is 24.

If you set "192.168.0.0/24" and [Allow], you can allow access from computers having an IP address between "192.168.0.0" and "192.168.0.255".

Note

You can access the camera even from a computer with an IP address whose access right is set to [Deny], if you enter the user name and password set for the Administrator in the User tab of the Security menu in the authentication screen.

SSL tab (BRC-X400, SRG-X400/X120)



Configure the SSL or TLS function (called "SSL" hereafter). The settings allow the camera to communicate with the client PC by using SSL.

Notes

- When using the SSL function, always configure the settings after setting the date and time of the camera. If the date and time are not correctly set, it may cause web browser connection problems.
- Reload the window when you change the SSL setting. Press the F5 key on the keyboard to reload.

SSL

Function

Select [Enable] to use the SSL function.

When [Enable (Allow HTTP connection for some clients)] is selected, both HTTP and SSL connections are allowed. When [Enable] is selected, only SSL connection is allowed.

When Internet Explorer is used

When SSL session is established,  appears in the right of the address bar on your web browser.

When you use SSL connection for the first time

When you use SSL connection only by setting the SSL function to [Enable], you cannot access the camera if the SSL function does not work properly. In this case, you must reset the camera to the factory settings. (All settings will be initialized.)

To avoid this, check that SSL connection is possible by performing the following steps.

- 1 Set the SSL function to [Enable (Allow HTTP connection for some clients)].
- 2 Click [OK] to close the viewer and the setting window.
- 3 Display the viewer in SSL connection. For details, see "When the SSL Function is Used" (page 55).
- 4 After confirming that SSL connection is possible, set the SSL function to [Enable].

Even if the setting window or the web browser is closed as SSL connection is impossible, HTTP connection will be possible if [Enable (Allow HTTP connection for some clients)] is selected. First check the setting contents of SSL tab in HTTP connection, then check the SSL connection again.

If [Enable (Allow HTTP connection for some clients)] is not selected, you will not be able to access the camera when SSL connection becomes impossible. In this case, press the reset switch on the camera for 5 seconds or longer to return to the factory default settings. For details, see page 9.

Note

SSL connection will load the camera down; therefore, not all images may be downloaded, and the  mark may appear when the camera accesses the setting window from the web browser. In this case, reload the window. Press the F5 key on the keyboard to reload.

SSL server authentication

Certificate options

Select an installation mode of the certificate.

[Use an external certificate]: Uses the certificate including private key information issued by a CA. The PKCS#12 and PEM formats are supported.

Note

SSL is not available when [Certificate options]-[Use an external certificate] is selected, or certificate and private key password is not set properly even SSL is set to [Enable].

[Use a self-signed certificate (For test use)]: This mode uses the certificate and private key pair generated by "Self-signed certificate generation" (page 77). Private key information corresponding to the certificate is stored in the camera. You do not need to install an external certificate. However, you cannot execute the existence proof that is one of the SSL functions for the following reasons.

- The private key generated in the camera is self-signed by the camera.
- A prepared value is set for a distinguished name (Common name, etc).
- The certificate is not issued by a trusted CA.

For reasons of security, we recommend using this mode only when there is no problem even if perfect security is not ensured, such as for operation test.

Notes

- When [Use a self-signed certificate (For test use)] is selected, the [Security Alert] dialog appears on the SSL connection with a web browser. For details, see "When the SSL Function is Used" (page 55).
- SSL connection may be impossible due to the type of certificate installed in the camera. In this case, refer to "To import the CA certificate" on page 80 and install.

To import the certificate

Click [Choose File] to select the certificate to be imported. Follow the on-screen instructions to import the certificate to the camera.

Note

The import process becomes invalid if the selected file is not a certificate or the imported certificate is not allowed.

Self-signed certificate generation

A self-signed certificate can be generated in the camera to be used when [Use a self-signed certificate (For test use)] is selected from [Certificate options].

Click [Generate] to generate a self-signed certificate in the camera. Clicking [Generate] again after [Generate] has been clicked once will update the self-signed certificate stored in the camera.

Note

Make sure to set the date and time on the camera correctly before performing this operation. If the date and time are not correctly set, it may cause web browser connection problems. Before selecting [Generate] in [Self-signed certificate generation], click [OK] to select [Use a self-signed certificate (For test use)] in [Certificate options].

To display certificate information

When the certificate has been set in the camera correctly, its information appears on [Status], [Issuer DN], [Subject DN], [Available period] and [Extended key usage].

Status

Shows if the status of the certificate is valid or invalid. The following statuses are recognized.

[Valid]: The certificate is correctly stored and set.

[Invalid]: The certificate is not correctly stored and set.

Possible causes are as follows:

- [Use an external certificate] is selected and the private key password included in the certificate is not specified correctly.
- [Use an external certificate] is selected and the private key password is specified in spite of the fact that the key pair in the certificate is not encrypted.
- [Use an external certificate] is selected and the key pair is not included in the certificate.
- [Use a self-signed certificate (For test use)] is selected without the self-signed certificate being generated.

Note

When the certificate to be imported is of PKCS#12 format and the private key password is not set correctly, "<Put correct private key password>" is displayed in the boxes of [Issuer DN], [Subject DN], [Available period] and [Extended key usage]. Specify the correct private key password to confirm the information of the certificate.

To delete the imported certificate or self-signed certificate

Click [Delete] to delete the certificate or self-signed certificate imported to the camera.

Private key password

Enter the password for the private key information included in the certificate using up to 50 characters. This text box is active only when [Certificate options] is set to [Use an external certificate].

Leave the text box blank if the private key information included in the certificate is not encrypted.

If no private key password is set in the camera, an active text field is displayed and this allows a password to be entered.

If a private key password is already set, it is displayed as an inactive text field.

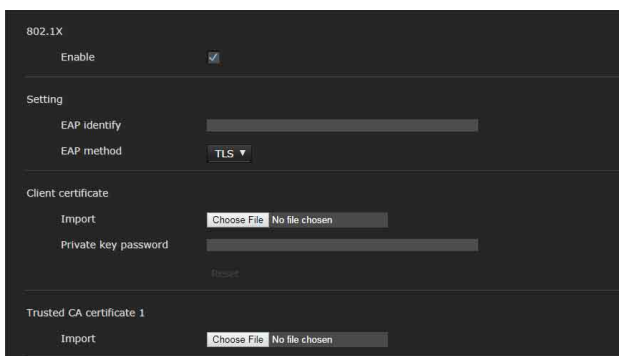
Reset

To change the once set private key password, click [Reset] and clear the current password. A new password can be entered.

Note

Click [Cancel] at the bottom of the menu if you want to cancel changing the private key password after clicking [Reset]. Doing so restores the other setting items in the SSL tab to the previous settings.

802.1X tab



Configure the wired port-based authentication in compliance with the 802.1X standard.

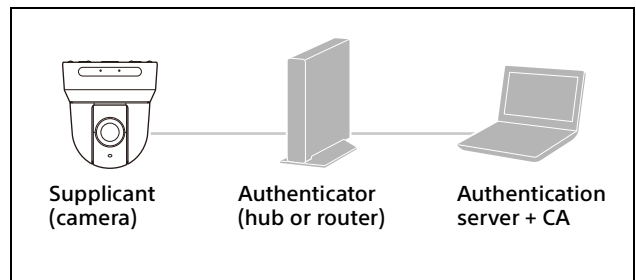
Notes

- To use the 802.1X authentication function, you need knowledge of the 802.1X authentication and digital certificate. To establish an 802.1X network, you need to configure the authenticator, authentication server and other elements. For details on these settings, refer to the manual of the corresponding equipment.

- When using the 802.1X authentication function, always configure the settings after setting the date and time of the camera. If the date and time are incorrect, port authentication may not be performed correctly.

System configuration of the 802.1X network

The following figure shows a general system configuration of an 802.1X network.



Supplicant

A supplicant is a device that connects to the authentication server to join the network. This camera serves as a supplicant in the 802.1X network. The supplicant can enter the 802.1X network after appropriate authentication by the authentication server.

Authenticator

An authenticator forwards certificate request data or response data that the supplicant or authentication server issues to the other party. Normally a hub, router or access point serves as an authenticator.

Authentication server

An authentication server has a database of connecting users and verifies if the supplicant is a valid user or not. It can also be called RADIUS server.

CA (Certificate Authority)

A CA issues and manages certificates of the authentication server (CA certificates) and user certificates. The CA is essential for certificate-based user authentication. Normally a CA is located inside an authentication server.

Note

This camera supports EAP mode in which the supplicant and the server authenticate using the certificate. This mode requires a CA which issues the certificate.

802.1X

Enable

Select the checkbox to enable the 802.1X authentication function.

Setting

EAP identify

Enter the user name to identify the client in the 802.1X authentication server up to 250 characters.

EAP password

Enter a supplicant EAP password which is required when PEAP is selected with EAP mode. The password can be half-width letters and the length should be within 50 characters.

Reset

To change the once set EAP password, click [Reset] and clear the current password. A new password can be entered.

Note

Click [Cancel] at the bottom of the menu if you want to cancel changing the EAP password after clicking [Reset]. Doing so restores the other setting items to the previous settings.

EAP method

You can select the authentication method used with the authentication server. This camera supports TLS and PEAP.

[TLS]: By this method, the supplicant and the server authenticate each other using a certificate. This enables secure port authentication.

[PEAP]: By this method, an EAP password is used for the supplicant authentication and a certificate is used for server authentication.

Client certificate

When TLS is selected as the EAP method, the client certificate is imported, displayed or deleted for the camera authentication.

To import the client certificate

Click [Choose File] to select the client certificate to be imported. The selected client certificate is imported to the camera.

Note

The import process becomes invalid if the selected file is not a client certificate or the imported client certificate is not allowed.

To display client certificate information

When the client certificate has been set in the camera correctly, its information appears on [Status], [Issuer DN], [Subject DN], [Available period] and [Extended key usage].

Status

Shows if the status of the client certificate is valid or invalid. The following statuses are recognized.

[Valid]: The client certificate is correctly stored and set.

[Invalid]: The client certificate is not correctly stored and set. Possible causes are as follows:

- The private key password included in the client certificate is not specified correctly.
- The private key password is specified in spite of the fact that the key pair in the client certificate is not encrypted.
- The key pair is not included in the client certificate.

Note

When the client certificate to be imported is of PKCS#12 format and the private key password is not set correctly, "<Put correct private key password>" is displayed in the boxes of [Issuer DN], [Subject DN], [Available period] and [Extended key usage]. Specify the correct private key password to confirm the information of the certificate.

To delete the client certificate

Click [Delete] to delete the client certificate stored in the camera.

Private key password

Enter the password for the private key information included in client certificate using up to 50 characters.

Leave the text box blank if the private key information included in the client certificate is not encrypted.

If a private key password is already set, it is displayed as turned letters.

Reset

To change the once set private key password, click [Reset] and clear the current password. A new password can be entered.

Note

Click  at the bottom of the menu if you want to cancel changing the private key password after clicking [Reset]. Doing so restores the other setting items in the Client certificate tab to the previous settings.

Trusted CA certificate

You can import a trusted CA certificate (server certificate or route certificate) to the camera. Up to 4 certificates from trusted CAs can be imported. Only the PEM format is supported.

To import the CA certificate

Click [Choose File] to select the CA certificate to be imported. The selected CA certificate is imported to the camera.

Note

The import process becomes invalid if the selected file is not a CA certificate.

To display CA certificate information

When the CA certificate has been set in the camera correctly, its information appears on [Issuer DN], [Subject DN], [Available period] and [Extended key usage].

To delete the CA certificate

Click [Delete] to delete the CA certificate stored in the camera.

Referer check tab

No.	Host name	Port number
1		80
2		80
3		80
4		80
5		80
6		80
7		80
8		80
9		80
10		80

Referer check is the function that checks if the web page which requires access to the camera is authorized. If the web page is not authorized, the camera denies access of the web page. If you want to access from web pages other than the one that the camera provides, register their host names and port numbers in the [Exception list].

Referer check

Enable

Select the checkbox to enable the Referer check.

Exception list

Register the hosts that are not targeted for the Referer check.

No.

Select the registration number for the Exception list.

Host name

Enter the host name or IP address of the PC that supplies the web page you want to register on the Exception list.

Port number

Enter the port number of the PC that supplies the web page you want to register on the Exception list.

Set

Register the values of the [Host name] and [Port number] you entered to the list of the selected number.

Delete

Delete the contents of the list selected with [No.].

Brute force attack protection tab

Brute force attack means an attack method by trying every possible pattern of password in sequence. This camera has a function to prevent the Brute force attack.

- Applies to the HTTP and RTSP accesses.
- Does not monitor the Brute force attack to the RTSP access when the RTSP authentication is off.

Brute force attack protection

Enable

Select the checkbox to enable the Brute force attack protection function.

Setting

Make settings for the Brute force attack protection function.

Count

Set the number of count for the authentication failure of attacker detection.

Release mode

Set the mode to release attacker detection.

[Always]: Once registered in the attacker list, it will not be released.

[Timer]: Release after the time set in [Release time] has passed.

Note

The attacker list is released whenever the camera is rebooted even if the [Release mode] is in either case; [Always] and [Timer].

Release time

Set the time to release the attacker detection. This setting is available when the [Release mode] is set to [Timer].

Attacker list

Confirm the IP address of the user detected as an attacker.

Setting the PTZF Control — PTZF control Menu

When you click **PTZF control** in the Administrator menu, the PTZF control menu appears.
The PTZF control menu consists of the [PTZF control] and [Preset position] tab.

PTZF control tab

Perform the pan/tilt/zoom/focus operation. You can configure the settings from the OSD menu. For details, see “ZOOM/FOCUS Menu (BRC-X400/X401, SRG-X400/201M2)” (page 39), “FOCUS Menu (SRG-X120/HD1M2)” (page 40), or “PAN TILT/PRESET RECALL Menu” (page 41).

Note

You cannot configure Focus near limit, PTZ mode, Pan-Tilt level, and Zoom level from the OSD menu.

The screenshot displays the PTZF control menu with the following settings:

- Zoom**
 - Zoom mode: Optical
- Focus**
 - Focus mode: Auto
 - Focus near limit: 0.35 m
- Pan-Tilt**
 - Pan-Tilt limit: ☐
 - Ramp curve: Mode 1
 - Slow Pan-Tilt mode: ☐
- Preset**
 - Speed select: Compatible
 - Pict freeze preset: ☐
 - Preset mode: Mode 1
- PTZ mode**
 - PTZ mode: Normal

Zoom (BRC-X400/X401, SRG-X400/201M2)

Zoom mode (ZOOM - MODE)

Select the range of zooming.

[Optical]: An image can be zoomed up to 20× optical zoom.

[Clear Image Zoom]: An image is zoomed with less deterioration of image quality over the optical region. Zooming is up to 1.5× when the video output format (video format) is 3840×2160, and up to 2× for other formats.

[Digital]: An image can be zoomed up to 20× optical zoom and 12× digital zoom (including Clear Image Zoom) with up to a total of 240× zoom.

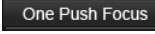
Focus

This is the setting related to the focus.

Focus mode (FOCUS - MODE)

Select the focus mode.

[Auto]: The focus is automatically adjusted.

[Manual]: The focus can be adjusted by using the , , and  buttons of the control panel displayed in the main viewer.

Focus near limit

Set the range at which to automatically focus. If a subject is nearer than the set range, it will not be focused.

Pan-Tilt

This is the setting related to the pan/tilt.

Pan-Tilt limit (PAN TILT - PAN LIMIT, TILT LIMIT)

Select the checkbox to limit the pan/tilt range. You can select the following values.

Note

Switching Image flip on/off turns Pan-Tilt limit setting to the factory setting. Set the Image flip function in accordance with the installation condition of the camera and select the value.

Left, Right (PAN TILT - LEFT, RIGHT)

Select the panning range.

[Left]: -170° to +169°, adjustable in 1° increment.

[Right]: -169° to +170°, adjustable in 1° increment.

Down, Up (PAN TILT - DOWN, UP)

Select the tilting range.

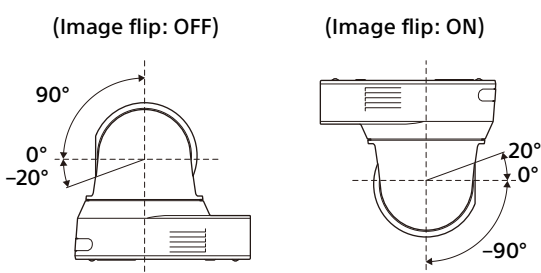
[Up]: -19° to +90° (Image flip: OFF)

-89° to +20° (Image flip: ON), adjustable in 1° increment.

[Down]: -20° to +89° (Image flip: OFF)

-90° to +19° (Image flip: ON), adjustable in 1° increment.

Setting the range of the Up/Down movement



Ramp curve (PAN TILT - RAMP CURVE)

Set the acceleration/deceleration curve for pan/tilt.

Note

It is fixed to [Mode 1] on this camera.

Slow Pan-Tilt mode (PAN TILT - PAN TILT SLOW)

Select the checkbox to set [Pan-Tilt] to [Slow Pan-Tilt mode].

Preset

This is the setting related to the preset.

Speed select (PRESET RECALL - RECALL SPEED)

Select the preset recall speed.

[Compatible]: Work differently depending on the commands for preset recall.

For VISCA command: Pan/tilt work with the speed set by each preset number.

For CGI command: Pan/tilt work with the speed specified by the CGI command of preset recall.

[Separate]: Pan/tilt work with the speed set by each preset number.

[Common]: Pan/tilt work with the common speed to all preset numbers.

Common speed (PRESET RECALL - COMMON SPEED)

This is enabled when [Speed select] is [Common]. Pan/tilt speed for preset recall, which is common to all preset numbers.

Pict freeze preset (PRESET RECALL - PICT FREEZE PRESET)

Select output image state for preset recall.

When the checkbox is selected, frozen images are output during preset recalling.

Preset mode (SYSTEM - PRESET MODE) (BRC-X400/X401)

Set preset mode.

[Mode 1]: Recall all saved settings when recalling a preset.

[Mode 2]: Recall only the pan, tilt, zoom, and focus positions when recalling a preset.

PTZ mode

Set the pan/tilt control mode using the 8-direction arrow buttons (page 57) and the zoom control mode using the / buttons (page 57). Select [Normal] or [Step].

PTZ mode

[Normal]: When you click the mouse, the camera starts panning, tilting or zooming, and the operation continues while you hold down the mouse. To stop the operation, release the mouse.

[Step]: Each time you click the mouse, the camera moves (pans, tilts or zooms) according to the set level. If you keep the mouse held down for more than 1 second, the operation mode is temporarily changed to [Normal]. When you release the mouse, camera operation stops and the [Step] mode is restored. When you select [Step], [Pan-Tilt level] and [Zoom level] are available.

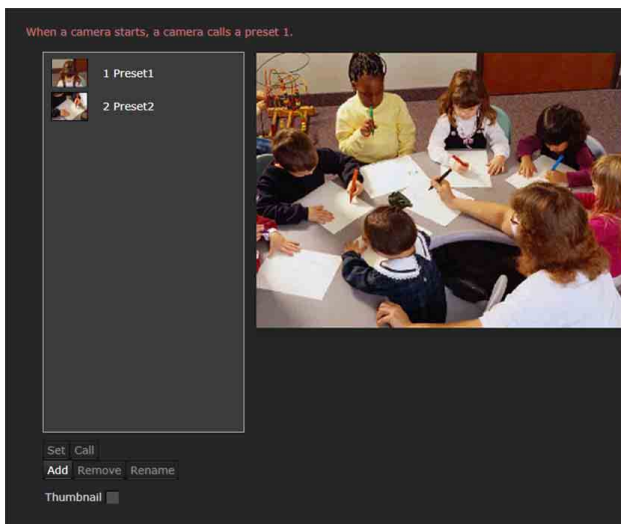
Pan-Tilt level

Select the camera transition level from [1] to [10] by clicking the 8-direction arrow buttons for panning/tilting. Selecting [10] provides the maximum transition level.

Zoom level

Select the camera transition level from [1] to [10] by clicking **W** / **T** for zooming. Selecting [10] provides the maximum transition level.

Preset position tab



You can store camera pan, tilt, and zoom positions up to 256 positions. For details on the camera settings that can be stored, see "Preset Items" (page 88).

Notes

- All preset settings will return to their default when changing the setting of [Image flip] in the Installation tab.
Preset 1: The camera settings are reset to the default settings.
Preset 2 to 256: The camera settings are cleared from the memory.
Thumbnails are retained in the memory.
- The camera works with the setting registered to Preset 1, when the power of the camera is turned on. Register Preset 1 beforehand for turning on the camera with the specific settings.

Preset position list

Display the preset numbers, preset names and thumbnails of the registered presets.
Select the preset to operate.

Preview screen

Monitor the images and perform the preset setting.

Set

Store the current pan, tilt, zoom positions and camera settings in the selected preset. For details on the setting items that can be stored, see "Preset Items" (page 88).

Call

Move to the pan, tilt, and zoom positions stored in the selected preset. The stored camera settings are called. For BRC-X400/X401, you can select the setting items to be reflected on the camera by the Preset mode setting.

Add

Store the current pan, tilt, zoom positions and camera settings as a new preset. For details on the setting items that can be stored, see "Preset Items" (page 88).

Remove

Delete the selected preset and return the stored settings to the factory settings. For details on the setting items stored in each preset, see "Preset Items" (page 88).

Rename

Change the name of a selected preset. Up to 32 alphanumeric characters can be used to set the name.

Thumbnail (checkbox)

After selecting the checkbox, register the camera images as thumbnails by clicking the Set button.

Thumbnail (file reference box)

Register the arbitrary camera images as thumbnails. Select images in JPEG or PNG format. The available image size is from 64×36 to 1920×1080 (width × height).

Delete

Delete thumbnails in the selected preset.

Speed

Pan/tilt speed when recalling the selected preset number.

This is available when [Speed select] is set to [Separate].

Setting the Streaming

— Streaming Menu

When you click **Streaming** in the Administrator menu, the Streaming menu appears. Use this menu to set the items for the transmission by unicast or multicast. The Streaming menu consists of the [Streaming] tab.

Streaming tab

When Streaming tab settings are changed, RTSP streaming is temporarily interrupted. Therefore, while you display the viewer on another web browser, the screen turns black for a moment.

Unicast streaming

RTSP video port number [n]

Specify the video transmission port number used for RTSP unicast streaming. The default setting is 51000, 53000 or 55000. Specify an even number from [1024] to [65534]. 2 port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for video data communication and control. When performing simultaneous multi-transmission, a different port number will be used for every transmission, based on the port number specified here.

The settings for Image 1, Image 2 and Image 3 apply to RTSP video port number 1, 2 and 3 respectively.

RTSP audio port number

Specify the audio transmission port number used for RTSP unicast streaming. The default setting is 57000. Specify an even number from [1024] to [65534]. 2 port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for audio data communication and control. When performing simultaneous multi-transmission, a different port

number will be used for every transmission, based on the port number specified here.

Multicast streaming

Set whether the camera uses multicast streaming with video data and audio data or not. It reduces the transmission load on the camera by having a computer of the same segment network receive the same transmitting data.

Enable

Select the checkbox to allow multicast streaming. When you have selected the checkbox, set [Multicast address], [Video port number], and [Audio port number] properly.

Multicast TTL

Set the TTL (Time To Live) for the multicast packet. Adjust the value when you want to perform the multicast across the router.

Multicast address

Set the multicast address used on the RTSP multicast streaming.

Video port number [n]

Specify the video transmission port number used for RTSP multicast streaming. The default setting is 61000, 63000 or 65000. Specify an even number from [1024] to [65534]. 2 port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for video data communication and control.

The settings for Image 1, Image 2 and Image 3 apply to video port number 1, 2 and 3 respectively.

Audio port number

Specify the audio transmission port number used for RTSP multicast streaming. The default setting is 59000. Specify an even number from [1024] to [65534]. 2 port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for audio data communication and control.

RTSP setting

Set the RTSP setting which cannot be set in the Unicast streaming setting and Multicast streaming.

Enable

Select the checkbox to enable RTSP streaming.

RTSP port number

Set the port number used for RTSP streaming. The default setting is 554.

If you change the setting, the RTSP server will be rebooted.

RTSP time out

Specify the time for the time out by the Keep-Alive command from RTSP streaming. You can set the time out from [0] second to [600] seconds. At the [0] setting, time out of the Keep-Alive command is not available.

Examples of RTSP streaming acquisition

This camera is compatible with RTSP as the streaming protocol. Up to three streams are available for the camera. The URL of each stream is as follows.

- rtsp://<IP>:<Port>/video1 (Image 1)
 - rtsp://<IP>:<Port>/video2 (Image 2)
 - rtsp://<IP>:<Port>/video3 (Image 3)
- <IP>: IP address of the camera
<Port>: RTSP port number

Note

Playing on media players other than web browsers is not guaranteed.

Using NDI|HX

To use NDI|HX, you are required to purchase the license key.

Purchasing the license key

You can purchase the license key from the following URL of NewTek, Inc.
<https://www.ndicentral.com/store/>

Notes

- Download and install the latest driver of NDI|HX.
- For details on settings and operations for NDI|HX, refer to the instructions of NewTek products.

Services and software provided by other companies

- Separate terms and conditions of use may be applied.
- Provision of services and software updates may be interrupted or terminated without notice.
- Services and software content are subject to change without notice.
- Separate registration and/or payment may be required.

Please note that Sony Corporation is not responsible for any claim, from customers or third parties, arising from any use of services and software provided by other companies.

Message List

The following messages and indications may appear on this camera. Perform the following as necessary.

Camera Lamp Display

Lamp status	Description and solution
POWER lamp (orange) and NETWORK lamp (green) are flashing.	An error has occurred in the camera. Details of the error are displayed in the main menu. Check the details of the error before solving the problem.

Camera Screen Display (Main Menu)

Message	Description and solution
⚠ FAN STOP!	Turn off the device as it may malfunction if used in this state. Contact the Sony Service Center or your licensed Sony dealer.
⚠ PAN-TILT ERROR!	The movement of the camera has stopped due to an error in the pan-tilt driving unit. Reset the pan/tilt position. Or, turn off and on the camera.
⚠ PAN-TILT FAULT!	Turn off the device as it may malfunction if used in this state. Contact the Sony Service Center or your licensed Sony dealer.

Troubleshooting

Before sending your camera for service, check the following to troubleshoot the problem. If the problem still persists, consult the Sony Service Center.

Symptom	Cause	Remedy
The power of the camera is not turned on.	The AC adapter is not firmly connected to the DC IN 12 V terminal.	Firmly insert the AC adapter all the way.
	The power cord is not firmly connected to the AC adapter or the power supply.	Firmly insert the power cord all the way.
	The connection cable to the PoE+ power supply device is not firmly connected.	Firmly insert the connection cable all the way.
	A non-PoE+ compliant-power supply device is connected.	Connect a PoE+ compliant-power supply device.
The camera does not work, even when buttons on the remote commander are pressed.	[IR RECEIVE] on the SYSTEM menu is turned [OFF].	Set [IR RECEIVE] to [ON] by operating the menu with the remote controller RM-IP500/IP10 (page 44).
	The remote commander's CAMERA SELECT button number and the camera's IR SELECT switch setting are different.	Press the CAMERA SELECT button that matches the IR SELECT switch setting (page 11).
An image is not displayed on the connected video monitor.	The video connecting cable is not connected properly.	Check the connection between the camera and video monitor.
	Exposure settings on the camera are not appropriate.	Check the exposure settings in the EXPOSURE menu.
Pan, tilt, or zoom cannot be operated.	The camera menu is displayed.	Close the menu by pressing the DATA SCREEN button on the supplied remote commander. Or close the menu with the remote controller.
The camera cannot be operated with the remote controller RM-IP500/IP10.	The VISCA RS-422 connection is incorrect.	Check the connection to the VISCA RS-422 terminal and the wiring of the RS-422 cable.
	Communication baud rate settings are different.	Set the same settings for the baud rate (9600 bps or 38400 bps) of the remote controller and the CAMERA SETUP switch (page 9) on the back of the camera.
	The VISCA over IP connection is incorrect.	Check the connection to the LAN terminal. Use a cross network cable when connected to the remote controller on a one-to-one basis.
VISCA is not available even when the camera is connected to a computer.	The computer is not correctly connected to the camera.	Check the connection between the camera and computer.
		Make sure that the baud rate (9600 bps or 38400 bps) is correctly set on the CAMERA SETUP switch on the back of the camera (page 9) and set in the PC settings.
		Connect the camera to the remote controller RM-IP500/IP10 to check whether the camera is not damaged.
Problems are not resolved although measures were taken.	—	Remove the plug of the power cord from the AC outlet, then reinsert it into the AC outlet after waiting a while.

Preset Items

Items stored in the preset are shown in the following lists.

●: Stores settings by preset number.

○: Applies the settings to the camera at the next start-up when they are stored in Preset 1. Preset recall does not apply the settings.

The preset mode can be set in BRC-X400/X401. You can select setting items to be applied to the camera in the preset mode setting when recalling a preset.

[Mode 1]: PTZF settings and camera settings

[Mode 2]: Only PTZF settings

PTZF settings and camera settings are applied in SRG-X400/201M2/X120/HD1M2.

PTZF Settings

No.	Parameter	Classification
1	Pan-Tilt Position	●
2	Ramp Curve	○
3	Pan-Tilt Slow	○
4	Pan-Tilt limit	○
5	Preset mode	○
6	Preset Name	○
7	Preset Thumbnail	○
8	Preset Drive Speed Select	○
9	Preset Drive Speed Common	○
10	Preset Drive Speed Separate	●
11	Zoom Mode	●
12	Zoom Position	●
13	Tele Convert	○
14	Focus Mode	●
15	Focus Position	●
16	Auto Focus Mode AF Mode	○
17	Auto Focus Mode AF Interval	○
18	Autofocus Sensitivity	●
19	Focus Limit	●

Camera Settings

No.	Parameter	Classification
1	Exposure Mode	●
2	Iris	●
3	Gain	●
4	Gain Limit	●
5	Gain Point On/Off	●

No.	Parameter	Classification
6	Gain Point Position	●
7	High-sensitivity Mode	●
8	Shutter Speed	●
9	High-speed Shutter Limit	●
10	Low-speed Shutter Limit	●
11	Auto Slow Shutter	●
12	Exposure compensation On/Off	●
13	Exposure compensation Level	●
14	Backlight compensation	●
15	Spotlight compensation	●
16	AE Speed	●
17	AE Ref. Low-light Modulation On/Off	●
18	AE Ref. Low-light Modulation Level	●
19	Visibility Enhancer On/Off	●
20	Visibility Enhancer Parameter	●
21	White balance Mode	●
22	White balance Speed	●
23	White balance Offset	●
24	R-Gain	●
25	B-Gain	●
26	R-Gain of OnePushWB	●
27	B-Gain of OnePushWB	●
28	Color Matrix	●
29	Color Gain	●
30	Color Hue	●
31	User Matrix R-G	●
32	User Matrix R-B	●
33	User Matrix G-R	●
34	User Matrix G-B	●
35	User Matrix B-R	●
36	User Matrix B-G	●
37	Gamma Select	●
38	Gamma Pattern	●
39	Gamma Offset	●
40	Gamma Level	●
41	Black Gamma Level	●
42	Black Gamma Range	●
43	Black Level Offset	●
44	Knee Setting	●
45	Knee Mode	●
46	Knee Slope	●
47	Knee Point	●
48	Detail Mode	●
49	Detail Level	●
50	Band Width	●
51	Crispening	●

No.	Parameter	Classification
52	HV Balance	●
53	BW Balance	●
54	Detail Limit	●
55	High Light Detail	●
56	Super Low	●
57	Chroma Suppress	●
58	Defog	●
59	Flicker Cancel	●
60	High Resolution	●
61	Image Stabilizer	●
62	NR Level	●
63	2D/3D NR Level	●
64	Picture Effect	●
65	Manual ICR	●
66	IR Receive	○
67	Tally Level	○
68	H PHASE	○
69	HDMI Color Space	○

Specifications

System

Video signal 3840 × 2160/29.97p ^{*1}
1920 × 1080/59.94p,
1920 × 1080/59.94i,
1920 × 1080/29.97p,
1280 × 720/59.94p
3840 × 2160/25p ^{*1}
1920 × 1080/50p,
1920 × 1080/50i,
1920 × 1080/25p,
1280 × 720/50p
3840 × 2160/23.98p ^{*1}
1920 × 1080/23.98p
(switched with the SYSTEM
SELECT switch)
^{*1} Only when HDMI and IP are
output
Details of each model (page 92)

Synchronization

Internal synchronization/External
synchronization, Automatic
switching (BRC-X400/X401)
Internal synchronization (SRG-
X400/201M2/X120/HD1M2)

Image device 1/2.5-type, CMOS image sensor
Effective pixel number: Approx.
8.5 Megapixels

Camera

Lens Optical, 20 ×
f = 4.4 mm to 88.0 mm,
F2.0 to F3.8
f = 26.8 mm to 536.0 mm (35 mm
camera conversion) (BRC-
X400/X401, SRG-X400/201M2)
Optical, 12 ×
f = 4.4 mm to 52.8 mm, F2.0 to F3.7
f = 26.8 mm to 322.8 mm (35 mm
camera conversion) (SRG-X120/
HD1M2)

Minimum object distance

80 mm (WIDE), 800 mm (Tele)
(BRC-X400/X401, SRG-X400/
201M2)
80 mm (WIDE), 400 mm (Tele)
(SRG-X120/HD1M2)

Minimum illumination

1.6 lux 4K/HD output, 50IRE, F2.0,
1/30s, High-sensitivity Mode:
OFF
Max.Gain (WIDE end)

Shutter speed

1/10000s to 1/1 (59.94/29.97/50/
25/23.98)

Pan/Tilt function	(width/height/depth) (without protrusions)
Horizontal $\pm 170^\circ$	Mass Approx. 1.8 kg (3 lb 16 oz)
Maximum speed: $101^\circ/\text{second}$	Installation angle
Minimum speed: $0.5^\circ/\text{second}$	Less than ± 15 degrees to the horizontal surface
Maximum speed (when the preset is recalled): $300^\circ/\text{second}$	
Minimum speed (when the preset is recalled): $1.1^\circ/\text{second}$	
Vertical $+90^\circ, -20^\circ$	
Maximum speed: $91^\circ/\text{second}$	
Minimum speed: $0.5^\circ/\text{second}$	
Maximum speed (when the preset is recalled): $126^\circ/\text{second}$	
Minimum speed (when the preset is recalled): $1.1^\circ/\text{second}$	

Output terminals

HDMI OUT	Terminal: HDMI connector (Type A) $\times 1$ Standards: Version 1.4b compatible Color space: YCbCr, 4:2:2 8bit RGB, 4:4:4 8bit
SDI OUT	Terminal: BNC connector $\times 1$ Standards: 3G-SDI

Input and Output terminals

VISCA RS-422	Terminal: RJ45 $\times 2$ Standards: VISCA
LAN terminal	Terminal: RJ45 Standards: IEEE802.3at compatible (PoE+)

Input terminals

EXT SYNC IN	Terminal: BNC connector $\times 1$ (BRC-X400/X401)
MIC	Terminal: Mini jack $\varnothing 3.5$ ($\times 2$) (Plug in Power supported)
Power terminal	IEC60130-10 (JEITA standard RC-5320A) TYPE 4

General

Input voltage	DC 12 V (AC adapter 100 to 240 V, 50/60 Hz), PoE+ (IEEE802.3at compatible)
Power consumption	For DC 12 V: 23.8 W For PoE+: 25.5 W
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-20°C to $+60^\circ\text{C}$ (-4°F to $+140^\circ\text{F}$)
External dimensions (Dimensions page 91)	$158.4 \times 177.5 \times 200.2$ mm ($6\frac{1}{4} \times 7 \times 8$ inches)

Supplied Accessories

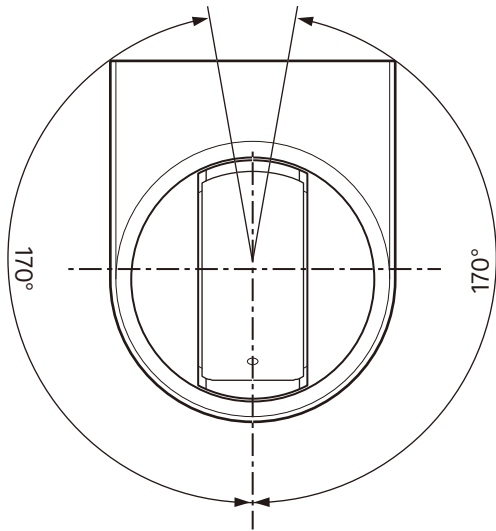
Safety Regulations (1)
AC adapter (1)
Remote commander (1)
Ceiling bracket (A) (1)
Ceiling bracket (B) (1)
Wire rope (1)
Mounting screws ($\oplus$ M3 $\times$ 8) (9)
Mounting screws ($\oplus$ M2.6 $\times$ 6 black) (1)
HDMI cable fixing plate (1)

Optional accessories

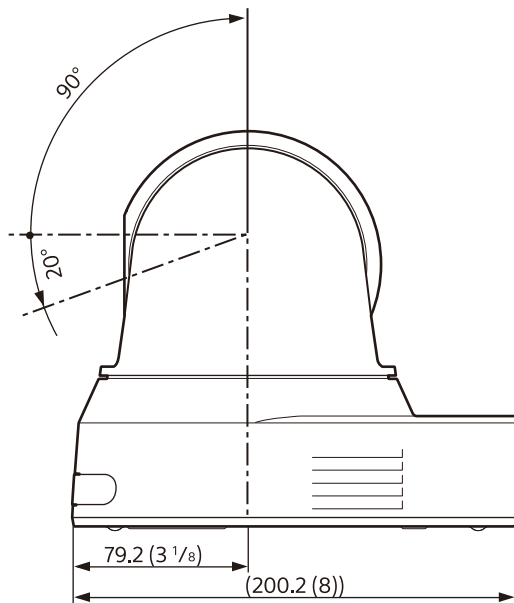
IP remote controller (RM-IP500/IP10)

Design and specifications are subject to change without notice.

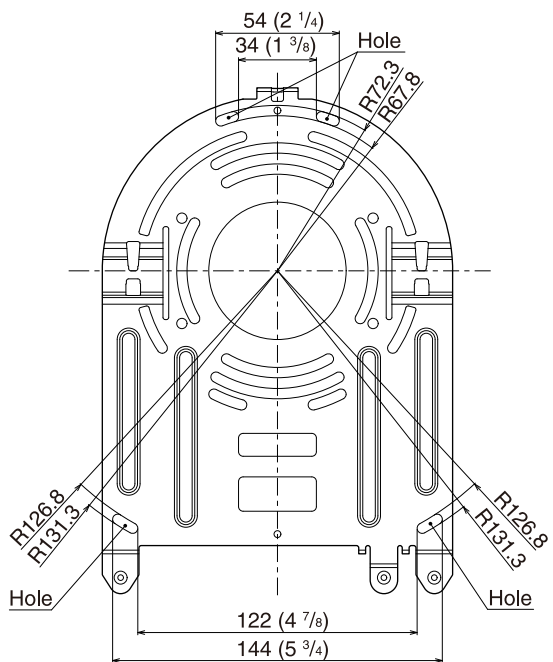
Top



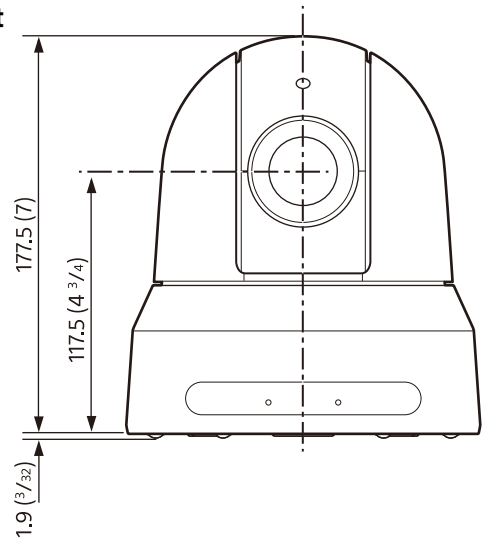
Side



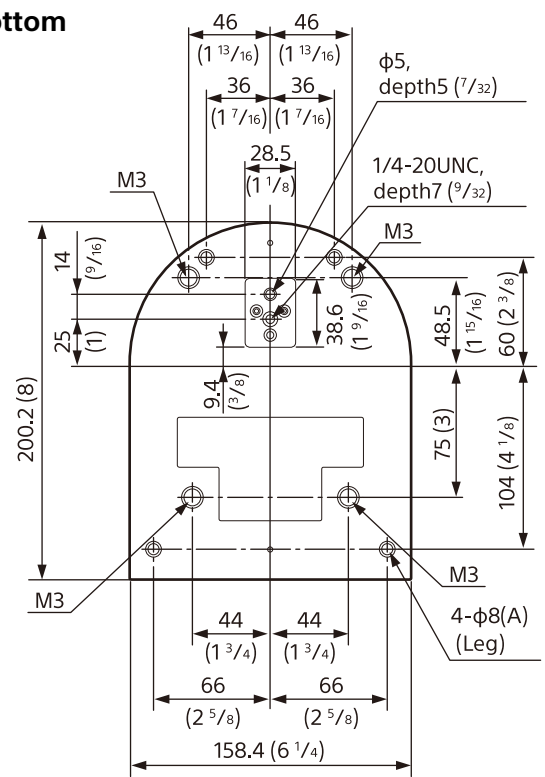
Ceiling bracket (B)



Front



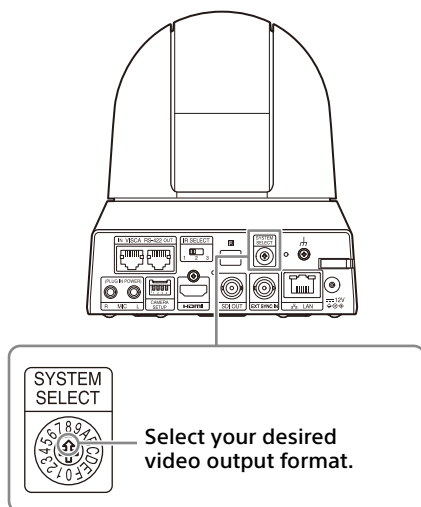
Bottom



Unit: mm (inches)

SYSTEM SELECT switch settings

Video output format (video format) for the HDMI OUT/SDI OUT terminal can be set with this switch.



No.	Image size/Frame rate	
	BRC-X400/X401	SRG-X400/201M2/ X120/HD1M2
0	3840×2160/29.97p	1920×1080/59.94p
1	1920×1080/59.94p	1920×1080/59.94p
2	1920×1080/59.94i	1920×1080/59.94i
3	1920×1080/29.97p	1920×1080/29.97p
4	1280×720/59.94p	1280×720/59.94p
5	1920×1080/59.94p	1920×1080/59.94p
6	1920×1080/59.94p	1920×1080/59.94p
7	HDMI: 640×480/ 59.94p SDI: 1280×720/59.94p	HDMI: 640×480/ 59.94p SDI: 1280×720/59.94p
8	3840×2160/25p	1920×1080/59.94p
9	1920×1080/50p	1920×1080/50p
A	1920×1080/50i	1920×1080/50i
B	1920×1080/25p	1920×1080/25p
C	1280×720/50p	1280×720/50p
D	1920×1080/59.94p	1920×1080/59.94p
E	3840×2160/23.98p	1920×1080/59.94p
F	1920×1080/23.98p	1920×1080/23.98p

Notes

- Be sure to set the switch before you turn on the camera.
Turn on the power after you set the switch.
- Be sure to use a Phillips-head screwdriver when changing the switch position. If you use a tool other than the designated screwdriver, the crossed groove may be damaged.

Pin array of the VISCA RS-422 terminal and how to use it

Pin array of VISCA RS-422 terminal



IN

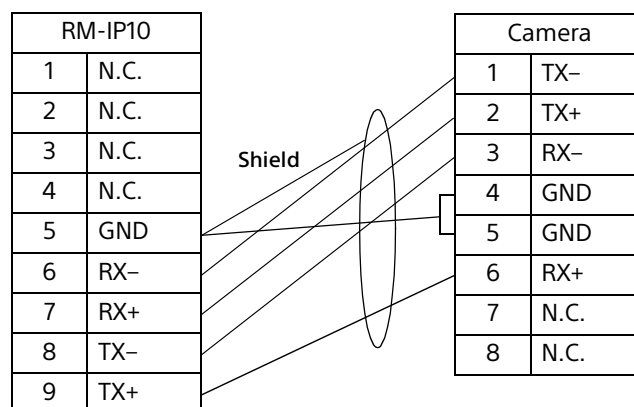
Pin No.	Function
1	TX-
2	TX+
3	RX-
4	GND
5	GND
6	RX+
7	N.C.
8	N.C.



OUT

Pin No.	Function
1	RX-
2	RX+
3	TX-
4	GND
5	GND
6	TX+
7	N.C.
8	N.C.

Connection diagram with remote control unit RM-IP10



Notes

- Connect the GNDs of both devices together to stabilize the voltage level of the signal.
- When preparing cables, use network cables of category 5e or more and equivalent to or higher than shielded twisted pair cables.

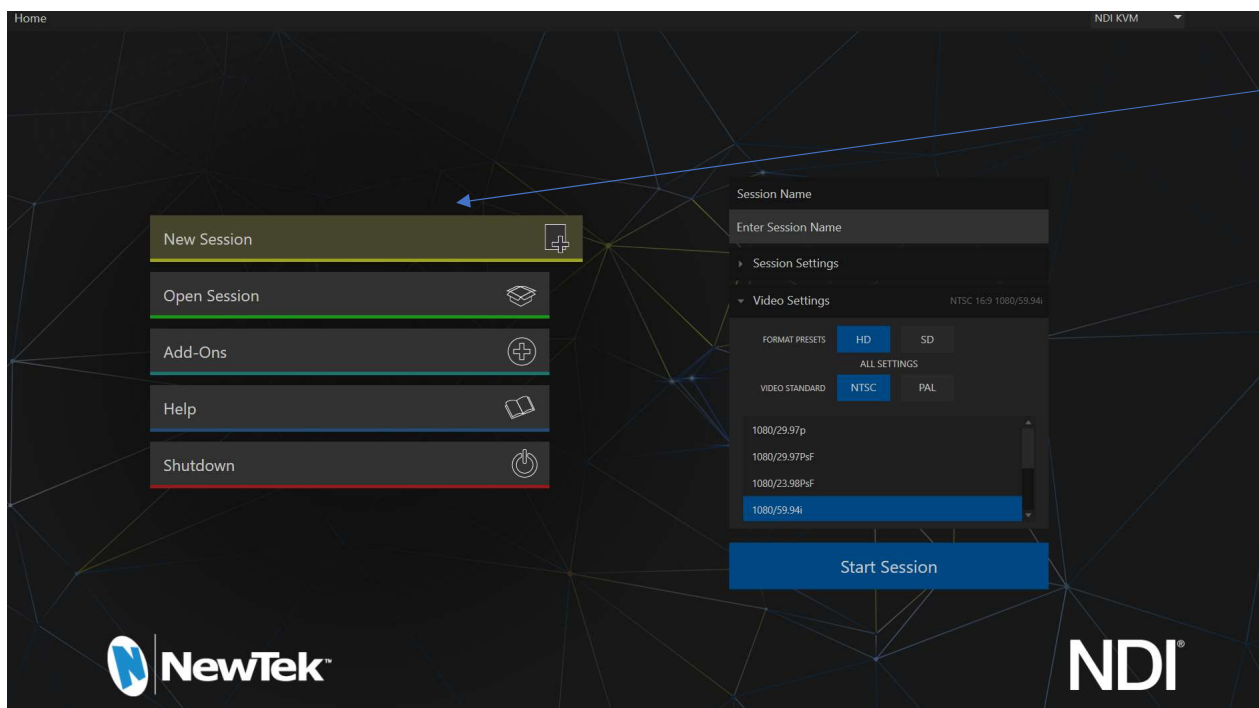


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**TREINAMENTO NEWTEK TRICASTER
SEAL BROADCAST**



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Tela Inicial para a criação do projeto.

Direcionamento
Resolução
Nome



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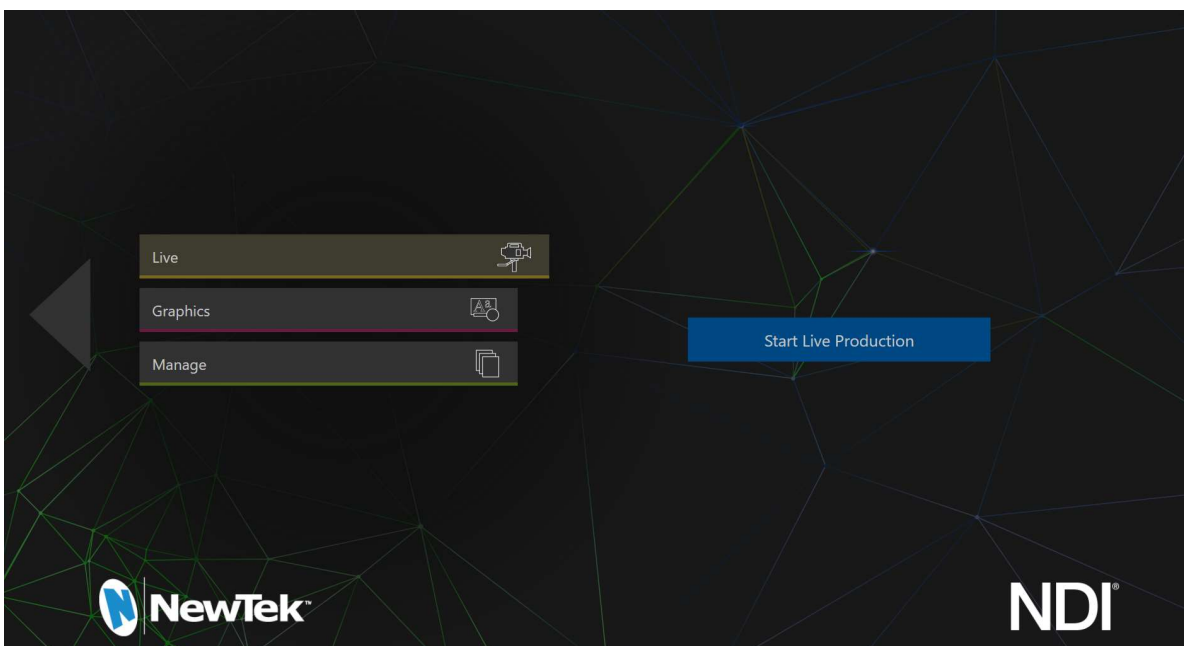
Caso já tenha criado algum projeto anterior é só ir no seu direcionamento e abrir com seus projetos montados



NDI®



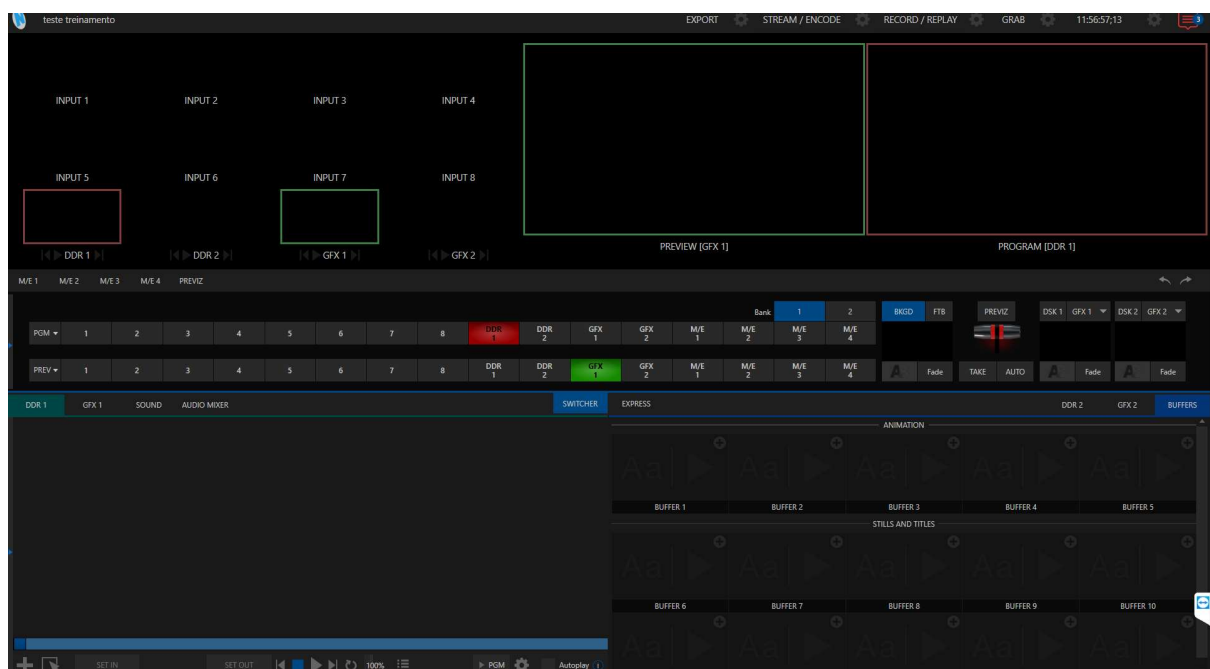
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Após escolher o projeto o operador será direcionado para a tela de Início, geração de gráficos e importação .



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**Tela principal do Software
com as três divisões de
operações.**



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teste treinamento

EXPORT



STREAM / ENCODE



RECORD / REPLAY



GRAB



11:56:57;13



INPUT 1

INPUT 2

INPUT 3

INPUT 4

INPUT 5

INPUT 6

INPUT 7

INPUT 8

DDR 1

DDR 2

GFX 1

GFX 2

PREVIEW [GFX 1]

PROGRAM [DDR 1]

Monitoração de entradas Preview e PGM



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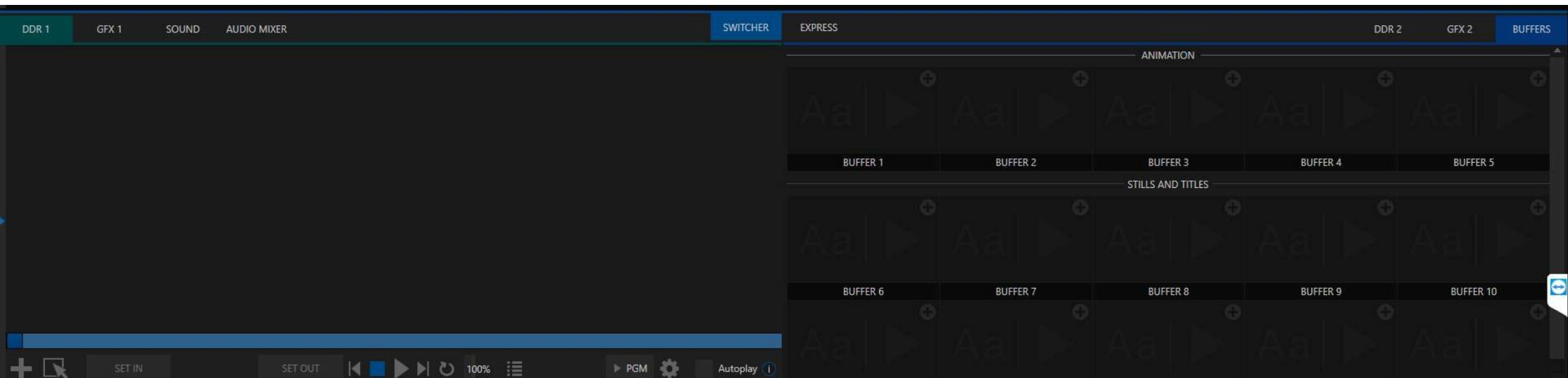
M/E 1 M/E 2 M/E 3 M/E 4 PREVIZ

																Bank	1	2			BKGD	FTB			PREVIZ			DSK 1	GFX 1	DSK 2	GFX 2
PGM ▼	1	2	3	4	5	6	7	8	DDR 1	DDR 2	GFX 1	GFX 2	M/E 1	M/E 2	M/E 3	M/E 4															
PREV ▼	1	2	3	4	5	6	7	8	DDR 1	DDR 2	GFX 1	GFX 2	M/E 1	M/E 2	M/E 3	M/E 4	A	Fade	TAKE	AUTO	A	Fade	A	Fade							

Painel do Switcher de corte e Overlay



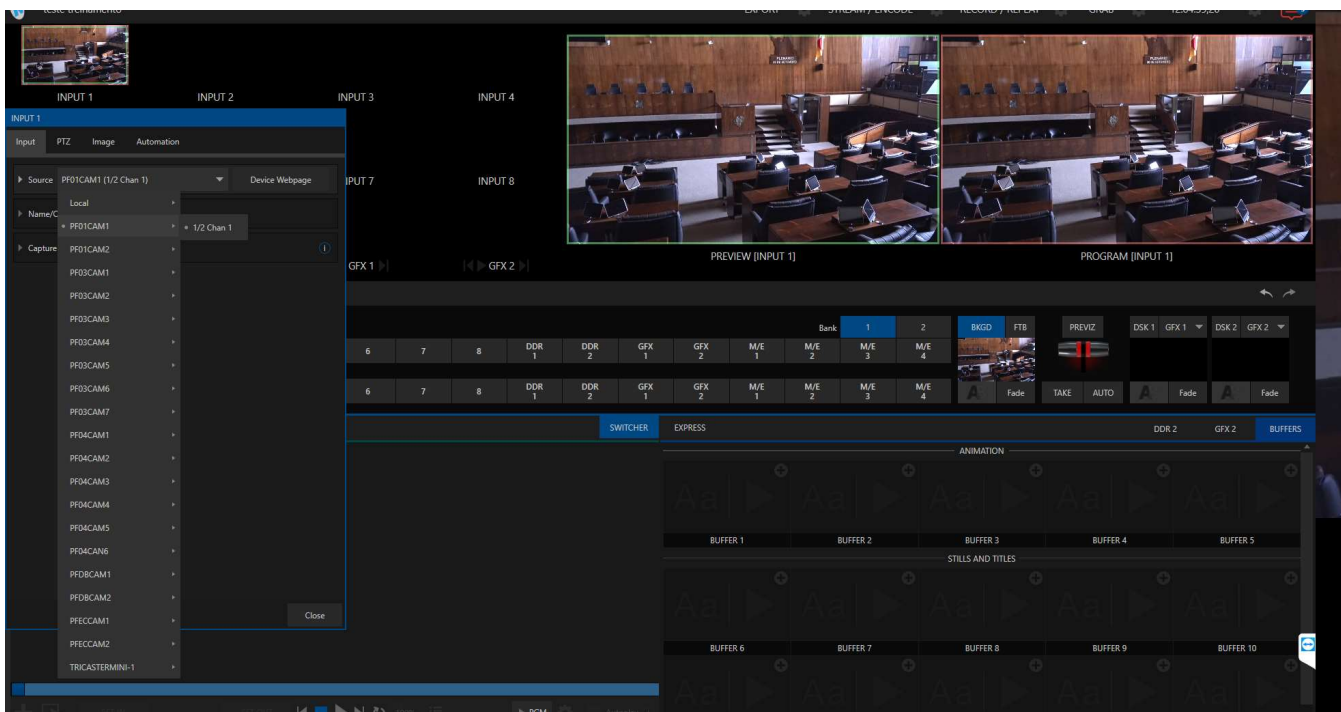
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Abas de Importação de Mídias
Vídeos
Imagens
Gráficos
Áudio



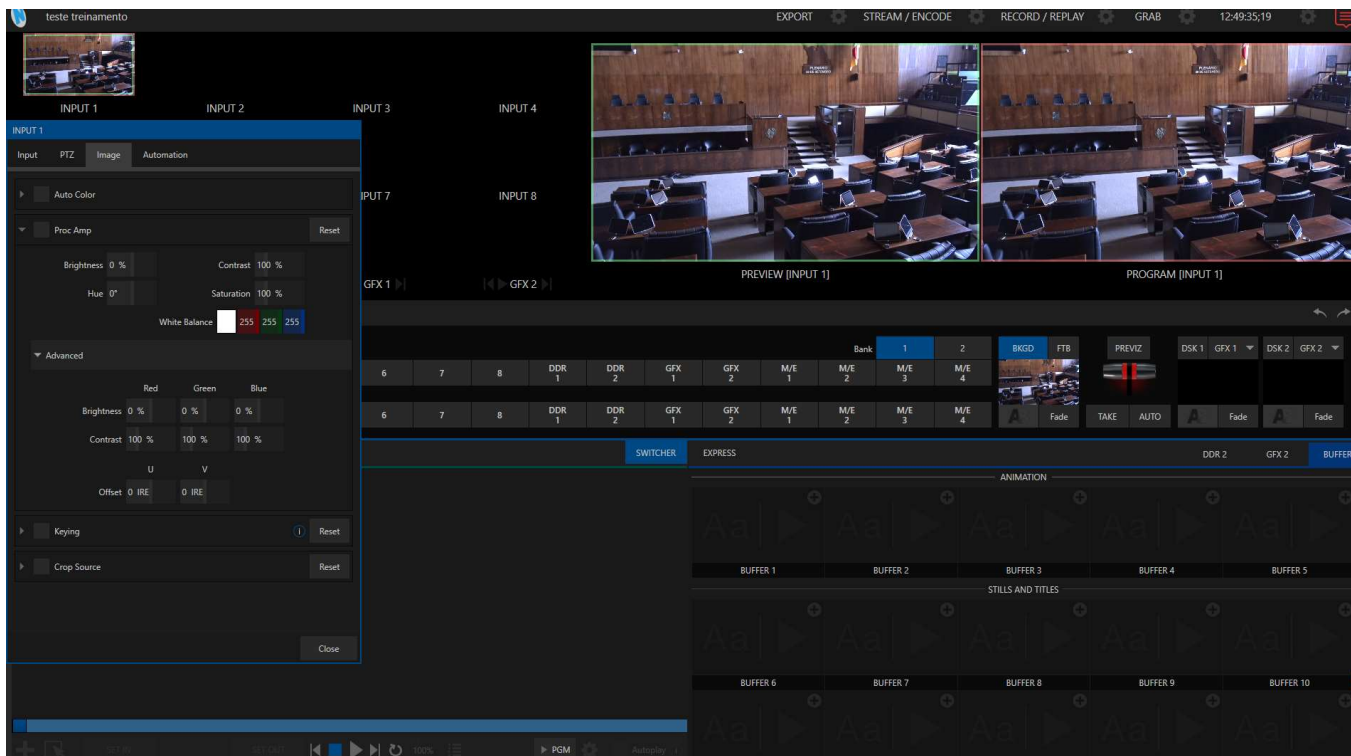
ABRACADABRAZ



Configurando as entradas físicas e NDI



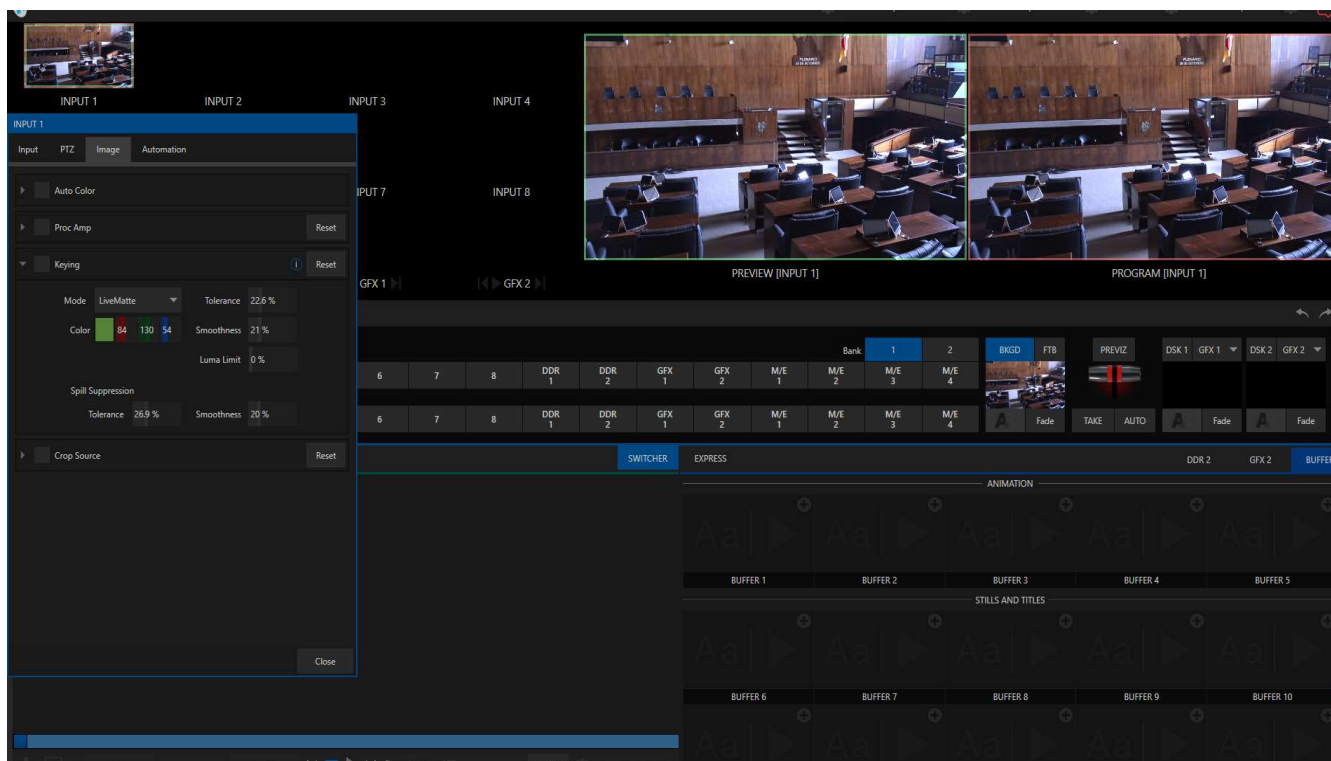
ABRACADABRAZ



Correção de cor, brilho e contraste.



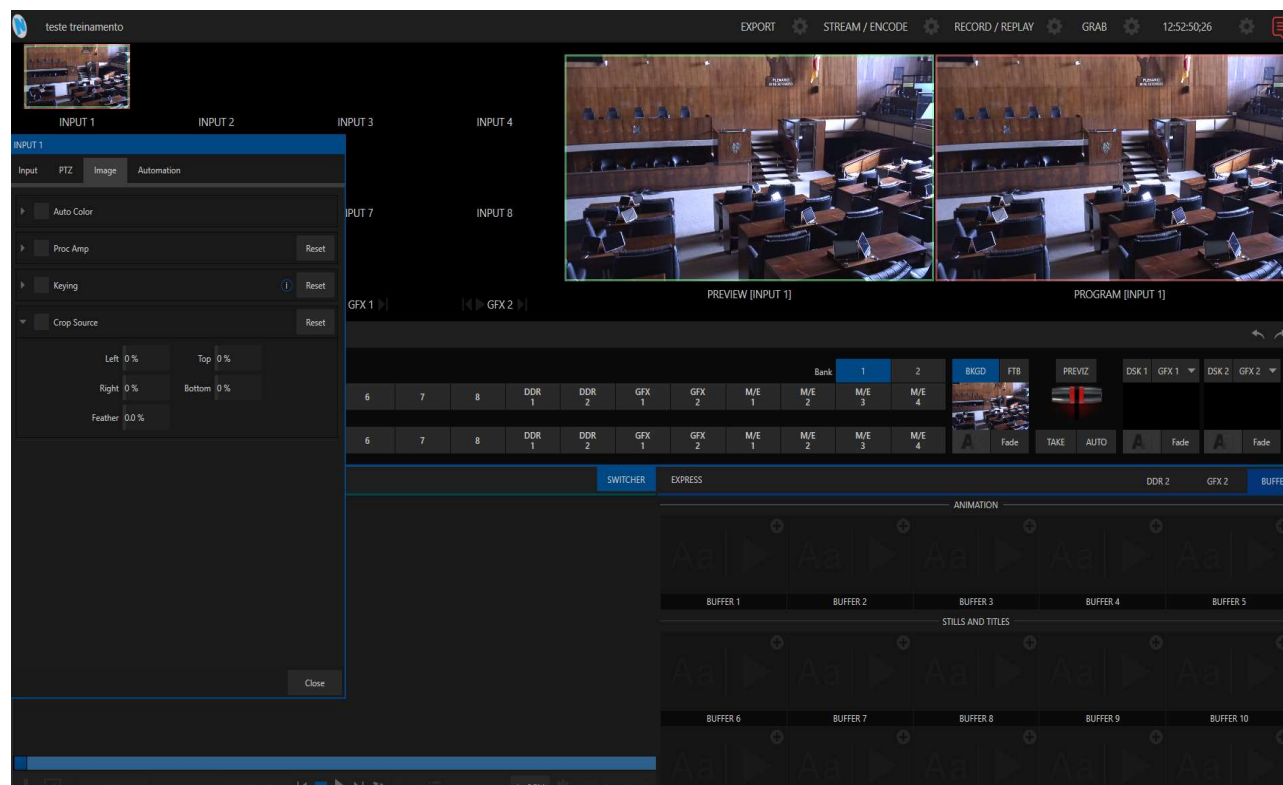
ABRACADABRAZ



**Aplicação do LiveMatte
para utilização do
chromakey**



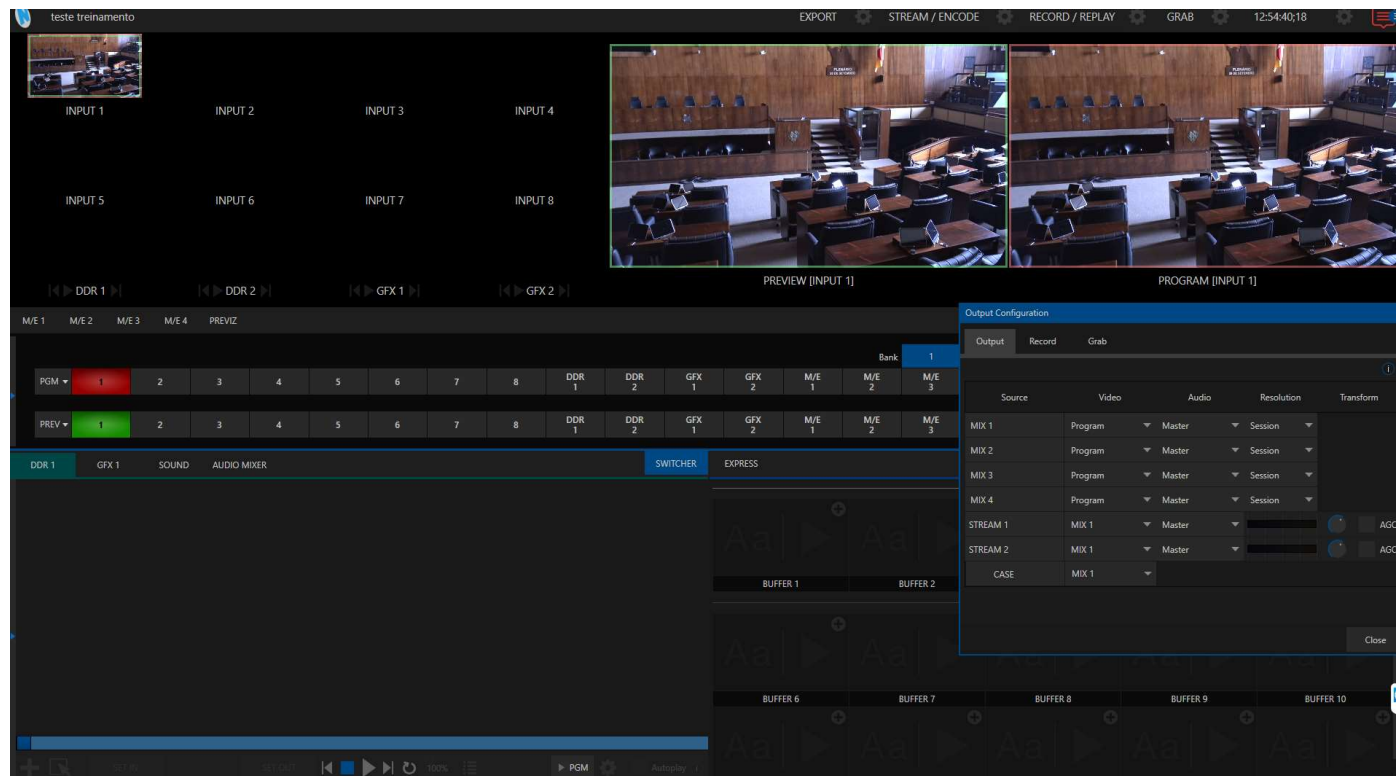
ABRACADABRAZ



Ajustando a imagem com recortes



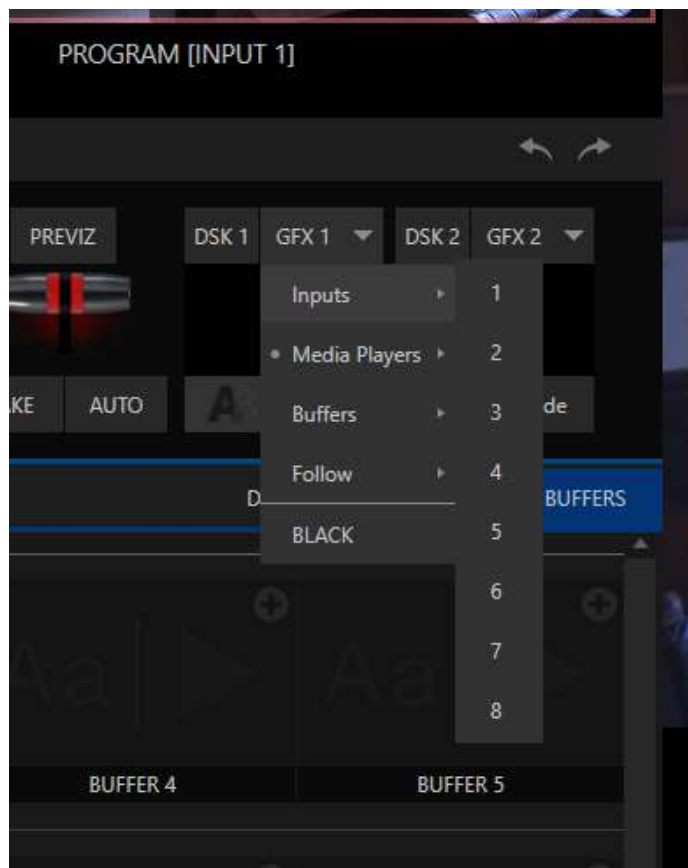
ABRACADABRAZ



**Configurando o PGM para
seus direcionamentos com
seus devidos pontos de
envio e Gravação.**



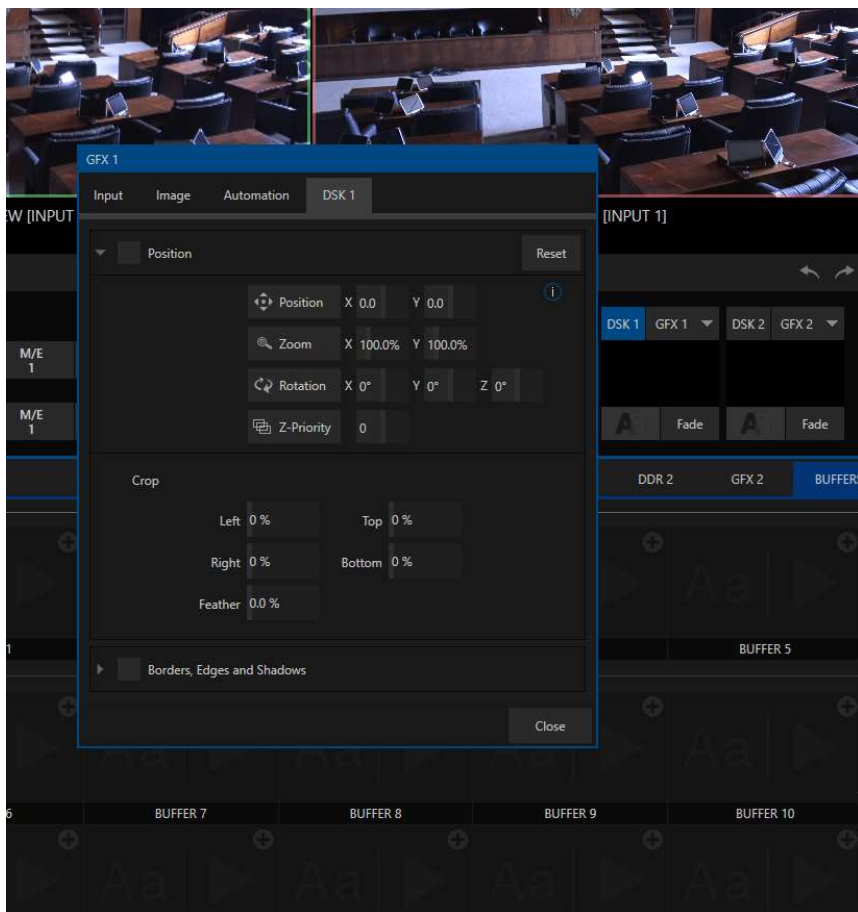
ABRACADABRAZ



Escolhendo os sinais a serem enviados nas camadas de Overlay



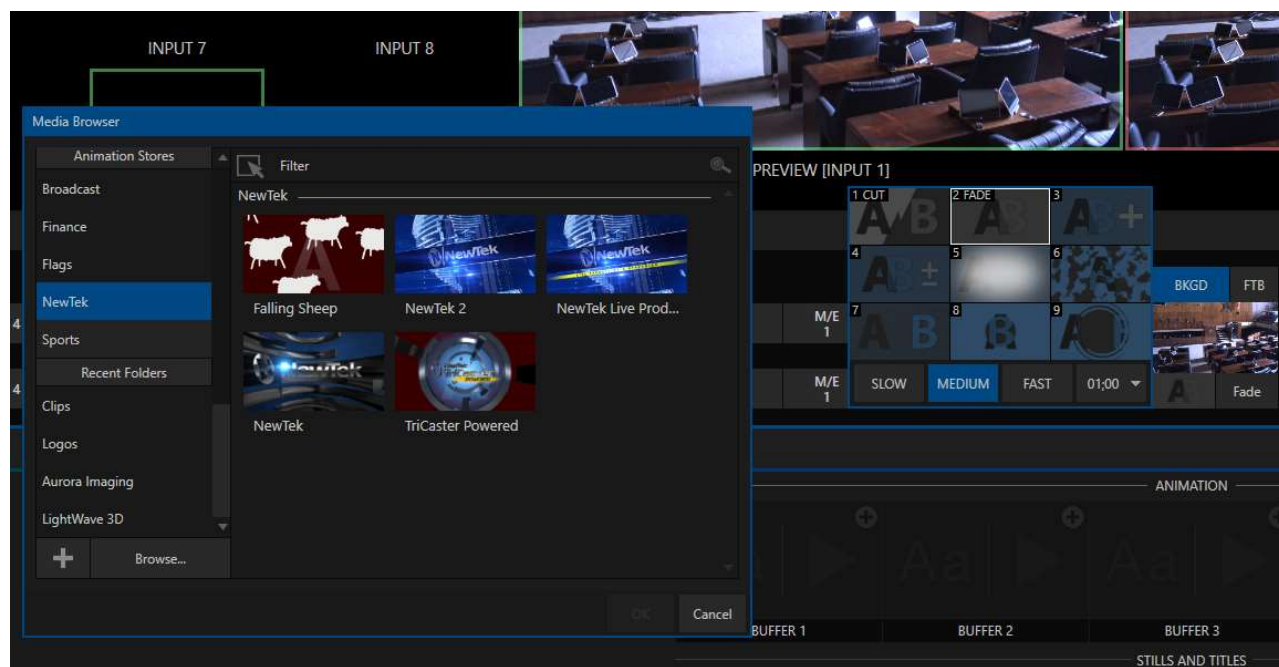
ABRACADABRAZ



**Adaptando o Overlay na
posição e tamanho desejado
no Downstream key**



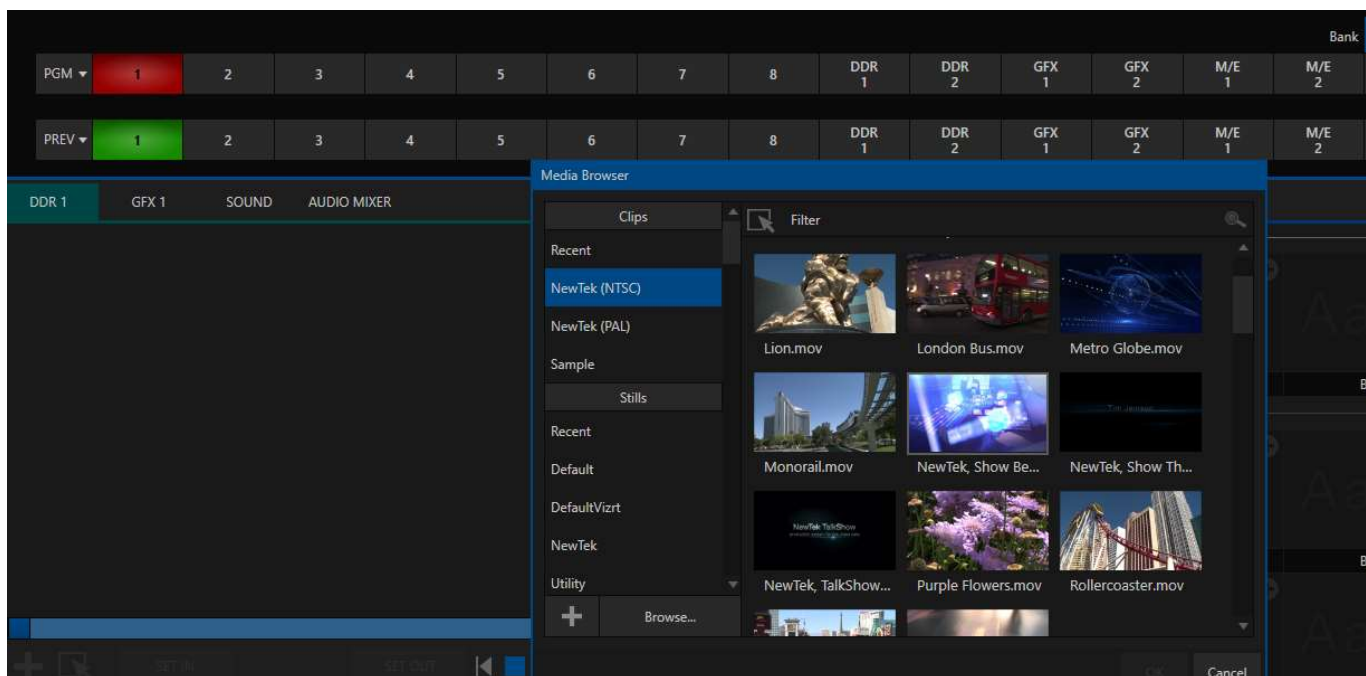
ABRACADABRAZ



Adicionando transições
animadas em 3D



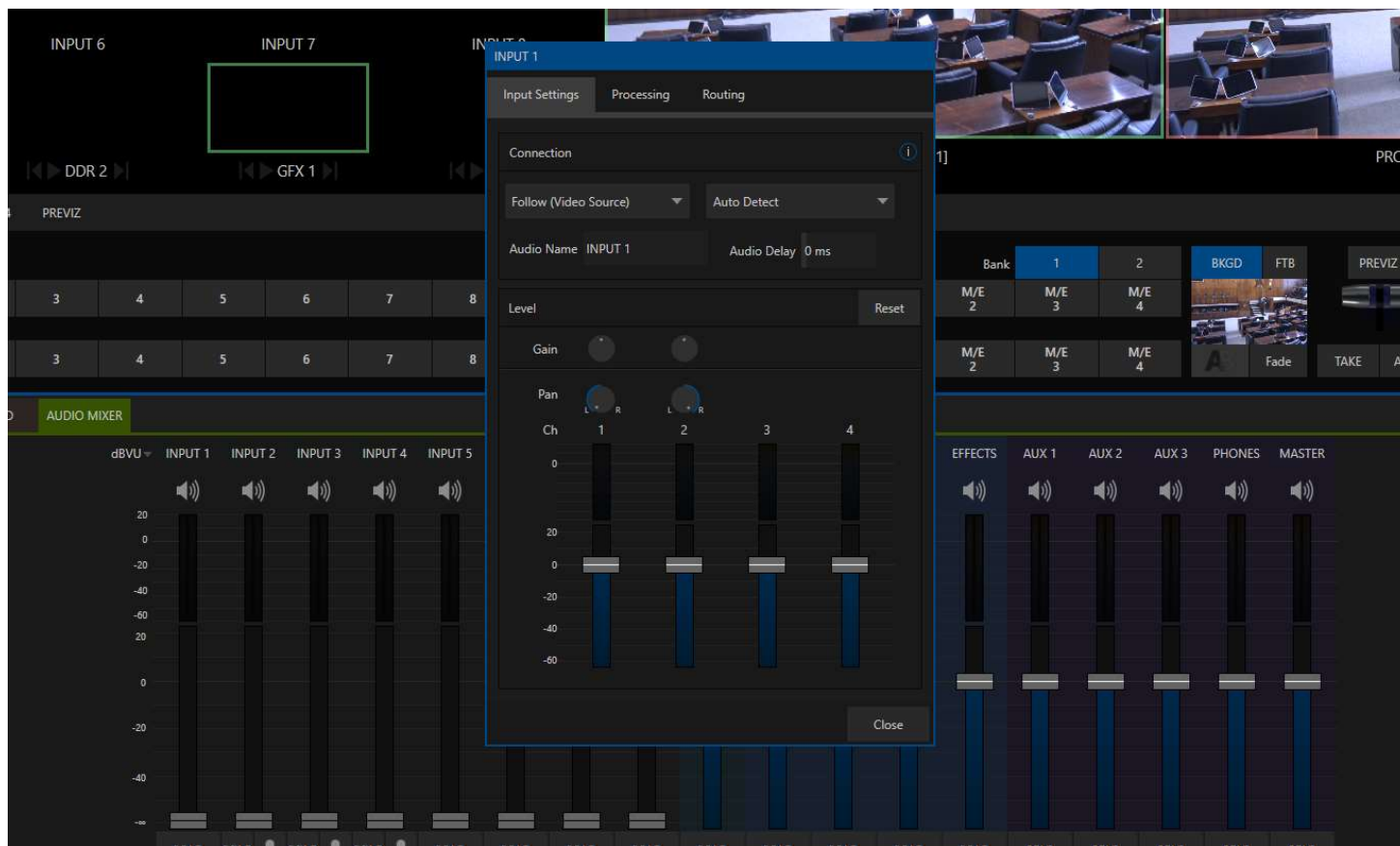
ABRACADABRAZ



**Importando mídias
(Vídeos, Imagens e Áudios).
Aprimorando o Playout**



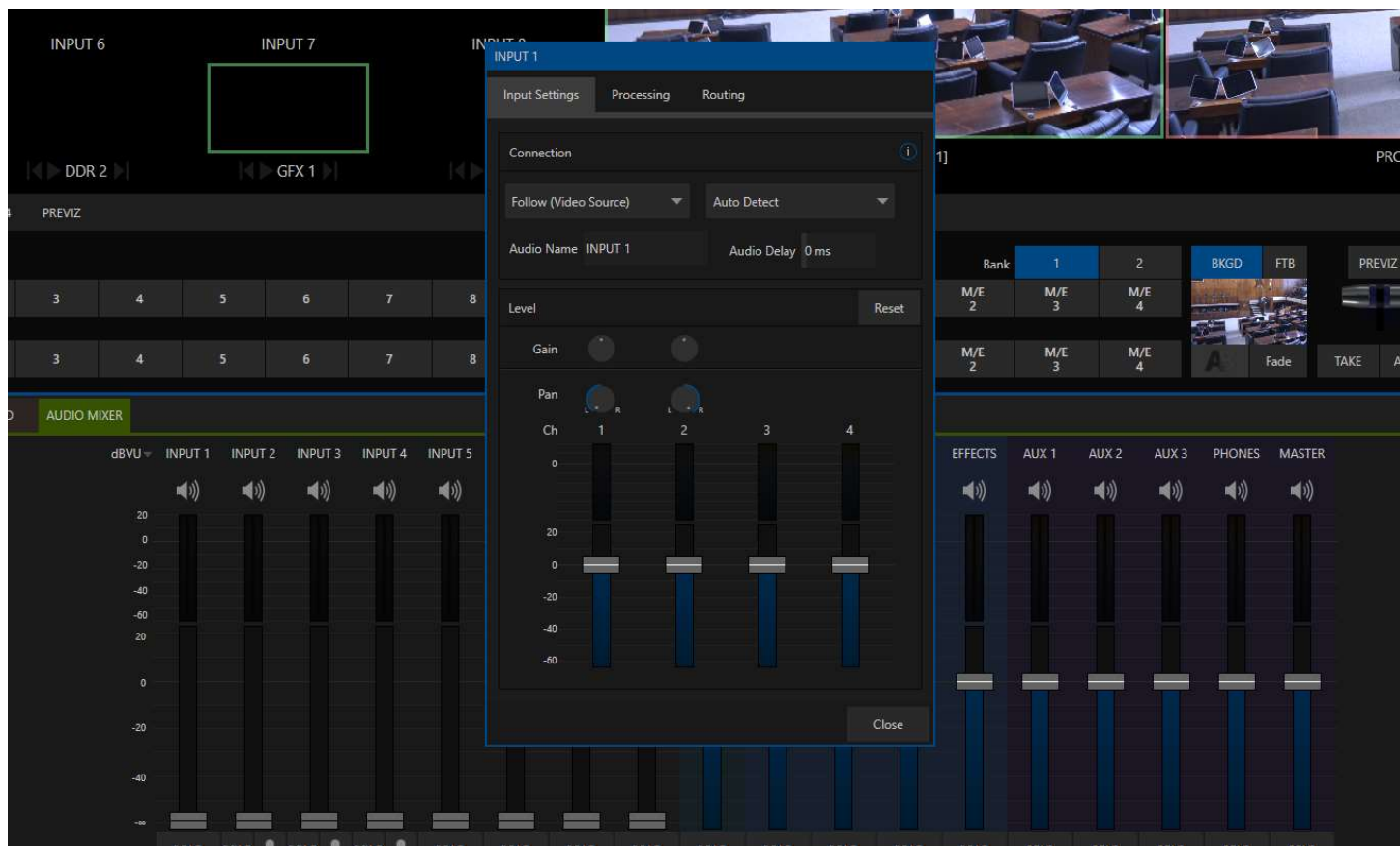
ABRACADABRAZ



**Controle do Mixer de áudio
com monitoramento dos
canais entrada e saída.**



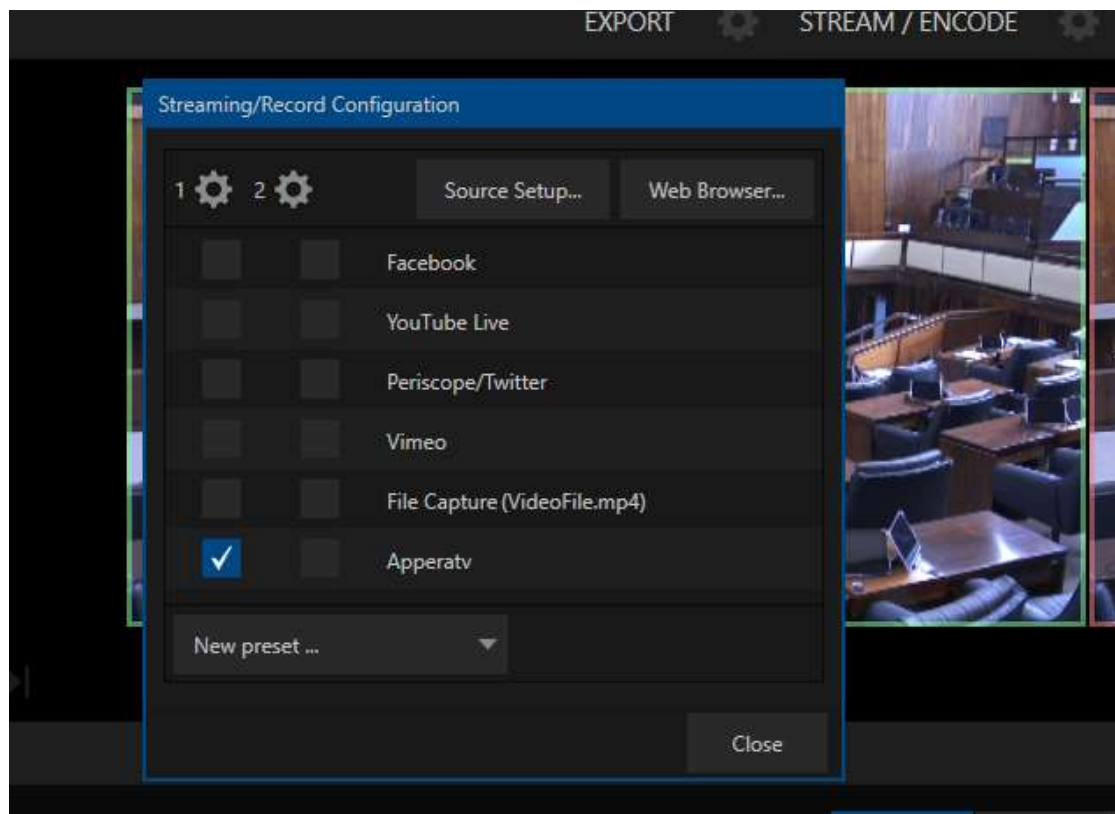
ABRACADABRAZ



**Controle do Mixer de áudio
com monitoramento dos
canais de entrada e saída.**



ABRACADABRAZ



Configurando o encoder de transmissão e direcionando o canal do Streaming customizado.



ABRACADABRAZ



Alfred Catalog

Índice

Instalando.....	3
Configurando.....	5
Iniciando o serviço	9
Resolvendo os problemas	11
Coletando as informações.....	13

Instalando

- Ubuntu 18.04 ou Ubuntu 22.04.

1. Copiar o pacote do “Catalog b18.tar.gz”, via interface gráfica (GUI).

1.1. Descompactar o arquivo.

1.2. Instalar dentro da pasta “home” por exemplo: “/home/<user>/Alfred Catalog”

2. Efetuar a atualização do sistema, via terminal (CLI).

2.1. `sudo apt-get update`

2.2. `sudo apt-get upgrade`

3. Instalar as dependências dinâmicas, via terminal (CLI).

- Ubuntu 18.04

```
sudo apt install libtinyxml2-6 libmms0 libsnappy1v5 libxcb-xinerama0
```

- Ubuntu 22.04

```
sudo apt install libmediainfo0v5 libmongoc-1.0-0 libqt5widgets5 libqt5gui5 libqt5core5a  
libqt5concurrent5 libqt5sql5
```

4. Executar o “Catalog” e efetuar as configurações necessárias.

- Windows 8.0 ou superior.

1. Copiar o pacote do "Catalog b18.zip", via interface gráfica (GUI).

- 1.1. Descompactar o arquivo.

- 1.2. Instalar na raiz da unidade "C" por exemplo: "C:\Alfred Catalog".

2. Instalar o redistributável "Microsoft Visual C++ 2010 Service Pack 1 Redistributable".

Link para download:

<https://www.microsoft.com/en-us/download/details.aspx?id=26999>

Ao carregar a página, clicar em "Download" e selecionar a opção "vc redistrib_x64.exe".

3. Executar o "Catalog.exe" e efetuar as configurações necessárias.

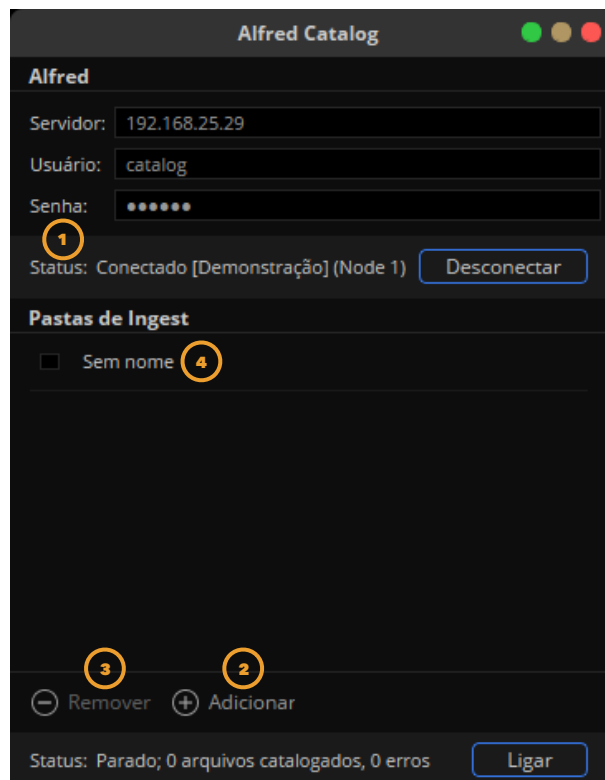
Configurando

O Alfred Catalog é responsável pela catalogação automática do material para o Servidor “Alfred MAM”. Todo o material salvo na pasta vigiada é catalogado no Alfred Server.

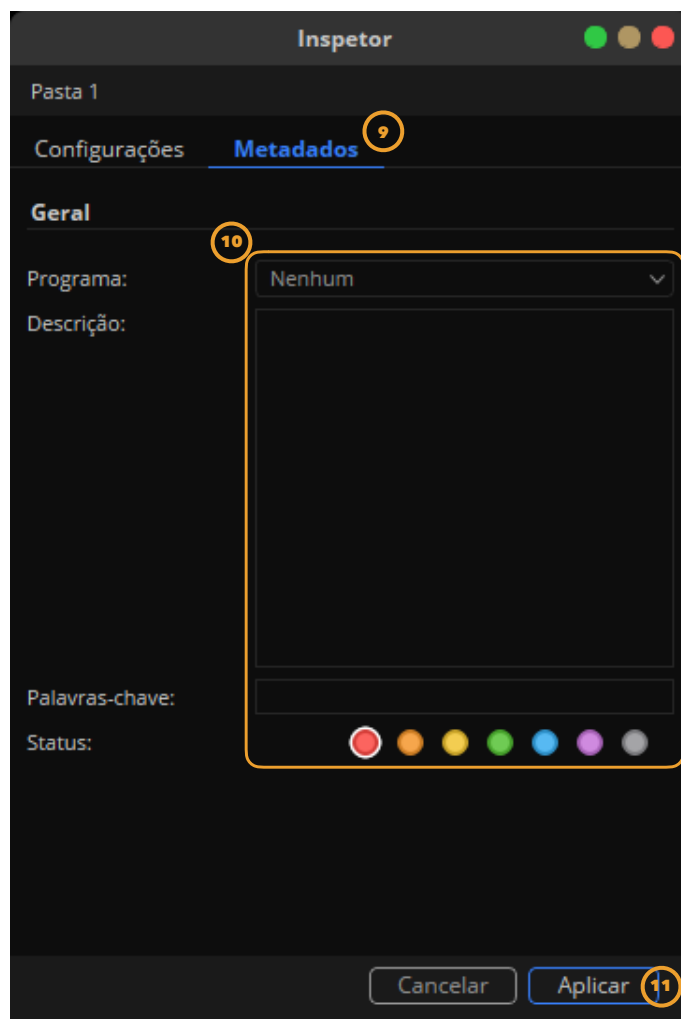
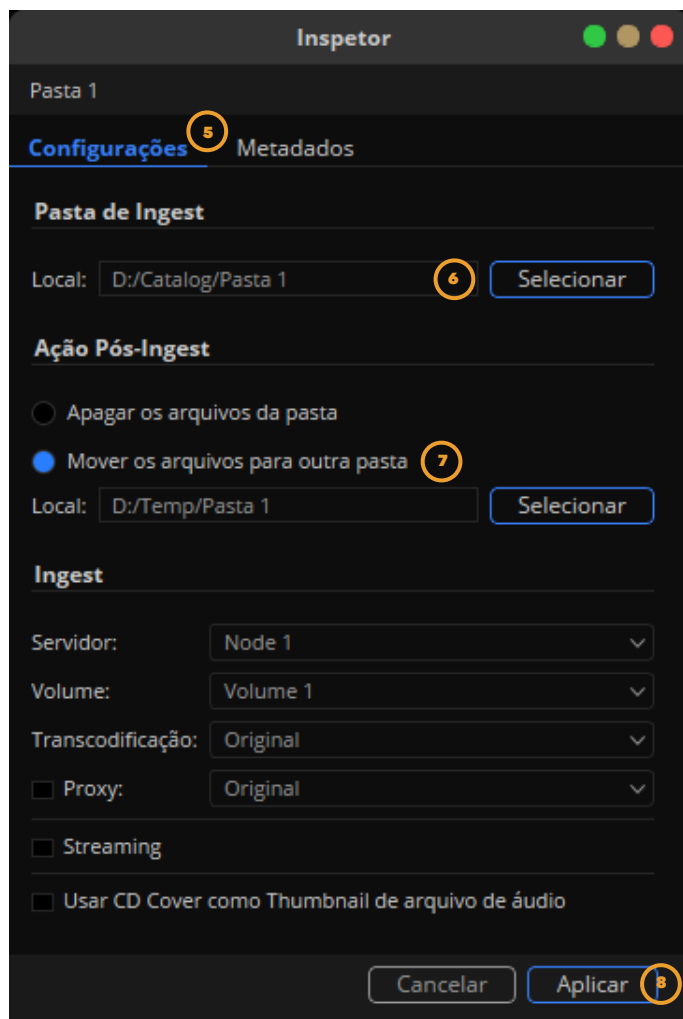


- 1 Entre com o IP do servidor “Alfred MAM” para catalogação automática do material.
- 2 Entre com o nome da conta do “Usuário Catalog” registrado no servidor “Alfred MAM”.
- 3 Entre com a senha da conta do “Usuário Catalog” registrado no servidor “Alfred MAM”.
- 4 Clicar em “Conectar”.

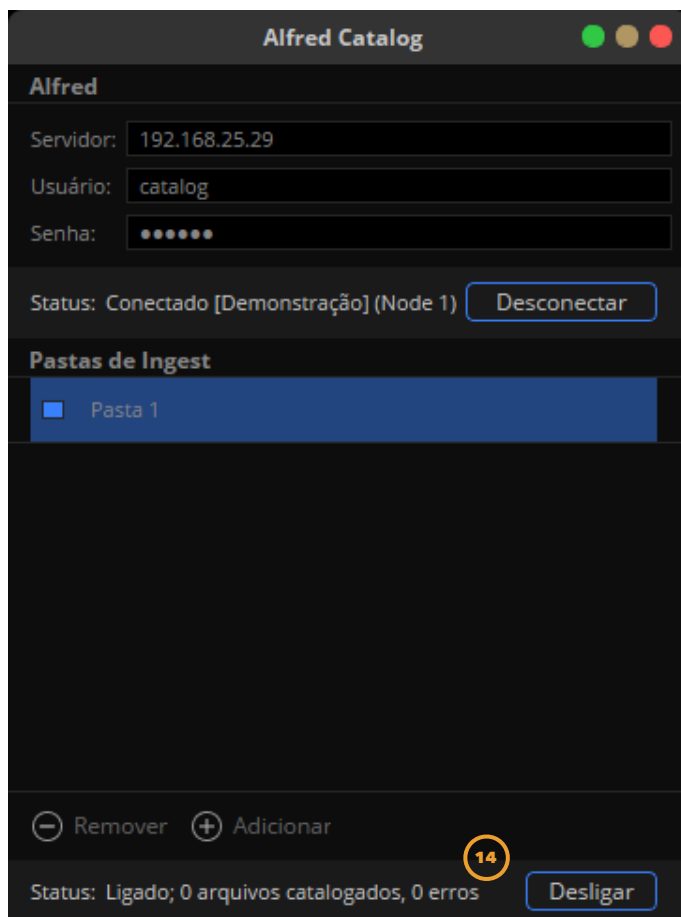
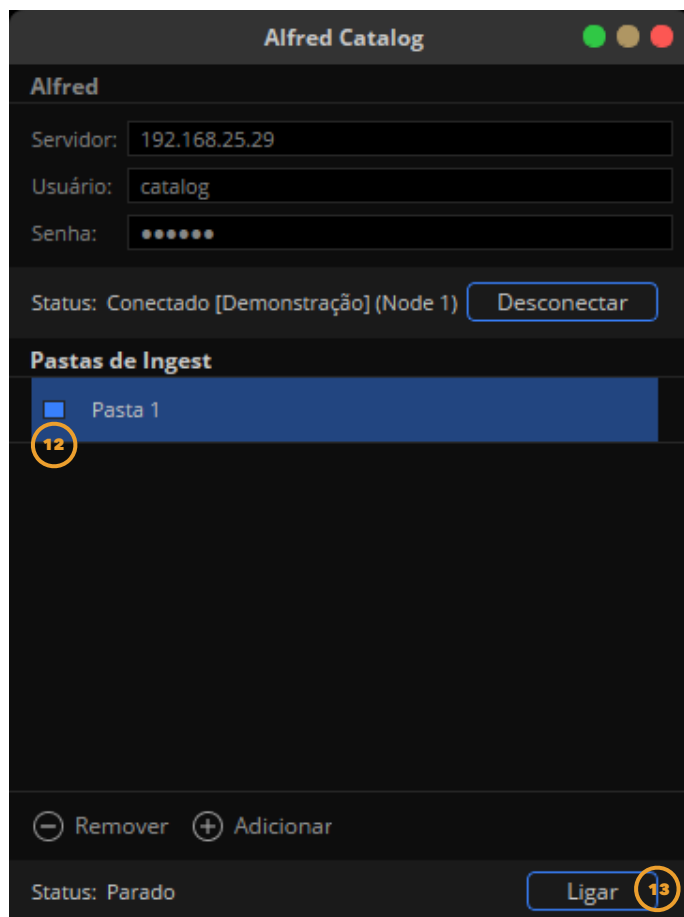
- Após clicar em “Conectar”, aguardar a confirmação de conexão do Alfred, observar informações do “Status” da conexão conforme figura abaixo.



- 1 Com a confirmação do “Status: Conectado”, prosseguir com as configurações adicionais.
- 2 Clicar em “Adicionar”, para criar uma “Pasta de Ingest”. Por padrão o nome da pasta nova será criada “Sem nome”.
- 3 Clicar em “Remover”, para remover a “Pasta de Ingest” selecionada.
- 4 Clicar duas vezes na “Pasta de Ingest” criada para efetuar as configurações da pasta e dos metadados.



- 5 Selecionar a aba "Configurações".
- 6 Selecionar o caminho da "Pasta de Ingest" a ser monitorada.
- 7 Selecionar a "Ação Pós-Ingest" para "Mover os arquivos para outra pasta" e selecionar o caminho da pasta.
- 8 Clicar em "Aplicar".
- 9 Selecionar a aba "Metadados".
- 10 Configurar as informações de metadados para a pasta de ingest selecionada.
- 11 Clicar em "Aplicar".



- 12 Habilitar a pasta de ingest.
- 13 Clicar em "Ligar" para iniciar o serviço.
- 14 Após ligar o serviço, observar a informação do "Status" do serviço que deverá estar em "Ligado".

Iniciando o serviço

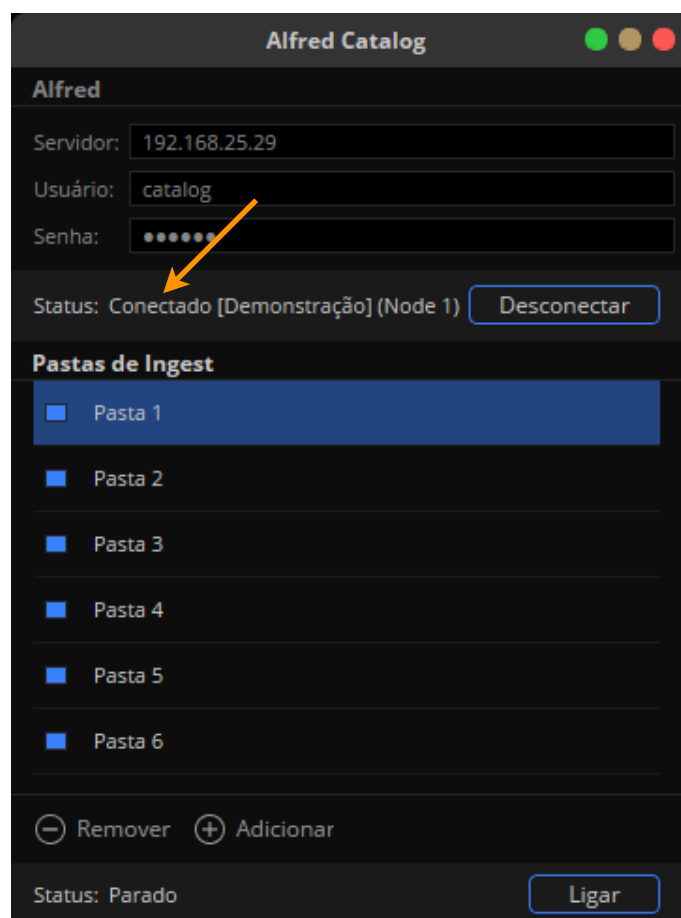
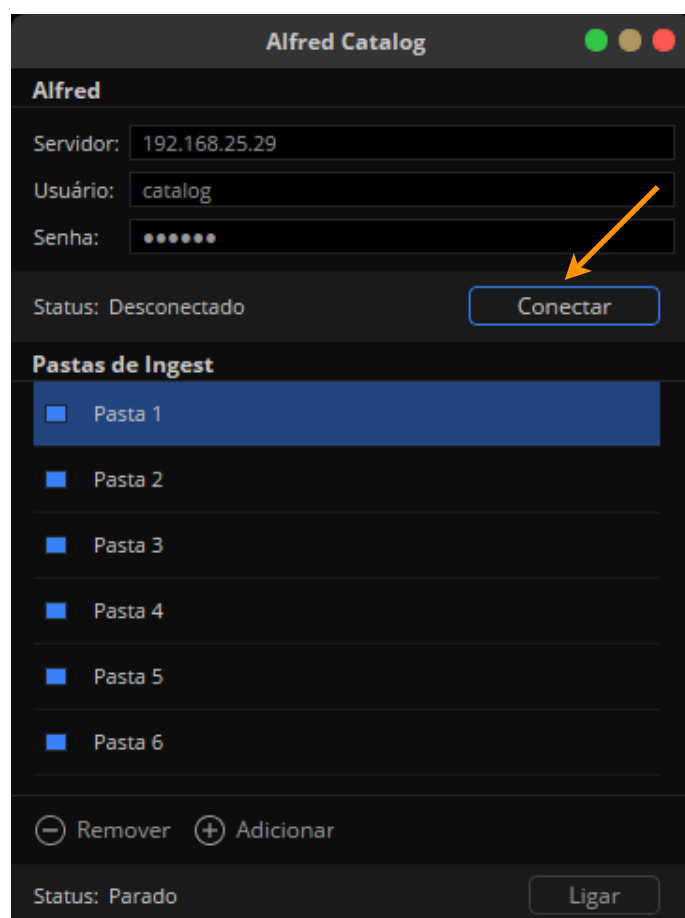
1. O aplicativo “Catalog” estará localizado respectivamente nas pastas:

Sistema Operacional:	Localizado em:	Nome do aplicativo:
Ubuntu 18.04 ou Ubuntu 22.04.	“/home/<user>/Alfred Catalog”	Catalog
Windows 8 ou superior.	“C:\Alfred Catalog\Catalog.exe”	Catalog.exe

2. Clicar em “Conectar” e confirmar a condição:

“Status: Conectado [Installation Name] (Node Name)”.

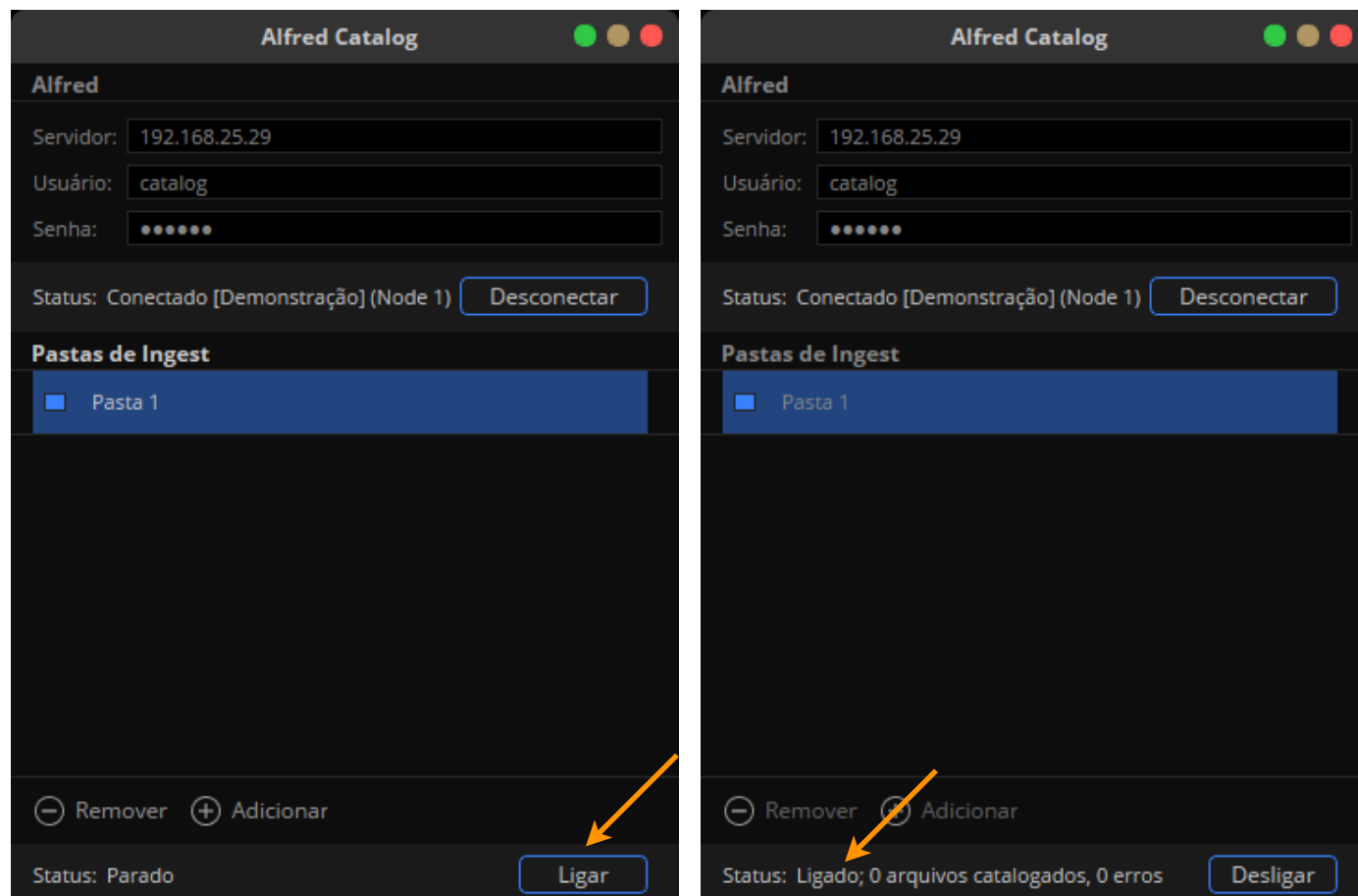
Observar figura abaixo:



3. Clicar em “Ligar” e confirmar a condição:

“Status: Ligado; 0 arquivos catalogados, 0 erros”;

Observar figura abaixo:



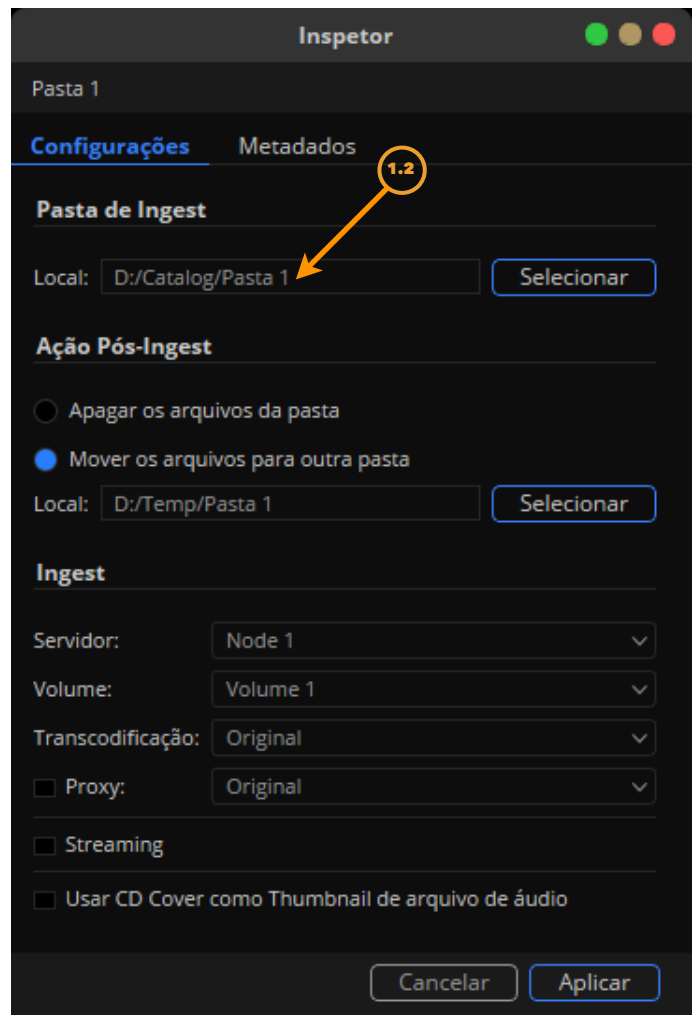
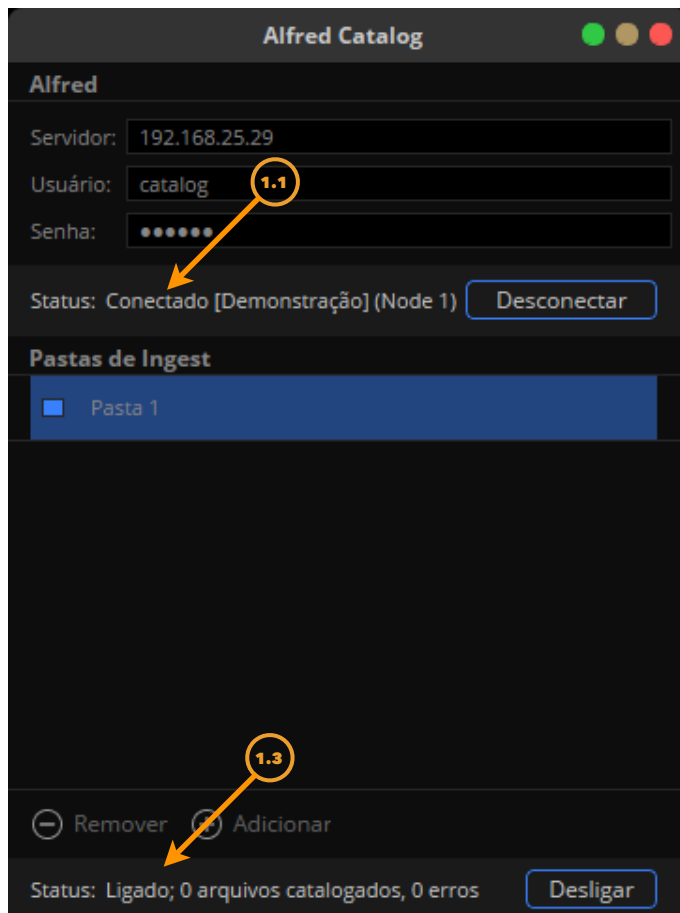
Observação

- As informações de catalogação e erros de catalogação dos ativos são informadas no “Status”.

Resolvendo os problemas

As informações abaixo devem ser seguidas em caso de problemas de acesso pelo “Alfred Catalog” junto ao “Alfred MAM”.

1. Problema: Material não está sendo catalogado para o “Alfred MAM”.
 - 1.1. Verificar o “Status” da conexão do “Alfred Catalog” e confirmar se está conectado:
“Status: Conectado [Installation] (Node 1)”.
 - 1.2. Verificar se a pasta de ingest está configurada corretamente.
 - 1.3. Verificar o “Status” do serviço do “Alfred Catalog” e confirmar se está na condição de “Parado” ou “Ligado”.



2. Problema: Não é possível alterar as opções de configuração do "Alfred Catalog".
 - 2.1. Para alterar as opções de configuração do "Alfred Catalog" é necessário "Desligar" o serviço.
 - 2.2. Não será necessário "Desconectar" a conexão junto ao "Alfred Server".
3. Problema: O arquivo original não está sendo "movido" da pasta de ingest após a catalogação.
 - 3.1. Com a opção "Mover os arquivos para outra pasta" habilitada (Ação Pós-Ingest), verificar se o caminho da pasta está correto ou se a pasta existe.
4. Problema: Ao executar o "Alfred Catalog" (Versão Windows) o aplicativo não abre.
 - 4.1. Verificar o arquivo de "Log" que se encontra localizado dentro da pasta "C:\Alfred Catalog\Log\", procurar o arquivo com a respectiva data de abertura do programa no formato "MM.DD.AAAA.log".
 - 4.2. Verificar se existe o erro: "TLS initialization failed".
 - 4.3. Caso exista o erro acima descrito, instalar o redistributável Microsoft Visual C++ 2010.
Link para download:
<https://www.microsoft.com/en-us/download/details.aspx?id=26999>
Clicar em "Download" e selecionar a opção "vcredist_x64.exe".

Coletando as informações

É de suma importância a coleta das informações dos arquivos de “logs” para a resolução de problemas, sendo assim as informações abaixo visam fornecer a localização dos arquivos de “logs” gerados pelo software “Alfred Catalog”.

“/home/<user>/Catalog” (Pasta)

 /Logs (sub-pasta)

 MM.DD.AAAA.log (Arquivo)

Observação: O conteúdo da pasta “Logs” deverá ser enviado para Alfred, é importante que os arquivos enviados contenham os logs com a data exata em que os problemas ocorreram.

Histórico de versões deste documento	
12.05.2021	Criação do documento.
28.09.2021	Alteração do documento.
07.10.2021	Alteração do documento.
12.02.2023	Adição das informações para o Ubuntu 22.04.



Alfred Ingest

Índice

Instalando.....	3
Licenciando.....	4
Configurando.....	5
Resolvendo os problemas.....	8
Coletando as informações.....	10

Instalando

- Ubuntu 22.04.

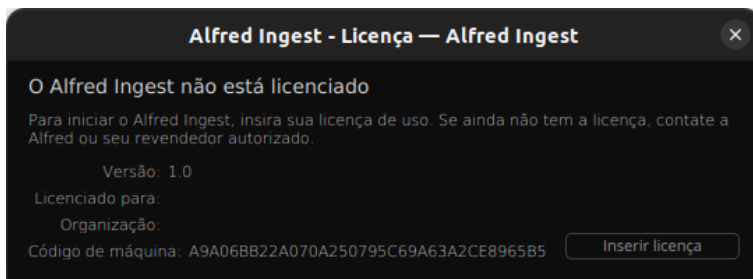
1. Copiar o pacote do "Ingest b19.tar.gz", via interface gráfica (GUI).
 - 1.1. Descompactar o arquivo.
 - 1.2. Instalar dentro da pasta "home" por exemplo: "/home/alfred/Alfred Ingest"
2. Efetuar a atualização do sistema, via terminal (CLI).
 - 2.1. `sudo apt-get update`
 - 2.2. `sudo apt-get upgrade`
3. Instalar as dependências dinâmicas, via terminal (CLI).
 - 3.1. `sudo apt install vlc libnppig11 libnppicc11 libnppidei11 libdavs2-16 libopenh264-6 libopencore-amrwb0 libopencore-amrnb0 libfdk-aac2 libvo-amrwbenc0 libxavs2-13`
4. Executar o "Alfred Ingest" e efetuar o licenciamento.

Licenciando

Ao executar o “Alfred Ingest” pela primeira vez, será necessário efetuar o licenciamento do software, seguir os procedimentos abaixo:

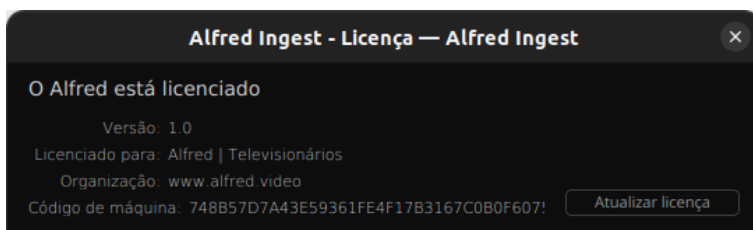
1. Executar o “Alfred Ingest”.
2. Será exibido uma tela com a seguinte informação:

“O Alfred Ingest não está licenciado”



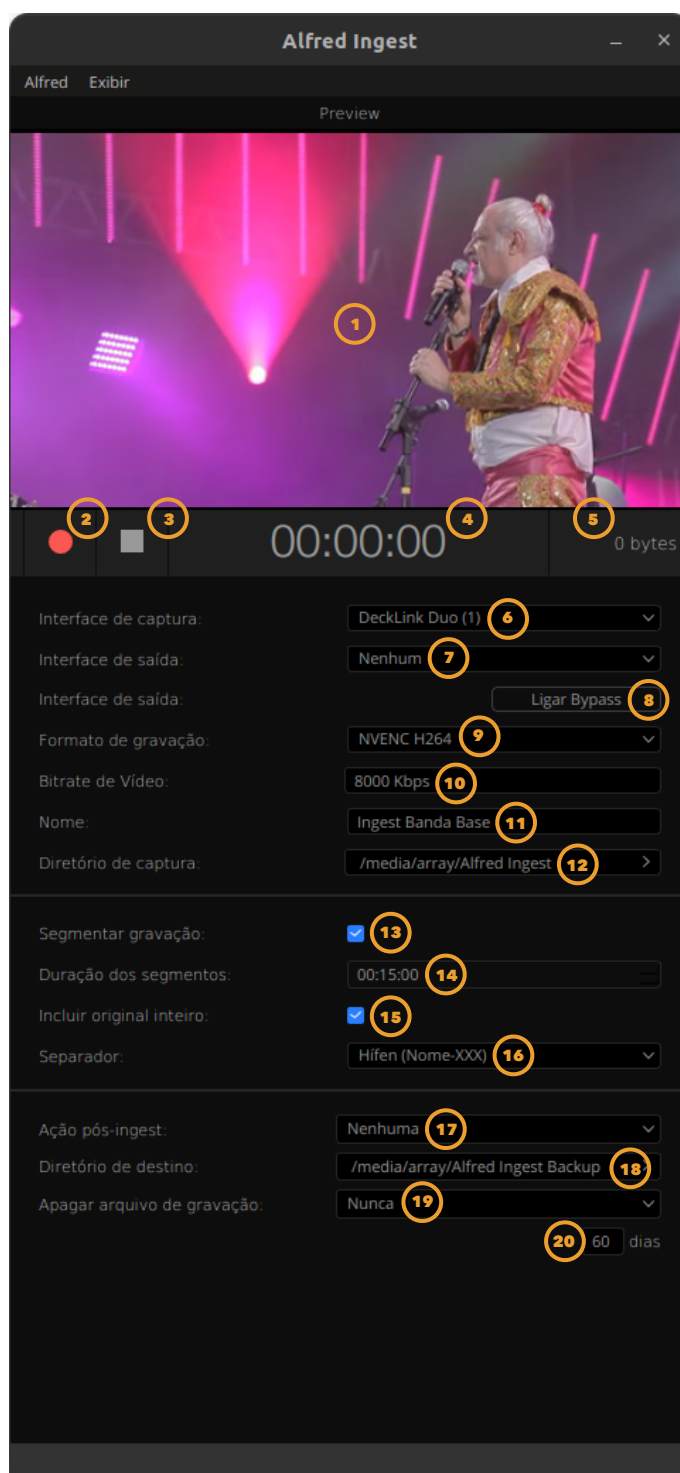
3. Coletar a informação do “código de máquina” para a geração do arquivo de licença.
 - 3.1. Você poderá coletar a informação do “código de máquina” posicionando o cursor do mouse em cima dos números e selecionar a opção copiar.
4. Salvar o “código de máquina” em um arquivo texto e enviar a informação para a “Alfred”.
5. Será criado um arquivo de licença com o nome: “lic.alf”.
6. O arquivo “lic.alf” deverá ser colocado dentro da pasta: “/home/alfred/Alfred Ingest/bin”.
7. Executar o “Alfred Ingest” e confirmar o licenciamento navegando até o menu “Alfred” na opção “Licença”, será exibido uma tela com a seguinte informação:

“O Alfred está licenciado”



Configurando

O Alfred Ingest é responsável pela captura de material banda base, via conexão SDI, podendo trabalhar com até 4 canais, com integração com a suite de software da Alfred (Alfred Catalog e Alfred MAM) para catalogação automática e gerenciamento dos videos capturados.



- 1 Área de visualização (Preview).
- 2 Botão: "Gravar".
- 3 Botão: "Parar".
- 4 Contador de tempo em "HH:MM:SS": Informação do tempo do arquivo em gravação.
- 5 Tamanho: Informação do tamanho do arquivo em gravação.
- 6 Interface de captura: Seleciona a interface de captura.
 - Nenhum,
 - Decklink Duo (1),
 - Decklink Duo (2),
 - Decklink Duo (3),
 - Decklink Duo (4).
- 7 Interface de saída: Seleciona a interface de saída para uso com o "Bypass" de sinal.
 - Nenhum,
 - Decklink Duo (1),
 - Decklink Duo (2),
 - Decklink Duo (3),
 - Decklink Duo (4).
- 8 Interface de saída - Ligar Bypass: Liga/Desliga o Bypass do sinal de entrada.

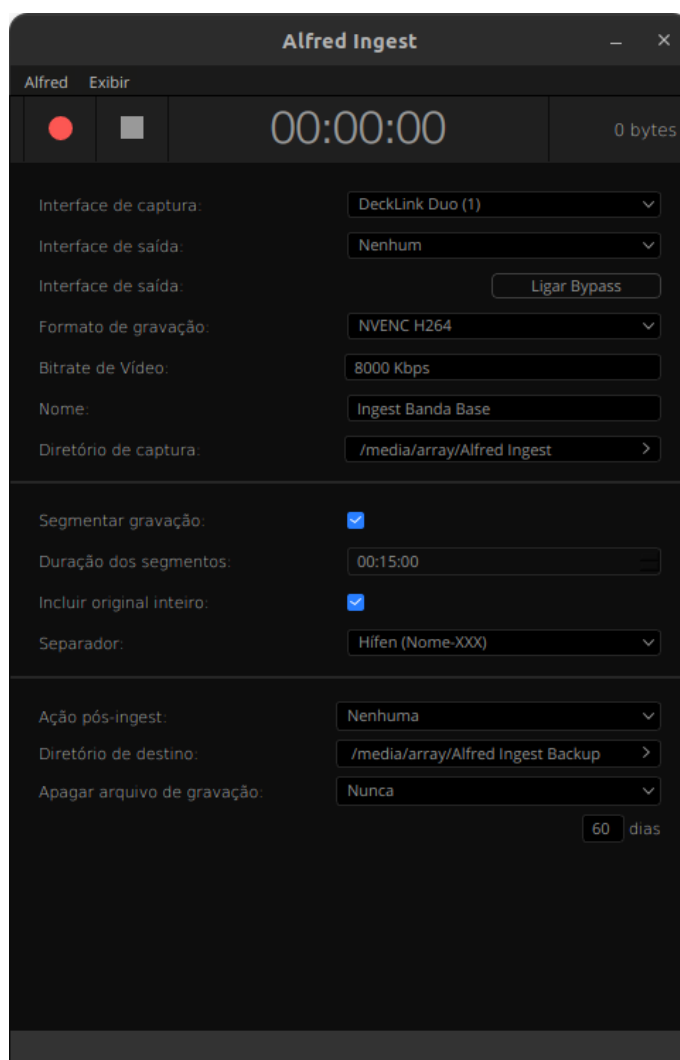
Observação: Esta opção só estará disponível, caso seja efetuado a seleção da "Interface de saída" para alguma das portas disponíveis da placa Decklink Duo.
- 9 Formato de gravação: Seleciona o formato de gravação.
 - NVENC H264
 - XDCAM HD 25Mbits
 - XDCAM HD 35Mbits.
 - XDCAM HD 50Mbits
- 10 Bitrate de vídeo: Seleciona do bitrate da gravação do vídeo, valores em Kbps.
- 11 Nome: Seleciona o nome do arquivo.
- 12 Diretório de captura: Seleciona o diretório onde será salvo o arquivo de ingest.

- 13 Segmentar gravação: "Check box" para ligar a segmentação do arquivo em gravação.
- 14 Duração dos segmentos: Seleciona a duração da segmentação do arquivo de ingest.
Observação: Esta opção só estará disponível, caso a opção "Segmentar gravação" esteja ligada.
- 15 Incluir original inteiro: "Check box" para ligar o salvamento do arquivo inteiro, sem a segmentação.
- 16 Separador: Seleciona o separado para a segmentação do arquivo de ingest.
Observação: Esta opção só estará disponível, caso a opção "Segmentar gravação" esteja ligada.
- Hífen (Nome-XXX)
Exemplo: Ingest-001.mp4
 - Underline (Nome_XXX)
Exemplo: Ingest_001.mp4
 - Ponto (Nome.XXX)
Exemplo: Ingest.001.mp4
- 17 Ação pós-ingest.
- Nenhuma,
 - Copiar para:
- 18 Diretório de destino.
Observação: Esta opção só estará disponível, caso a opção "Ação pós-ingest" esteja selecionada em "Copiar para:".
- 19 Apagar arquivo de gravação:
- Nunca,
 - Imediatamente após a cópia,
 - Determinar dias após a cópia.
- 20 Determina em quantos dias o arquivo será apagado: 60 dias (Padrão).
Observação: Esta opção só estará disponível, caso a opção "Apagar arquivo de gravação" esteja selecionada para "Determinar dias após a cópia".

Resolvendo os problemas

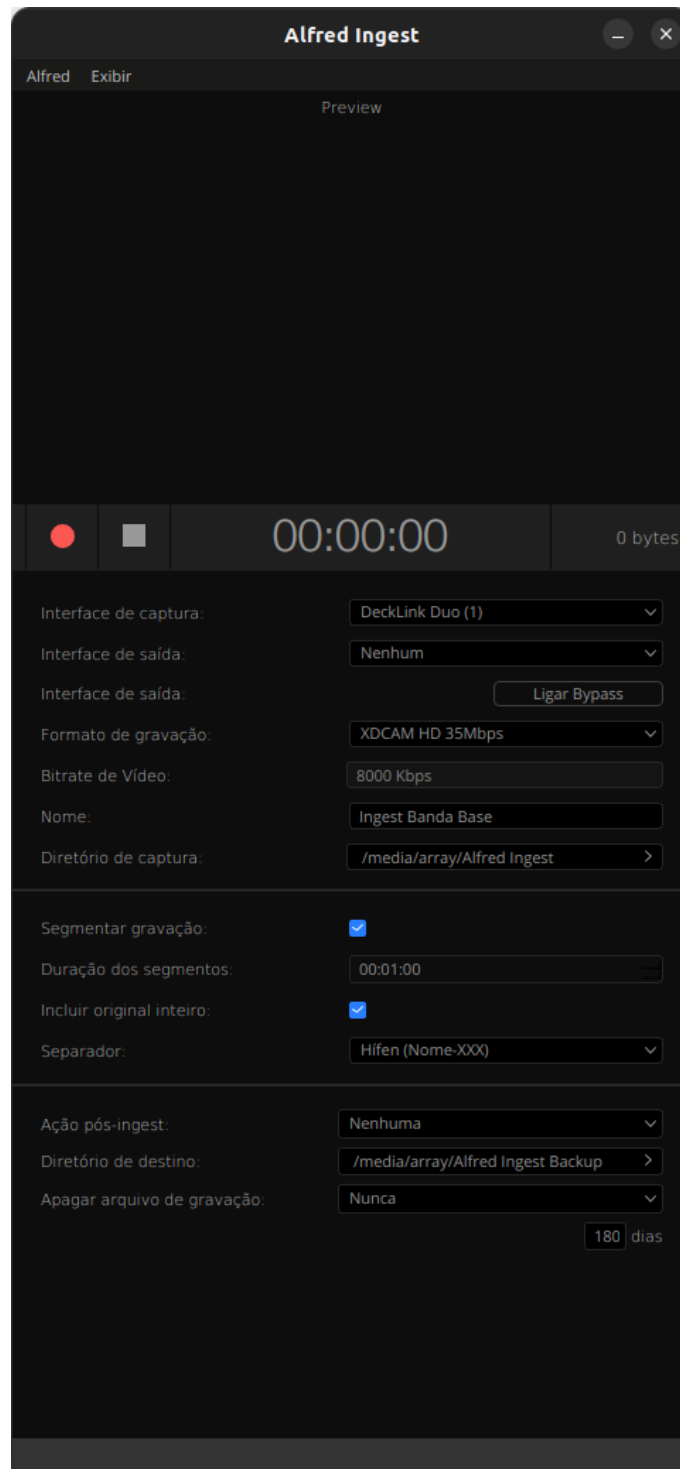
As informações abaixo devem ser seguidas em caso de problemas na inicialização do “Alfred Ingest”.

1. Problema: Não consigo alterar as opções de configuração do “Alfred Ingest”.
 - 1.1. Para alterar as opções de configuração do “Alfred Ingest” é necessário “Parar” a gravação do material.
2. Problema: Ao abrir o “Alfred Ingest” a “Área de visualização” não está sendo mostrada.



- 2.1. Verificar o “Menu Exibir” e confirmar se a opção “Preview” está desabilitada.
- 2.2. Caso esteja desabilitada, habilite-a e confirme a visualização.

3. Problema: Ao abrir o “Alfred Ingest” a “Área de visualização” está “preta”, não exibindo nada no “Preview”.



- 3.1. Verificar a “Interface de captura” e confirmar se a entrada selecionada está configurada e com sinal de vídeo.
- 3.2. Verificar no painel de configuração da “Decklink” se a entrada de referência (Genlock) de sinal de vídeo está correta e com referência.

Coletando as informações

É de suma importância a coleta das informações dos arquivos de “logs” para a resolução de problemas, sendo assim as informações abaixo visam fornecer a localização dos arquivos de “logs” gerados pelo software “Alfred Ingest”.

“/home/<user>/Alfred Ingest” (Pasta)

/Logs (sub-pasta)

MM.DD.AAAA.log (Arquivo)

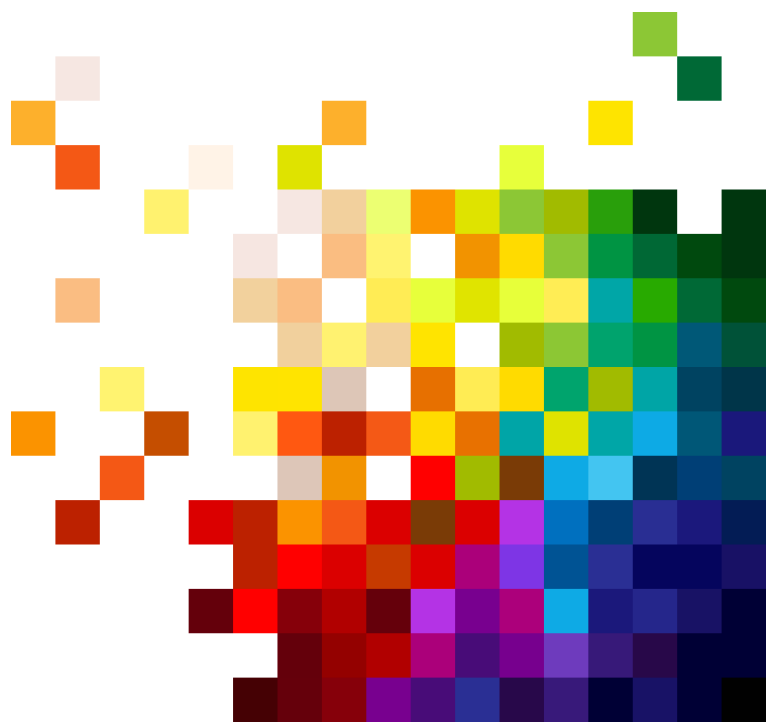
Observação: O conteúdo da pasta “Logs” deverá ser enviado para Alfred, é importante que os arquivos enviados contenham os logs com a data exata em que os problemas ocorreram.

Histórico de versões deste documento

12.05.2023	Criação do documento.
28.08.2023	Alteração do documento.
12.08.2023	Adição das informações para o Ubuntu 22.04.



Guia do Usuário



Índice

Introdução.....	3
O módulo Alfred Client.....	3
Acessando o Alfred Client.....	4
A interface do Alfred Client.....	5
Conhecendo as Janelas.....	7
A janela de Pesquisas.....	8
A janela de Projetos.....	9
A janela Library.....	10
As Informações nos ativos.....	11
A janela do Visualizador.....	12
Trimming de Vídeo.....	16
A janela do Inspetor.....	17
Catálogo.....	25
Fazer Sequência.....	27
Pesquisa Geral.....	28
Pesquisa Refinada.....	29
Pesquisa Pré-configuradas.....	30
Exportando Ativos.....	31
A Gaveta.....	33
A Janela de Processos.....	34
O módulo de Arquivamento.....	35
Arquivando e Recuperando.....	37
Preferências.....	39
Trabalhando em "Edit-in-place".....	41
Atalhos.....	43
Glossário.....	45

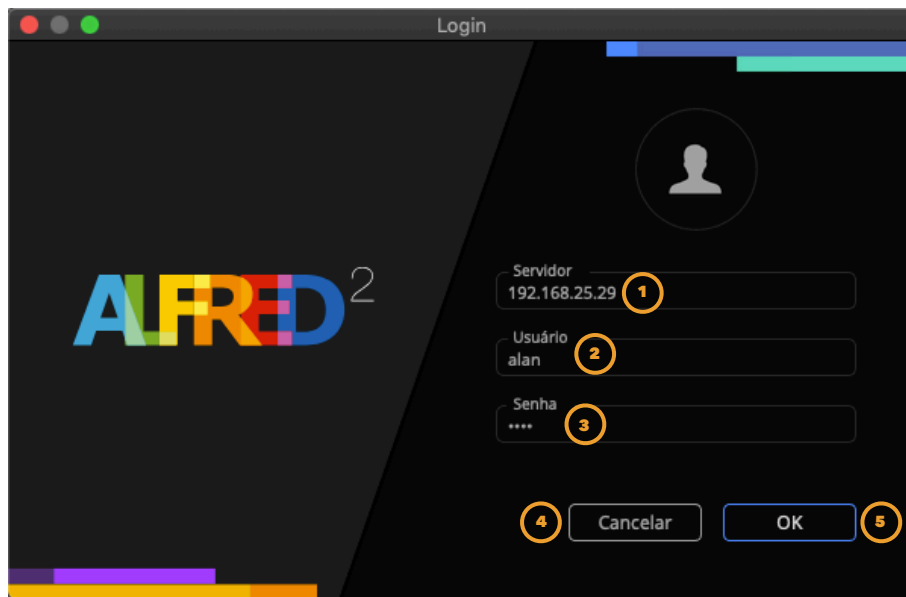
Introdução

O Alfred é um poderoso e eficiente sistema de gerenciamento de mídia e automação de fluxo de trabalho para mídia digital. O Alfred provê uma fundação poderosa, extensível e amigável para a manipulação de mídia e processos na produção de vídeo e televisão. Multiplataforma, capaz de usar todo o poder do hardware e com uma interface elegante e simples, o Alfred possui características inovadoras que vão do seu engenho de transcodificação à pré-visualização dos ativos, passando pela edição em proxy, integração com softwares de edição e exibição, arquitetura cliente/servidor e sistemas de arquivamento. Alfred: a seu serviço!

O módulo Alfred Client

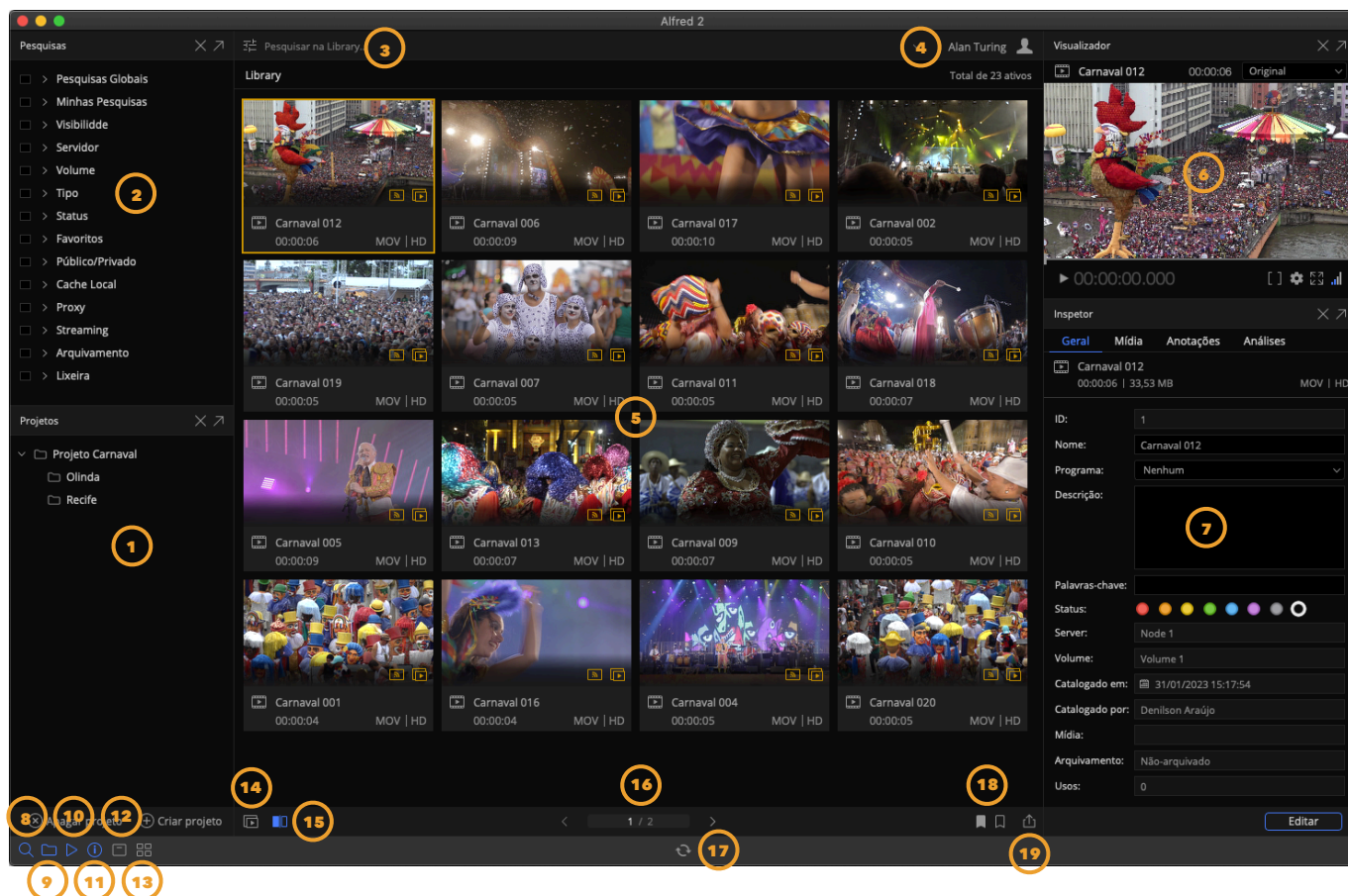
É a principal interface com o usuário. Através dela, é possível realizar ingest via drag-and-drop de um ou múltiplos arquivos, pesquisar, criar e salvar pesquisas, editar metadados de um ou múltiplos ativos simultaneamente, exportar ativos com cópia transcodificada ou não, efetuar revisões dos ativos de vídeo através do proxy de baixa resolução, arquivar e recuperar, entre outras funções.

Acessando o Alfred Client



- 1 Digite o IP do Servidor Alfred que deseja acessar.
- 2 Digite seu nome de usuário.
- 3 Digite sua senha de usuário.
- 4 O botão "Cancelar" finaliza o aplicativo, cancelando o acesso ao servidor.
- 5 O botão "OK" confirma o acesso ao servidor.

A interface do Alfred Client



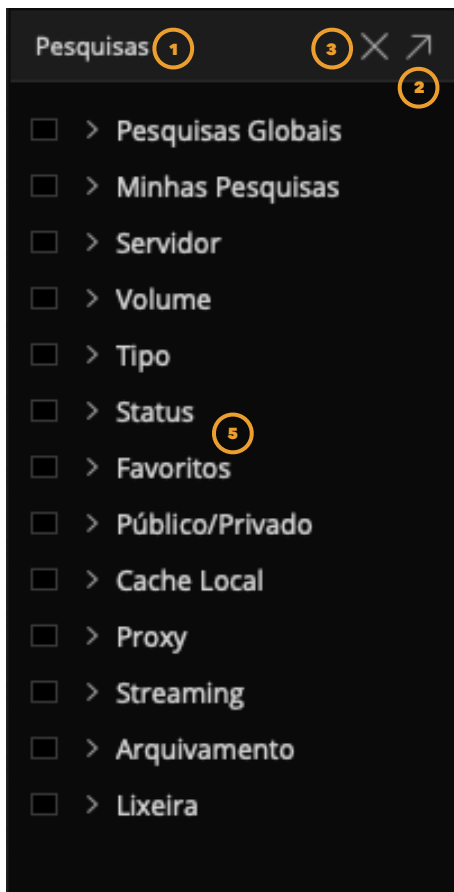
- 1 Janela de "Projetos".
- 2 Janela de "Pesquisas".
- 3 Botão de "Pesquisa Refinada" e área de "Pesquisa Geral".
- 4 Nome do usuário logado no sistema.
- 5 Área da "Library": biblioteca de ativos catalogados no sistema.
- 6 Janela do "Visualizador".
- 7 Janela do "Inspetor".
- 8 Botão "Pesquisas Salvas": habilita ou desabilita a janela de pesquisas.
- 9 Botão "Projetos": habilita ou desabilita a janela de projetos.
- 10 Botão "Visualizador": habilita ou desabilita a janela do visualizador.
- 11 Botão "Inspetor": habilita ou desabilita a janela do inspetor.

- 12** Botão "Gaveta": habilita ou desabilita a janela gaveta.
- 13** Botão "Library": habilita ou desabilita a visualização apenas da janela "Library".
- 14** Botão "Proxy": habilita ou desabilita o modo de edição em proxy.
- 15** Botão "Skimming": liga ou desliga a visualização por "Skimming".
- 16** Botão de "Paginação": navega entre as páginas da "Library".
- 17** Botão "Atualizar": atualiza a janela da "Library".
- 18** Botão "Favorito": incluir ou remover ativos aos favoritos.
- 19** Botão "Compartilhar": Exporta o material.

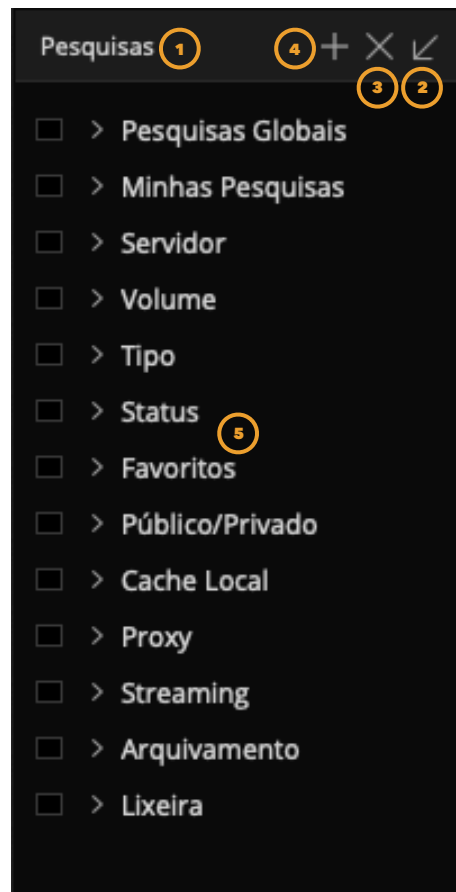
Conhecendo as Janelas

O Alfred possui janelas destacáveis que podem ser configuradas de acordo com a necessidade de cada usuário. É possível fechar, redimensionar ou maximizar as janelas de pesquisas, de projetos, do visualizador, do inspetor e da gaveta. No exemplo abaixo, temos a janela de “Pesquisas”.

Janela encaixada

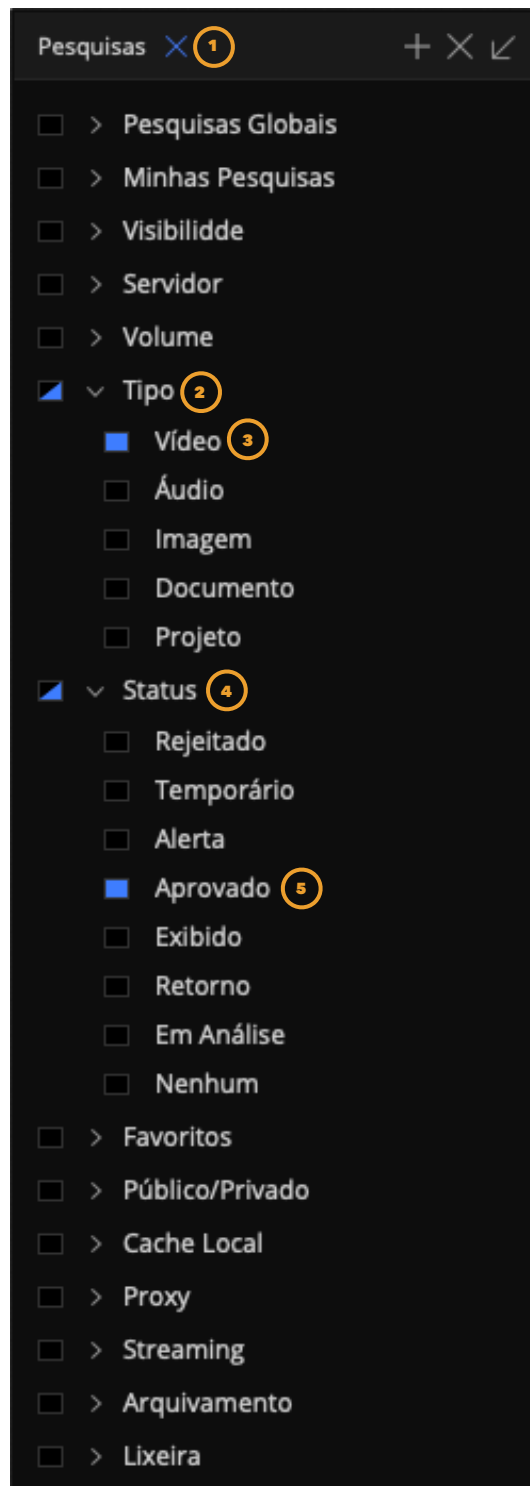


Janela desencaixada



- 1** Barra da Janela.
- 2** Botão “Desencaixar janela” - Janela encaixada.
Botão “Encaixar janela” - Janela desencaixada.
- 3** Botão “Fechar” janela.
- 4** Botão “Maximizar” janela.
- 5** Área da janela.

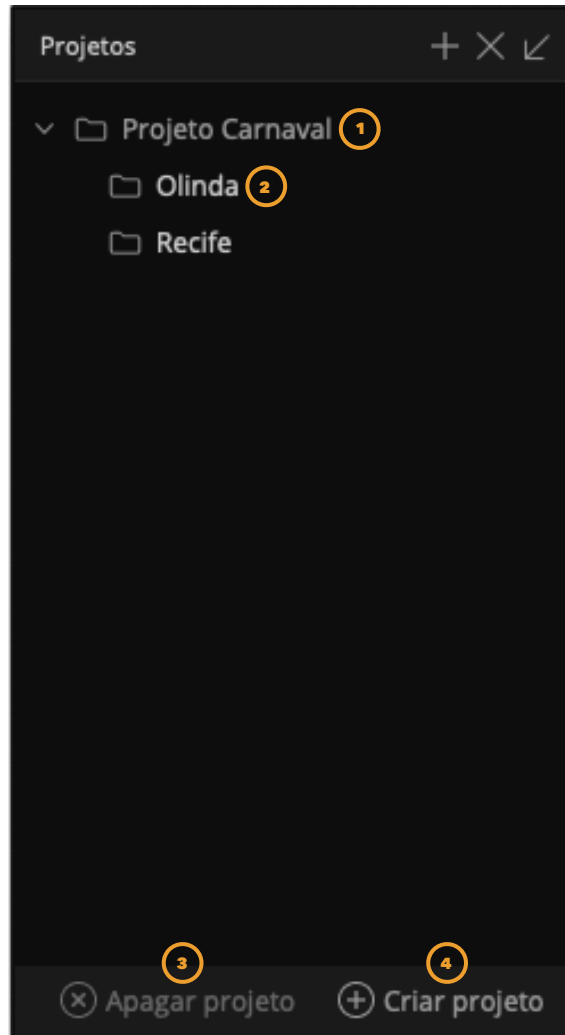
A janela de Pesquisas



- 1 Botão "Limpar pesquisas".
- 2 Checkbox do grupo de pesquisa "Tipo" acionado e a opção "Vídeo" acionada.
- 3 Checkbox do grupo de pesquisa "Status" acionado e a opção "Aprovado" acionada.
- 4 Checkbox da pesquisa de Status "Temporário".

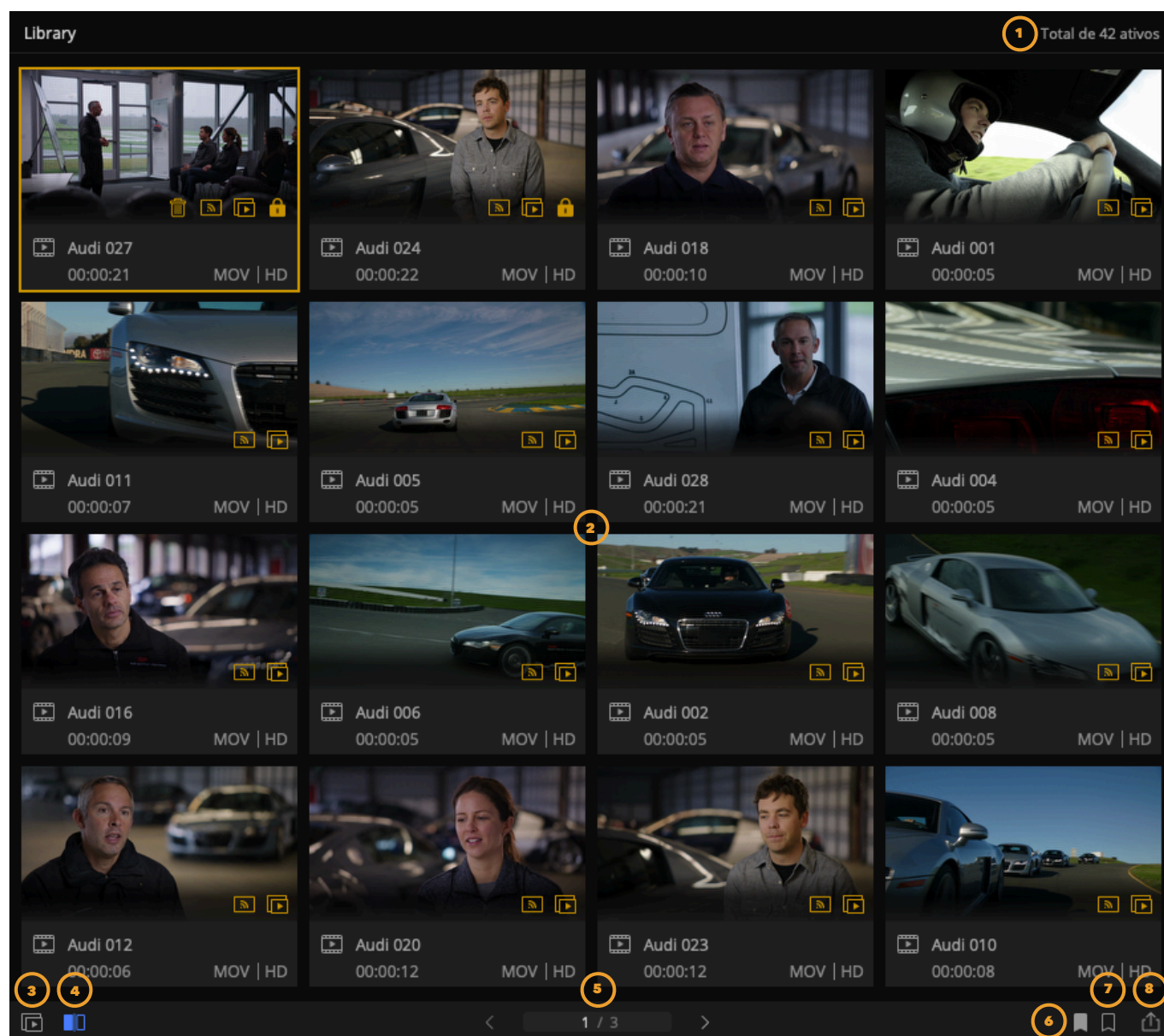
A janela de Projetos

Na janela de projetos é possível criar pastas virtuais e organizar as mídias, exportar o projeto como pastas ou como um XML para edição. Importar pastas como projeto, mantendo toda a estrutura de pastas já criada pelo usuário.



- 1 Projeto ou Pasta virtual: "Projeto Carnaval".
- 2 Projeto ou Pasta virtual: "Olinda".
- 3 Botão "Apagar projeto".
- 4 Botão "Criar projeto".

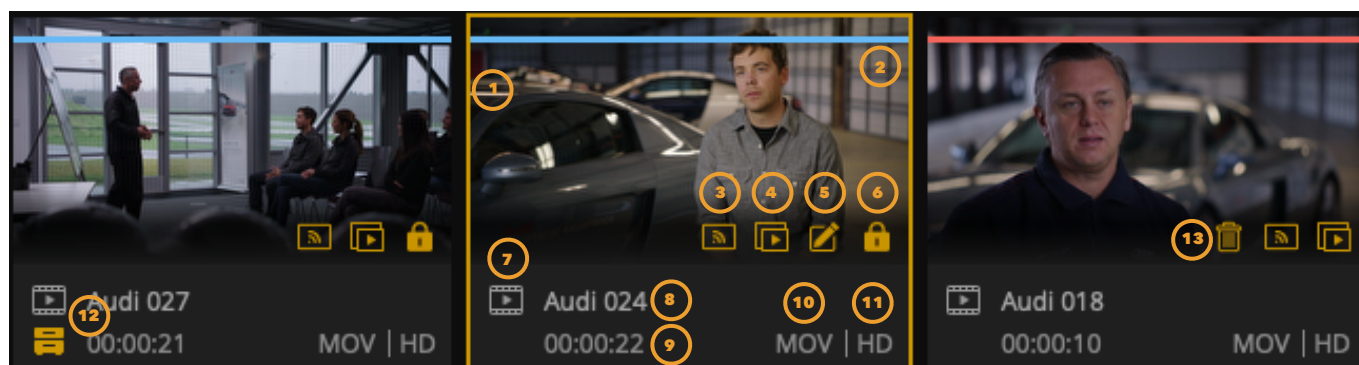
A janela Library



- 1 Informações do total de ativos na "Library".
- 2 Área das representações dos ativos.
- 3 Botão "Proxy": seleciona o drag-and-drop externo do material em proxy.
- 4 Botão "Skimming": habilita ou desabilita o "Skimming" dos ativos de vídeo.
- 5 Botões de paginação: página anterior e posterior dos ativos na "Library".
- 6 Botão "Incluir nos Favoritos".
- 7 Botão "Remover dos Favoritos".
- 8 Botão "Compartilhar".

As Informações nos ativos

Algumas informações adicionais vão surgir no corpo da representação de cada ativo, dependendo do tipo de ativo, seguem abaixo as informações:

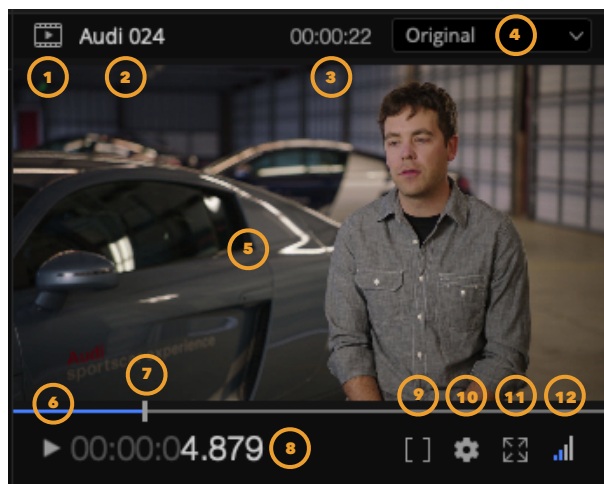


- 1 Linha amarela: Indica que o ativo está selecionado.
- 2 Barra de Status: Barra de status na cor "azul", significando que o ativo foi "Exibido".
- 3 Ícone Streaming: Indica que o ativo possui versão para "Streaming".
- 4 Ícone Proxy: Indica que o ativo possui versão para "Proxy".
- 5 Ícone Edição: Indica que o ativo está em edição de metadados.
- 6 Ícone Cadeado: Indica que o ativo está com a visualização bloqueada.
- 7 Ícone de vídeo: informação do tipo de ativo.
- 8 Nome do ativo.
- 9 Duração do ativo em "HH:MM:SS".
- 10 Extensão do ativo, neste caso o ativo é um arquivo ".MOV"
- 11 Resolução do ativo, neste caso o ativo é um "HD".
- 12 Ícone Gaveteiro: Indica que o ativo está arquivado.
- 13 Ícone Lixeira: Indica que o ativo está selecionado para lixeira.

A janela do Visualizador

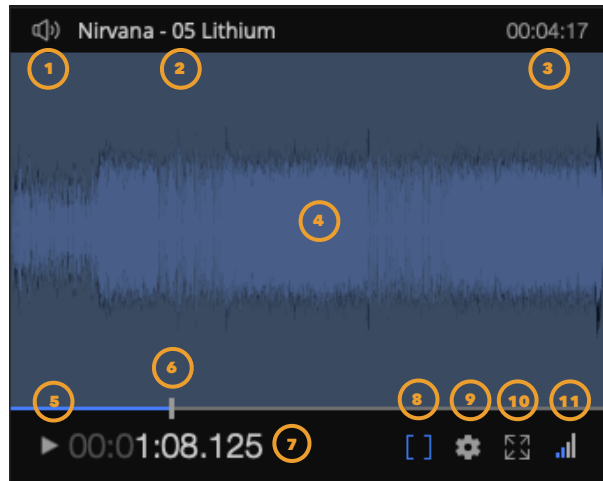
Na janela do visualizador, o usuário poderá revisar imagens, áudios e vídeos, efetuar “Trimming” em áudios e vídeos com exportação para um novo ativo ou inserção de anotações, alterar o posicionamento do “Thumbnail” de visualização, exportar imagem, selecionar a visualização entre “Original”, “Proxy” e “Streaming”, entre outras opções.

Ativo de Vídeo



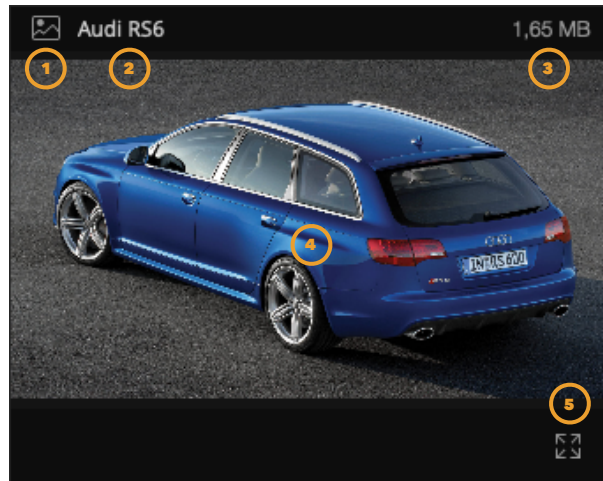
- 1 Ícone de vídeo: informação do tipo de ativo.
- 2 Nome do ativo.
- 3 Duração do ativo em HH:MM:SS.
- 4 Menu de seleção do visualizador em: “Original”, “Proxy” ou “Streaming”.
- 5 Área de visualização do ativo.
- 6 Botão “Play/Pause”.
- 7 “Playhead” do visualizador.
- 8 Contador de tempo em HH:MM:SS:MS ou HH:MM:SS:FR.
- 9 Botão de “Trimming”.
- 10 Botão de “Refazer thumb com o quadro mostrado” ou “Exportar imagem”.
- 11 Botão de “Tela Cheia”.
- 12 Botão de “Volume”.

Ativo de Áudio



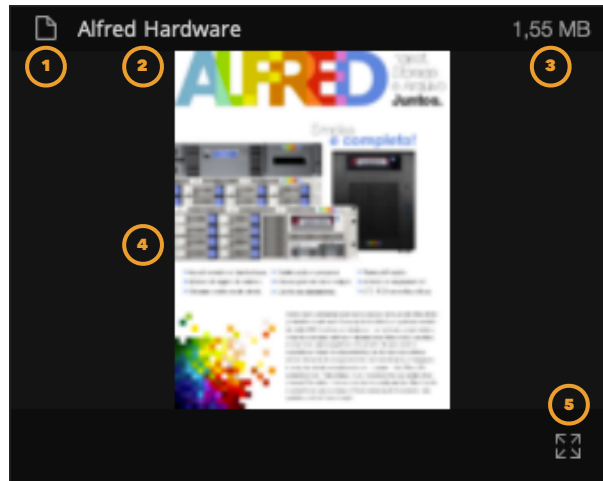
- 1 Ícone de áudio: informação do tipo de ativo.
- 2 Nome do ativo.
- 3 Duração do ativo em HH:MM:SS:MS.
- 4 Área de visualização do ativo por "Waveform".
- 5 Botão "Play/Pause".
- 6 "Playhead" do visualizador.
- 7 Contador de tempo do áudio em HH:MM:SS:MS.
- 8 Botão de "Trimming".
- 9 Botão de "Gerar Thumbnail": Não aplicado para arquivo do tipo "áudio".
- 10 Botão de "Tela Cheia".
- 11 Botão de "Volume".

Ativos de Imagem



- 1 Ícone de imagem: informação do tipo de ativo.
- 2 Nome do ativo.
- 3 Tamanho do ativo.
- 4 Área de visualização do ativo.
- 5 Botão "Tela Cheia".

Ativos de Documento



- 1 Ícone de documento: informação do tipo de ativo.
- 2 Nome do ativo.
- 3 Tamanho do ativo.
- 4 Área de visualização do ativo.
- 5 Botão "Tela Cheia".

Trimming de Vídeo

Na janela do visualizador, na opção "Trimming de vídeo", é possível efetuar as marcações de entrada (Mark In) e saída (Mark Out) de áudios e vídeos e exportar o material com ou sem transcodificação, substituir o ativo original ou criar um novo ativo a partir das marcações realizadas.



- 1 Botão habilitar/desabilitar "Trimming".
- 2 Marcação de entrada de trimming (Mark In).
- 3 Marcação de saída de trimming (Mark Out).
- 4 Informação do "Timecode" da marcação de entrada (HH:MM:SS:FF).
- 5 Informação do "Timecode" da marcação de saída (HH:MM:SS:FF).
- 6 Informação do "Timecode" do tempo total da marcação (HH:MM:SS:FF).
- 7 Limpar as marcações.
- 8 Menu oculto: "Substituir Original", "Criar Novo Ativo", "Exportar" e "Nova Anotação".
 - 8.1 "Substituir Original" do ativo atual com um novo ativo a partir das marcações efetuadas (Mark In/Mark Out), substituindo o ativo original.
 - 8.2 "Criar Novo Ativo" a partir das marcações (Mark In/Mark Out) efetuadas, catalogando-o como um novo ativo.
 - 8.3 "Exportar" o material a partir das marcações (Mark In/Mark Out) efetuadas.
 - 8.4 "Nova Anotação" a partir das marcações (Mark In/Mark Out) efetuadas.

A janela do Inspetor

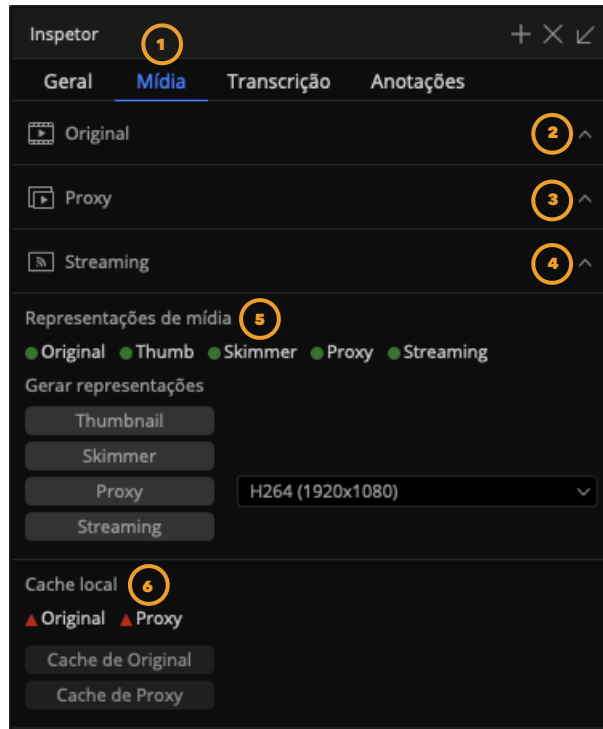
No inspetor, o usuário tem informações adicionais sobre os metadados gerais (Aba Geral), metadados de mídia (Aba Mídia) e as anotações (Aba Anotações), além de campos em outras definidas na instalação do sistema.

Inspetor - Aba Geral

- 1 Nome da aba selecionada: "Geral".
- 2 Nome, duração e tamanho do ativo selecionado.
- 3 Extensão e resolução do ativo selecionado.
- 4 Metadado "ID": campo número (campo fixo) com a identificação do ativo.
- 5 Metadado "Nome": campo de texto com uma linha, destinado ao nome do ativo.
- 6 Metadado "Programa": menu de seleção.
- 7 Metadado "Descrição": campo de texto multilinha, destinado a descrição do ativo.

- 8 Metadado "Palavras-chave": campo de texto com uma linha, destinado a palavras-chave.
- 9 Metadado "Status": campo de seleção em cores para o ativo.
- 10 Metadado "Server" (campo fixo): campo do nome do "Servidor" onde o ativo se encontra.
- 11 Metadado "Volume" (campo fixo): campo do nome do "Volume" onde o ativo se encontra.
- 12 Metadado "Catalogado em" (campo fixo): exibe informações sobre a data de catalogação do ativo.
- 13 Metadado "Catalogado por" (campo fixo): exibe informações sobre o catalogador do ativo.
- 14 Metadado "Mídia" (campo fixo): exibe informações sobre a mídia de arquivamento do ativo.
- 15 Metadado "Arquivamento" (campo fixo): exibe informações sobre o arquivamento do ativo.
- 16 Metadado "Usos" (campo fixo): exibe informações sobre o uso do ativo.
- 17 Botão "Editar": habilita o modo de edição dos metadados.

Inspetor - Aba Mídia



1 Nome da aba selecionada: "Mídia".

2 Botão para fechar/abrir as informações de mídia do arquivo "Original".

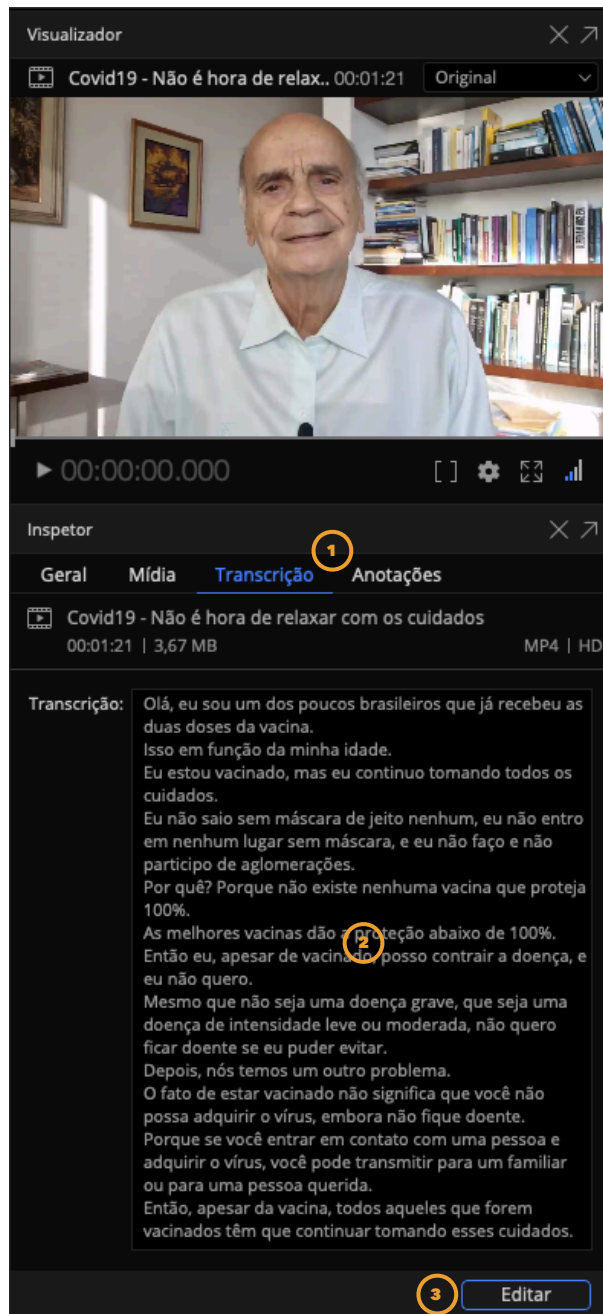
3 Botão para fechar/abrir as informações de mídia do arquivo "Proxy".

4 Botão para fechar/abrir as informações de mídia do arquivo "Streaming".

5 Área "Representação de mídia": exibe as informações das representações disponíveis, sendo possível recriar as representações do tipo "Thumbnail", "Skimmer", "Proxy" e "Streaming", também é possível alterar o CODEC da criação de proxy.

6 Área "Cache local": exibe as informações do cache disponível localmente para o ativo selecionado.

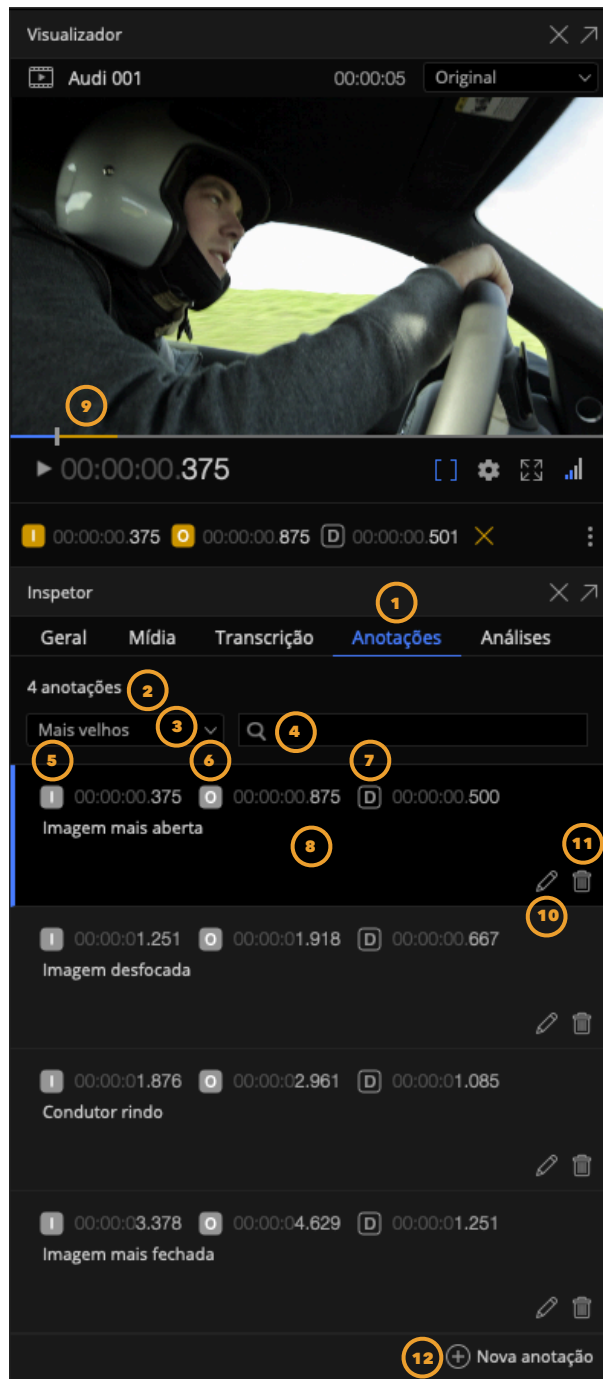
Inspetor - Aba Transcrição



- 1 Nome da aba selecionada: "Transcrição".
- 2 Área de texto da "Transcrição": campo de texto multilinha, destinado a transcrição do ativo.
- 3 Botão "Editar": edita as informações da transcrição.

Inspetor - Aba Anotações

As anotações podem ser criadas de forma avulsa, iniciando com as marcações dos trimmings e com o preenchimento das informações na área de texto, também é possível editar e apagar as anotações ou criar novas anotações a qualquer momento.

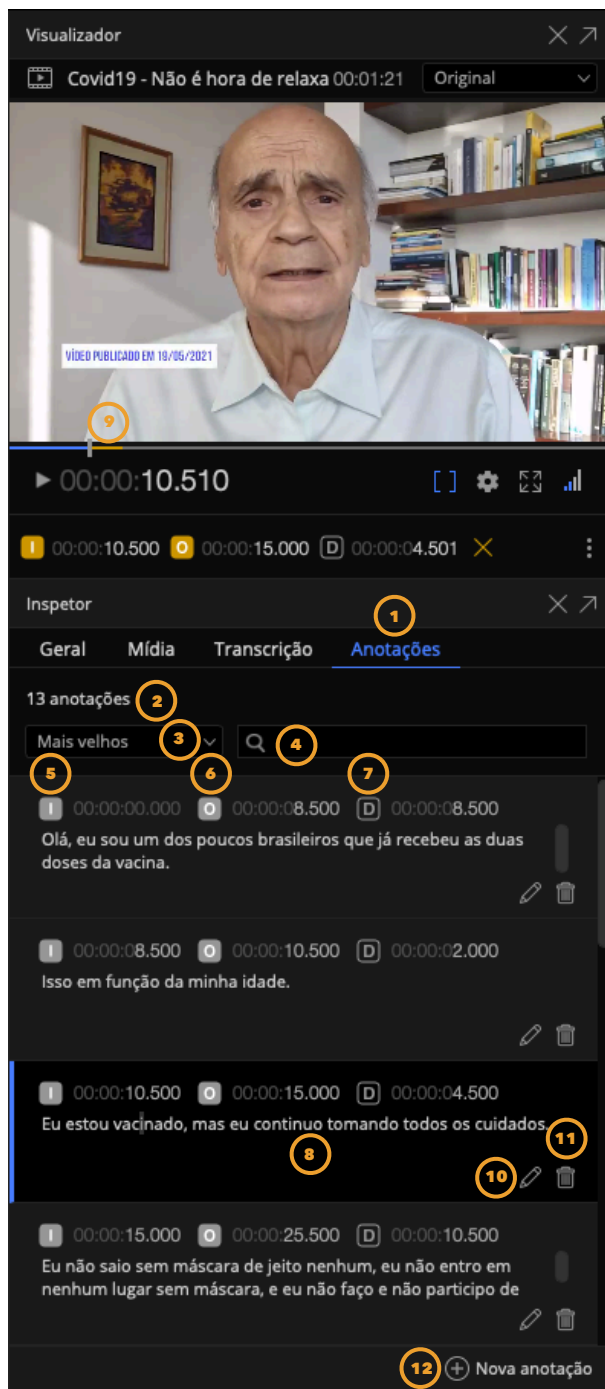


- 1 Nome da aba selecionada: "Anotações".
- 2 Número de anotações disponíveis para o ativo.
- 3 Lista as anotações por ordem de entrada pelos "Mais velhos" ou "Mais novos".
- 4 Área para pesquisas, dentro das anotações do ativo selecionado.

- 5 Marcação inicial da anotação em HH:MM:SS:MS (Mark In).
- 6 Marcação final da anotação em HH:MM:SS:MS (Mark Out).
- 7 Informação da duração do trecho marcado em HH:MM:SS:MS
- 8 Área do texto da anotação, anotação selecionada.
- 9 Playhead posicionada com a seleção do trecho da anotação.
- 10 Botão "Editar anotação" selecionada.
- 11 Botão "Apagar anotação" selecionada.
- 12 Botão "Nova anotação": cria uma nova anotação para o trecho selecionado.

Inspetor - Aba Anotações (como Transcrição)

Também é possível configurar o Alfred para que a transcrição seja direcionada ao metadado “Anotações”, desta forma as transcrições serão divididas e os trechos transcritos serão selecionáveis e posicionados no visualizador.



- 1 Nome da aba selecionada: “Anotações”.
- 2 Número de anotações disponíveis para o ativo.
- 3 Lista as anotações por ordem de entrada pelos “Mais velhos” ou “Mais novos”.
- 4 Área para pesquisas, dentro das anotações do ativo selecionado.

- 5 Marcação inicial da anotação em HH:MM:SS:MS (Mark In).
- 6 Marcação final da anotação em HH:MM:SS:MS (Mark Out).
- 7 Informação da duração do trecho marcado em HH:MM:SS:MS
- 8 Área do texto da anotação, anotação selecionada.
- 9 Playhead posicionada com a seleção do trecho da anotação.
- 10 Botão "Editar anotação" selecionada.
- 11 Botão "Apagar anotação" selecionada.
- 12 Botão "Nova anotação": cria uma nova anotação para o trecho selecionado.

Catálogo

O processo de catalogação (ingest) poderá ser efetuado via drag-and-drop. O usuário deverá “arrastar e soltar” o material a ser catalogado para dentro da janela do “Alfred Client”. Será exibida uma tela para inserção das informações dos metadados, seleção do “Servidor”, seleção de “Volume”, seleção de “Transcodificação”, dentre outras.



- 1 Nome do arquivo a ser catalogado.
- 2 Menu de seleção do “Servidor” para catalogação do material.
- 3 Menu de seleção do “Volume” para catalogação do material.
- 4 Checkbox para “Transcodificar”. Combo box de seleção do preset para transcodificação do material original.
- 5 Checkbox para criação do “Proxy”. Combo box de seleção do preset para transcodificação de criação do proxy.
- 6 Checkbox para criação do “Streaming”.
- 7 Checkbox de seleção “Adicionar ao cache local”: Cataloga o ativo deixando uma cópia no cache local da máquina do usuário.

- 8 Checkbox de seleção "Transcrever áudio": Cataloga o ativo realizando a transcrição durante a catalogação. (Obs. serviço opcional).
- 9 Checkbox "Tornar privado": cataloga o ativo em condição privada.
- 10 Checkbox de seleção "Renomear arquivo com o nome do ativo".
- 11 "Playhead" do visualizador.
- 12 Botão "Play/Pause".
- 13 Contador de tempo do vídeo em HH:MM:SS:MS.
- 14 Botão "Volume".
- 15 Marcação de entrada de trimming (Mark In).
- 16 Marcação de saída de trimming (Mark Out).
- 17 Informação da duração do tempo total da marcação (HH:MM:SS:MS).
- 18 Botão "Cancelar" a catalogação, cancelando o ingest do material.
- 19 Botão "Catalogar" confirma a catalogação do material.

Fazer Sequência

Durante o processo de catalogação de múltiplos ativos (ingest), o usuário poderá criar uma sequência numérica utilizando a opção “Fazer sequência” na janela de catalogação.



- 1 Checkbox “Fazer sequência”: habilita o modo de sequência numérica dos ativos.
- 2 Área de digitação “Nome”: determina o novo nome do ativo da sequência numérica.
- 3 Menu de seleção “Número”: fixa a posição do número sequencial do ativo em:
 - Depois do nome.
 - Antes do nome.
- 4 Menu “Iniciar em”: determina o número inicial da sequência.
- 5 Menu “Separado por”: define o separador da sequencia numérica em:
 - Hífen: (-)
 - Underline: (_)
 - Ponto: (.)
- 6 Menu “Dígitos”: define o número de dígitos da sequência numérica.
- 7 Área “Exemplo”: exhibe a forma da sequência escolhida para nome dos ativos.

9 Botão "Cancelar": cancela a catalogação.

10 Botão "Catalogar": confirma a catalogação do material com a criação da sequência dos ativos.

Pesquisa Geral

A área de pesquisa geral ou "Pesquisar na Library" permite ao usuário realizar qualquer tipo de pesquisa, ignorando acentuação e caixa alta ou baixa.



1 Área "Pesquisar na Library": efetua uma pesquisa geral.

A pesquisa geral poderá ser utilizada com caracteres "curingas", tais como:

- Sinal de " + ": efetua uma busca por múltiplos nomes, adicionando dois ou mais nomes como critério de busca comum entre os metadados.

Ex.: Pedro +Paulo

- Sinal de " - ": efetua uma busca por múltiplos nomes, excluindo os nomes adicionais como critério de busca comum entre os metadados.

Ex.: Pedro -Paulo

- Sinal de " * ": efetua uma busca trazendo como resultado múltiplos caracteres após o sinal de " * "

Ex.: Carnav*

- Sinal de "[nome]": efetua uma busca trazendo como resultado o nome exato.

Ex.: "Carnaval"

Observação:

- O "Alfred Client" mantém um histórico com as últimas pesquisas efetuadas. Na área "Pesquisar na Library", ao digitar os primeiros caracteres, será exibida uma lista com as últimas pesquisas realizadas.

Pesquisa Refinada

Através das pesquisas refinadas, os usuários conseguem filtrar com maior precisão as suas buscas. Podem ser utilizados múltiplos campos de metadados ou apenas um campo específico para aumentar a precisão. Ao clicar no botão de “Pesquisa refinada”, será aberta uma nova área para pesquisa com todos os metadados existentes no sistema. Devemos observar que as pesquisas refinadas podem ser salvas em dois níveis: como administrador do sistema, será possível salvar a pesquisa como uma pesquisa global. Caso o usuário não tenha privilégio de administrador, ele poderá salvar pesquisas pessoais.

A interface 'Pesquisa Refinada' é dividida em duas colunas principais: 'Geral' e 'Anotações'. A coluna 'Geral' contém campos para filtrar por ID, Nome, Programa, Descrição, Palavras-chave, Status (com uma barra de seleção de cores), Server (Node 1), Volume, Mídia, Catalogado em (com uma barra de seleção de datas), Catalogado por, Usos e Arquivamento. A coluna 'Anotações' contém campos para Nome do arquivo, Local do arquivo, Tamanho do arquivo, Data de criação (com uma barra de seleção de datas), Duração, Largura, Altura, Frame rate, Codec de vídeo, Canais de áudio e Sample Rate. Na parte inferior da interface, há dois botões: 'Salvar como global' e 'Salvar'. No canto inferior direito, há dois botões: 'Limpar' e 'Pesquisar'. A interface também possui uma barra de título com o texto 'Pesquisa Refinada' e ícones de fechar, maximizar e minimizar.

1. Área de seleção de campos de metadados a serem pesquisados.

2. Botão "Salvar como global": salva a pesquisa refinada como uma pesquisa global. Apenas usuários administradores terão permissão para salvar este tipo de pesquisa.

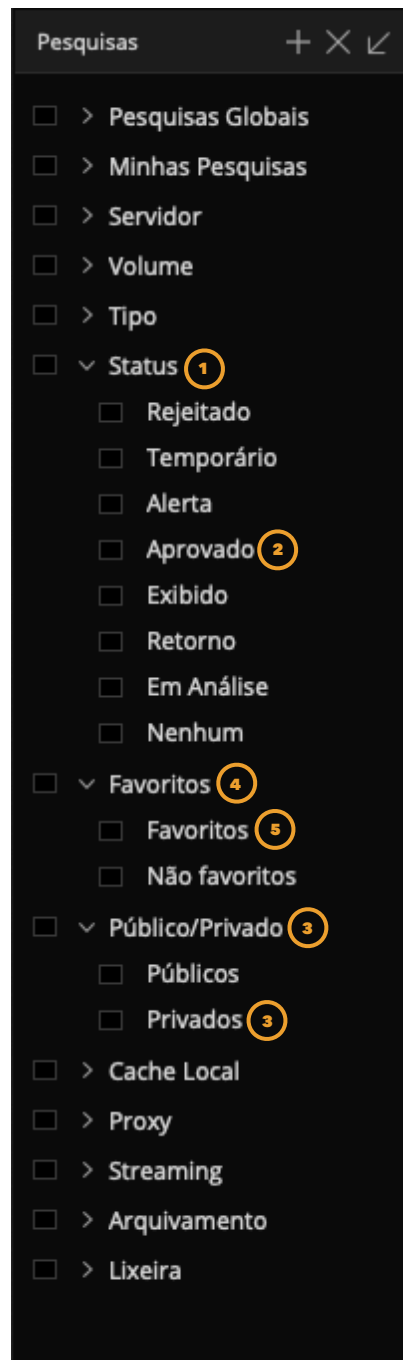
3. Botão "Salvar": salva pesquisa refinada como "Minhas pesquisas". A pesquisa será salva por usuário e estará disponível apenas para o usuário que a criou.

4. Botão "Limpar": limpa a pesquisa atual.

5. Botão "Pesquisar": efetua a pesquisa.

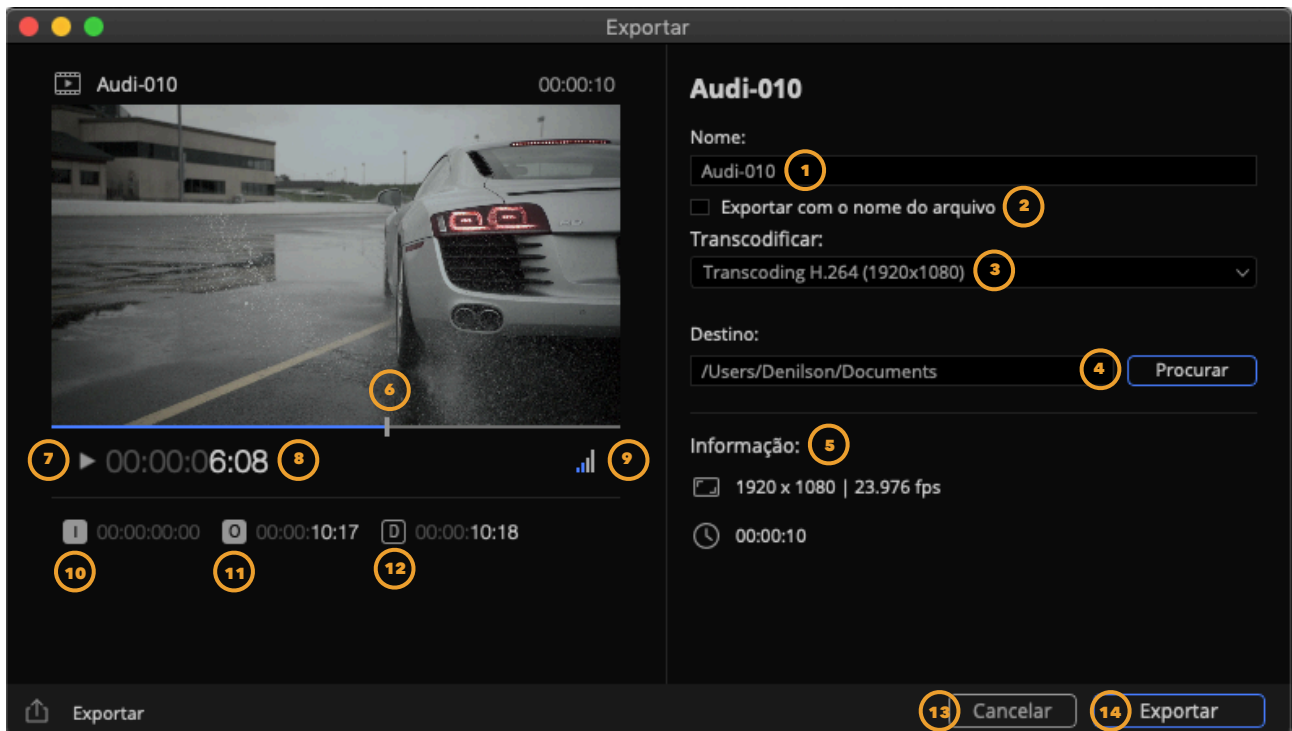
Pesquisa Pré-configuradas

Além das pesquisas salvas pelo próprio usuário e pelo administrador, a janela de pesquisas salvas inclui as pesquisas pré-configuradas, as quais fazem parte do sistema e não podem ser alteradas ou apagadas. Também, é possível realizar pesquisas por conjunção ou disjunção (E/OU) selecionando múltiplas pesquisas ao mesmo tempo. Ex.: Podemos realizar uma pesquisa por conjunção/disjunção com os seguintes critérios: "Status: Aprovado" + "Favoritos: Favoritos" + "Público/Privado: Privados" .



Exportando Ativos

Através da opção “Compartilhar - Exportar” no menu ou no botão equivalente no rodapé da “Library”, os ativos podem ser exportados com ou sem transcodificação. Na janela de compartilhamento também é possível efetuar o trimming do material para exportação.

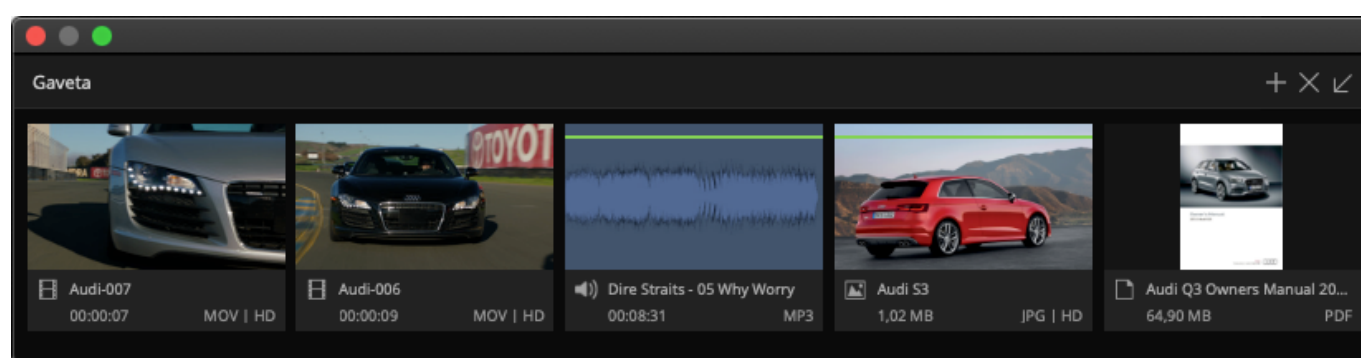


- 1 "Nome": área de seleção do nome no ativo.
- 2 "Exportar com o nome do arquivo": habilita a opção de exportação do material com o nome do arquivo, por padrão a exportação será efetuada com o nome do metadado.
- 3 "Transcodificar": seleciona a opção de transcodificação para o ativo.
- 4 "Destino": seleciona o caminho destino da exportação do ativo.
- 5 "Informação": área de informações do ativo.
- 6 "Playhead" do visualizador.
- 7 Botão "Play/Pause".
- 8 Contador de tempo do vídeo em HH:MM:SS:FF.
- 9 Botão "Volume".

- 10 Marcação de entrada de trimming (Mark In).
- 11 Marcação de saída de trimming (Mark Out).
- 12 Informação da duração, em "Timecode", do tempo total da marcação (HH:MM:SS:FF).
- 13 O botão "Cancelar", cancela e fecha a janela de exportação.
- 14 O botão "Exportar" confirma a exportação.

A Gaveta

Você poderá utilizar a gaveta para guardar os ativos pesquisados. Ela é uma área de uso pessoal. Durante a realização de uma pesquisa, você poderá incluir os ativos selecionados dentro da gaveta, via "drag-and-drop", apenas arrastando e soltando os ativos dentro dela. Poderá também arrastá-los para fora da gaveta para retirá-los.

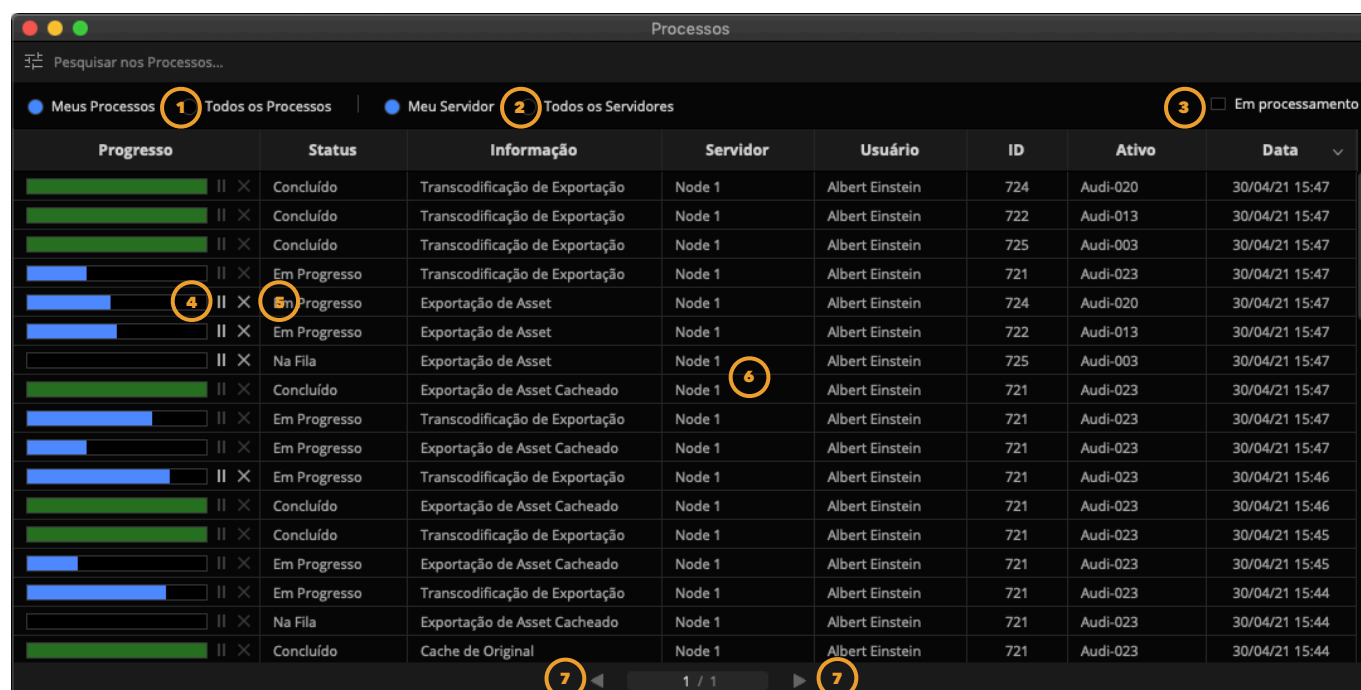


Observações:

- Os ativos irão permanecer sempre disponíveis até que você os retire da gaveta.
- A gaveta é de uso pessoal, cada usuário tendo a sua.

A Janela de Processos

Você pode acompanhar os processos em andamento ou verificar os processos já concluídos. Também, é possível cancelar uma operação ou em caso de falha, repetir o processo.

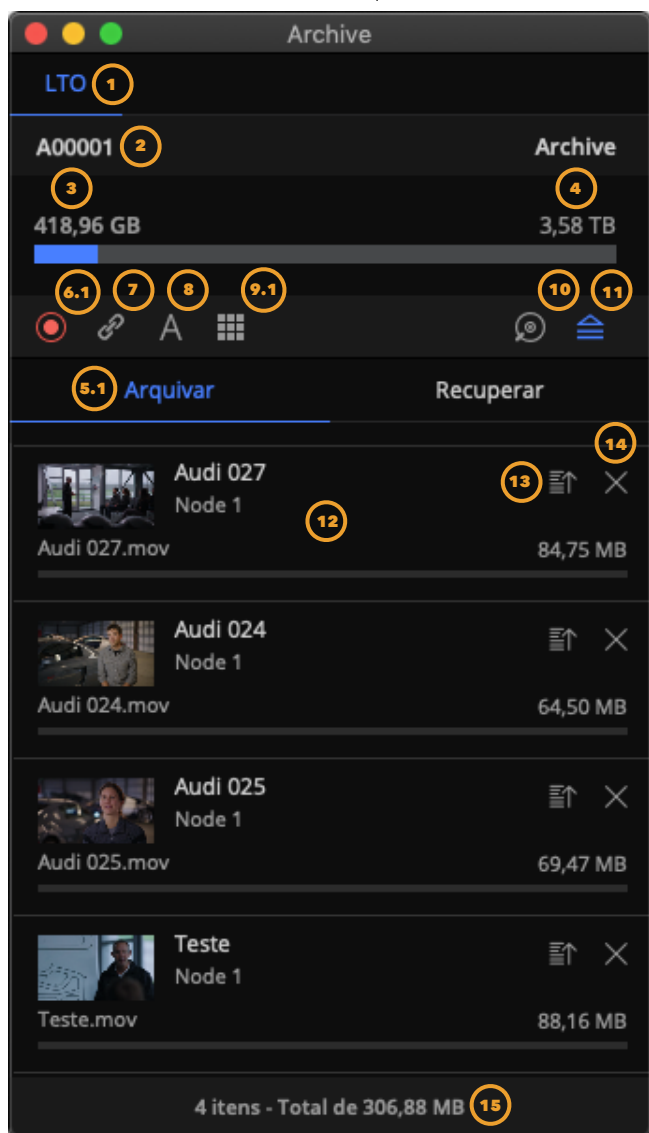


- 1 Box de seleção "Meus Processos" e "Todos os Processos": permite selecionar quais processos serão mostrados na janela de "Processos".
- 2 Box de seleção "Meu Servidor" e "Todos os Servidores": permite selecionar os processos entre os servidores.
- 3 Checkbox "Em processamento": seleciona apenas a visualização dos ativos em processamento no momento.
- 4 Botão "Pause": pausa o processo.
- 5 Botão "Cancelar": cancela o processo.
- 6 Área de visualização de informação: lista das informações dos processos, tais como: "Progresso", "Status", "Informação", "Servidor", "Usuário", "ID", "Ativo" e "Data".
- 7 Botões de paginação.

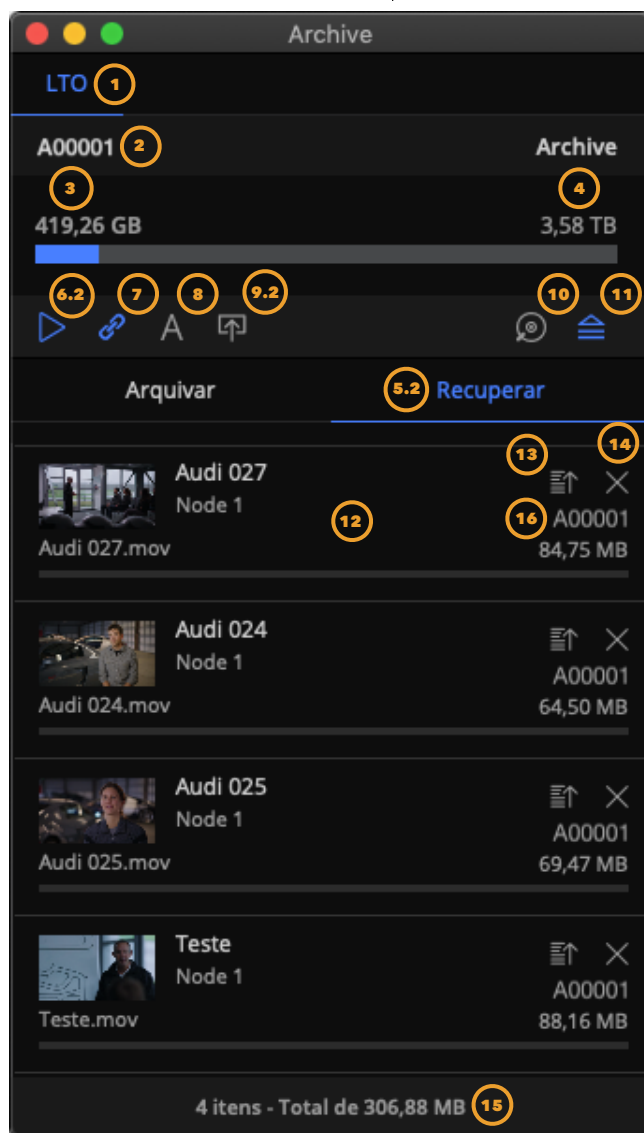
O módulo de Arquivamento

É o módulo responsável pelo gerenciamento do arquivamento no sistema Alfred. Através deste módulo, é possível arquivar, recuperar e gerenciar as mídias e dispositivos cadastrados no Alfred. O módulo de arquivamento será acessado através do menu "Exibir" na opção "Arquivamento".

Aba Arquivar



Aba Recuperar



- 1 Dispositivo de arquivamento selecionado: "LTO".
- 2 Número/Nome do dispositivo de arquivamento carregado.
- 3 Espaço total utilizado no dispositivo de arquivamento.
- 4 Espaço total disponível no dispositivo de arquivamento.

- 5 Abas de seleção de operação "Arquivar" e "Recuperar":
 - 5.1 Aba "Arquivar": seleção de operação para modo de arquivamento de material.
 - 5.2 Aba "Recuperar": seleção de operação para modo de recuperação de material.
- 6 Botões de operação "Gravar" e "Recuperar":
 - 6.1 Botão "Arquivar": inicia o processo de arquivamento.
 - 6.2 Botão "Recuperar": inicia o processo de recuperação.
- 7 Botão "Encadear": liga/desliga o encadeamento de arquivamento.
- 8 Botão "Modo automático": liga/desliga o arquivamento automático.
- 9 Comportamento do arquivamento/recuperação na lista de arquivamento.
 - 9.1 Botão "Arquivar mantendo original na Library".
 - 9.2 Botão "Reordenar por mídia".
- 10 Botão "Janela de Unidades": exibe a janela com as unidades cadastradas.
- 11 Botão "Montar/Desmontar unidade": monta/desmonta a unidade de arquivamento.
- 12 Informações do ativo: nome do ativo, tamanho do ativo e servidor padrão do ativo.
- 13 Botão "Topo da lista": coloca o ativo selecionado no topo da lista de arquivamento.
- 14 Botão "Remover": remove o ativo das listas de arquivamento/recuperação.
- 15 Informação do total de itens e o total de ocupação dos arquivos das listas de arquivamento/recuperação.
- 16 Número/Nome da fita onde o ativo se encontra arquivado.

Observação:

- As operações no módulo de "Arquivamento" só estarão disponíveis aos usuários com permissão para efetuar o "Arquivamento/Recuperação" de ativos.

Arquivando e Recuperando

O processo de arquivamento/recuperação no Alfred ocorrerá em duas etapas. Na primeira etapa, o usuário com permissão para arquivamento/recuperação selecionará os ativos que entrarão em uma lista de arquivamento/recuperação. Apenas usuários com permissão para "Arquivar/Recuperar" terão a possibilidade de efetuar esta operação.

A segunda etapa será realizada no módulo "Arquivamento", acessível através do menu "Exibir" na opção "Arquivamento". Através deste módulo, o usuário efetuará o arquivamento ou a recuperação dos ativos contidos nas listas previamente criadas, podendo adicionar ativos via drag-and-drop, retirar ativos da lista, alterar a ordem da lista, encadear ou alternar entre o modo de arquivamento manual ou automático.

Arquivando Material

Para o arquivamento dos ativos, devemos seguir as orientações abaixo:

- 1 **Selecionar um ou mais ativos.**
- 2 **No menu "Ativo" na opção "Arquivar", selecionar a unidade de arquivamento.**
Ex.: "LTO", "AWS", "Google Drive", dentre outros.
- 3 **Na janela do inspetor, na aba de metadados "Geral", observar o metadado "Arquivamento", que deverá estar descrito como "Na Fila de Arquivamento".**
- 4 **As operações adicionais devem ser acompanhadas no módulo de "Arquivamento", acessado pelo menu "Exibir" na opção "Arquivamento".**
- 5 **No módulo de arquivamento, confirmar a lista de ativos para arquivamento e clicar no botão "Gravar".**
- 6 **Ao término do arquivamento, a confirmação do arquivamento será visualizado no ativo através do ícone do "Gaveteiro". ().**
- 7 **Também é possível observar a confirmação do arquivamento na janela do inspetor. Na aba de metadados "Geral", observar o metadado "Arquivamento", que deverá estar descrito como "Arquivado".**

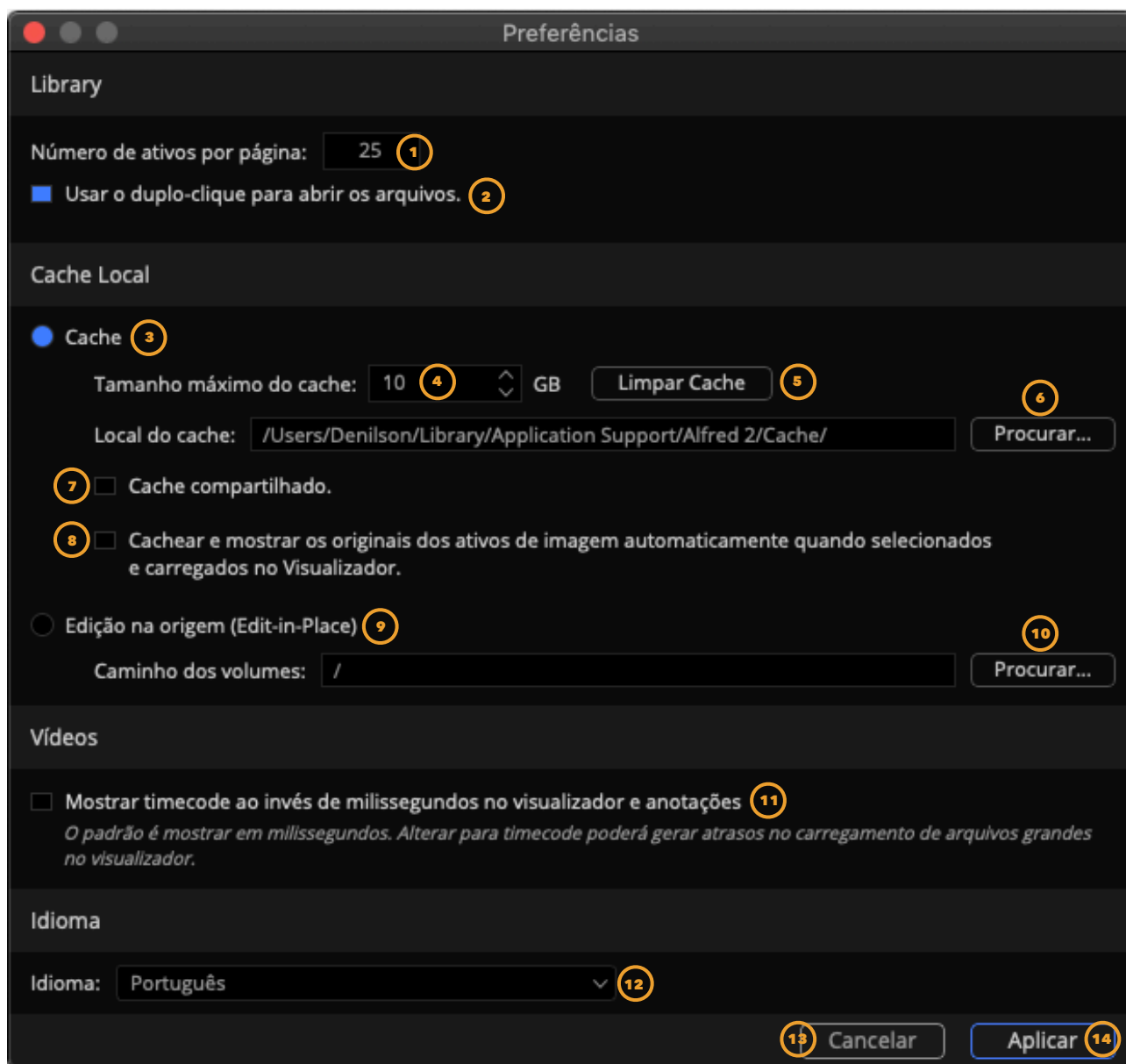
Recuperando Material

Para o recuperação dos ativos, devemos seguir as orientações abaixo:

- 1 Selecionar um ou mais ativos.
- 2 No menu "Ativo" selecionar a opção "Recuperar".
- 3 Na janela do inspetor, na aba de metadados "Geral", observar o metadado "Arquivamento", que deverá estar descrito como "Na Fila de Recuperação".
- 4 As operações adicionais devem ser acompanhadas no módulo de "Arquivamento", acessado pelo menu "Exibir" na opção "Arquivamento".
- 5 No módulo de arquivamento, clicar na aba "Recuperar" e confirmar a lista de ativos para recuperação.
- 6 Clicar no botão "Recuperar" e aguardar a recuperação dos ativos da lista.
- 7 Ao término da recuperação, na janela do inspetor, na aba "Geral", observar o metadado "Arquivamento" que deverá estar descrito como "Recuperado".

Preferências

Nesta janela, é possível configurar as preferências gerais do “Alfred Client”, tais como escolher o número de ativos por página, alterar a forma de trabalho entre “Cache” e “Edit-in-place”, etc.

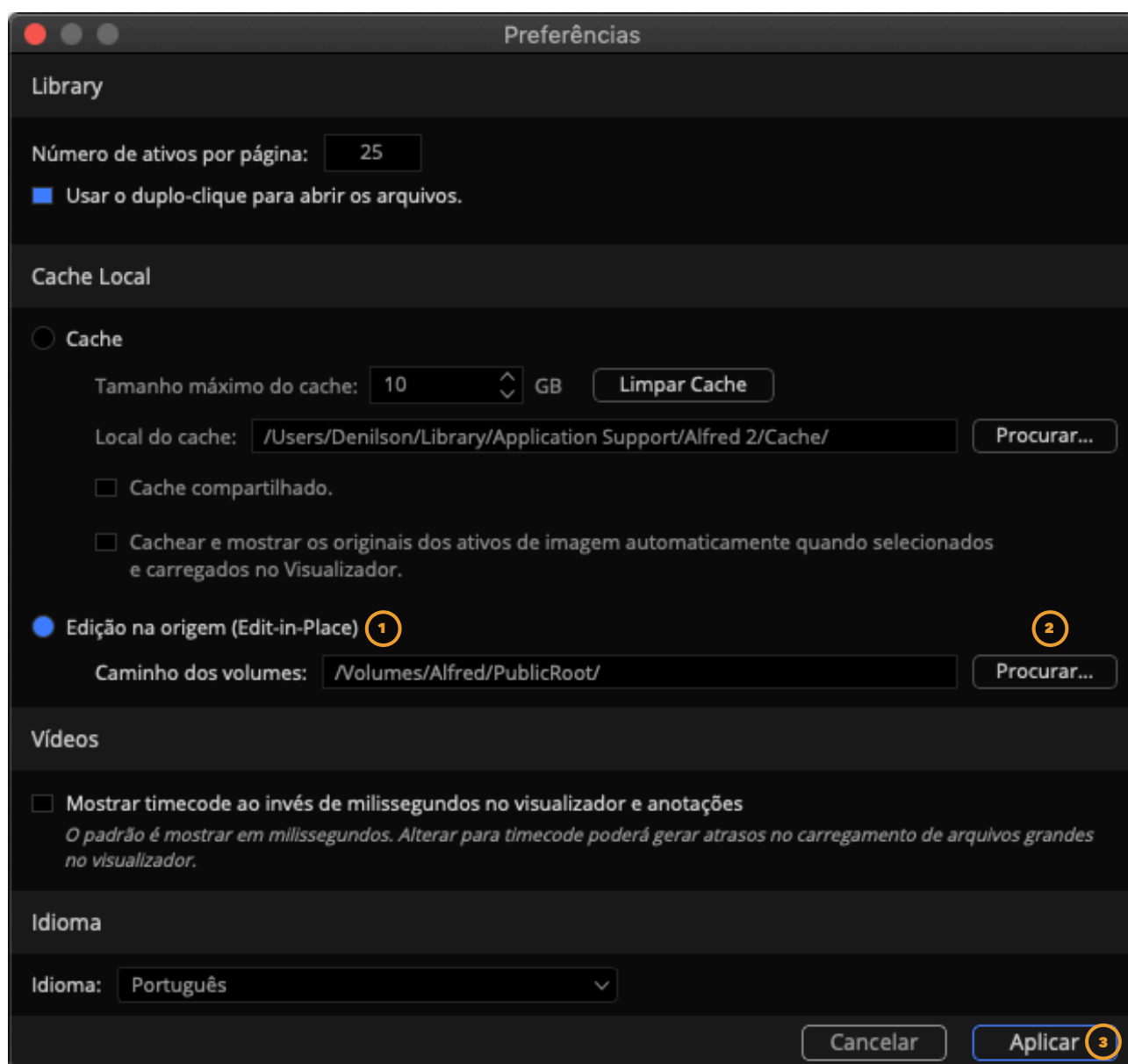


- 1 Opção “Número de ativos por página”: configura a quantidade de ativos visualizados por página. O número máximo de ativos por página é de 250.
- 2 Opção “Usar o duplo-clique para abrir originais”: permite a abertura dos arquivos originais diretamente na janela do “Alfred Client”.
- 3 Opção “Cache”: configura o “Alfred Client” para o trabalho em modo “Cache”, onde todas as representações dos ativos serão “cacheadas” para a máquina do cliente.

- 4 Opção "Tamanho do cache de proxies": configura o tamanho do cache da máquina. Ao atingir o tamanho do cache o "Alfred Client" automaticamente faz a manutenção dos caches, apagando os mais antigos.
- 5 Opção "Limpar Cache": efetua a limpeza dos arquivos cacheados manualmente.
- 6 Botão "Procurar...": seleciona o caminho onde serão cacheados os ativos na máquina cliente. O caminho selecionado será mostrado em "Local do cache".
- 7 Opção "Cache Compartilhado": Com esta opção selecionada, os ativos são cacheados em um único volume, desta forma os arquivos cacheados podem ser compartilhados por todos os usuários como um cache único.
- 8 Opção "Cachear e mostrar os ativos de imagem automaticamente quando selecionados e carregados no Visualizador": Com esta opção selecionada, os ativos de imagem serão cacheados automaticamente.
- 9 Opção "Usar Edit-in-Place": configura o "Alfred Client" para trabalho no modo de edição local dos ativos originais. Nesta condição, não existe a necessidade de cópia ou cache dos ativos para a estação de trabalho do usuário. Os ativos ficam disponíveis no armazenamento do Alfred (Alfred Array) e são acessados diretamente pela máquina cliente. Para ativos do tipo vídeo, você pode trabalhar tanto com os arquivos em alta resolução (arquivos originais) como com os arquivos em baixa resolução (proxies de edição).
- 10 Botão "Procurar...": seleciona o "Caminho dos volumes" para o trabalho no modo "Edit-in-Place". Este caminho deverá ser o volume do compartilhamento do "Alfred Array".
- 11 Opção "Mostrar timecode ao invés de milissegundos no visualizador e anotações".
- 12 Menu "Idioma": Seleciona o idioma da interface.
- 13 O botão "Cancelar": cancela e fecha a janela do compartilhamento.
- 14 O botão "Aplicar": confirma as alterações.

Trabalhando em "Edit-in-place"

No Alfred, é possível trabalhar na condição "Edit-in-place". Nesta condição, não existe a necessidade de cópia dos ativos para a estação de trabalho do usuário. Os ativos ficam disponíveis no armazenamento do Alfred e são acessados diretamente pela máquina cliente. Nas preferências do "Alfred Client" é possível configurar a condição de trabalho do "Drag-and-drop" para o "Edit-in-place". Acessar o menu "Alfred", e selecionar a opção "Preferências". O modo "Edição na origem" estará disponível para qualquer sistema operacional (macOS, Windows e Linux).



- 1 Selecione a opção "Edit-in-place"
- 2 Selecione o "Caminho dos volumes".
- 3 Confirme a seleção clicando em "Aplicar".
- 4 Após habilitar o modo "Edit-in-place" será necessário reiniciar o "Alfred Client".
- 5 No "Alfred Client" Selecione os ativos desejados para trabalho.
- 6 Faça o "Drag-and-drop" do material selecionado para dentro do software de edição (Apple Final Cut Pro X, BlackMagic Davince Resolve, dentre outros). Você pode utilizar o mesmo princípio para arquivos de imagens, áudios e documentos.
- 7 Efetue a edição do material normalmente e ao término, exporte o material salvando-o localmente em sua estação de trabalho.

Observações:

- O caminho para o volume do "Edit-in-place", deverá estar direcionado para a pasta "PublicRoot" do volume do servidor Alfred. Por exemplo:
 - Windows: \\192.168.1.100\Alfred\PublicRoot\
 - macOS: /Volumes/Alfred/PublicRoot/
- Deverá ser efetuado o mapeamento automático do volume do Alfred.
- Caso o caminho para o "Edit-in-place" não esteja disponível, o "Alfred Client" mudará a seleção de trabalho para o modo "Cache" automaticamente.

Atalhos

Atalho	Mac OS	Windows
Preferências	⌘ + ,	Control + ,
Fechar o Alfred	⌘ + Q	Control + Q
Catalogar	⌘ + B	Control + B
Novo projeto	⌘ + N	Control + N
Abrir Original	⌘ + O	Control + O
Abrir Proxy	⌘ + ⌘ + O	Control + Alt + O
Adicionar ao Cache Local	⌘ + ⌘ + A	Control + Alt + A
Remover do Cache Local	⌘ + ⌘ + R	Control + Alt + R
Colocar na Gaveta	⌘ + ⌘ + G	Control + Alt + G
Refazer Thumb	⌘ + ⌘ + T	Control + Alt + T
Refazer Skimming	⌘ + ⌘ + S	Control + Alt + S
Refazer Thumb/Skimming	⌘ + ⌘ + /	Control + Alt + /
Criar Streaming	⌘ + ⌘ + W	Control + Alt + W
Duplicar	⌘ + D	Control + D
Substituir	⌘ + S	Control + S
Enviar para a Lixeira	⌘ + Delete	Control + Delete
Esvaziar a Lixeira	⇧ + ⌘ + Delete	Shift + Control + Delete
Desfazer	⌘ + Z	Control + Z
Refazer	⇧ + ⌘ + Z	Control + Y
Editar	⌘ + E	Control + E
Favoritos - Incluir	⌘ + ⌘ + F	Control + Alt + F
Tornar Público	⌘ + ⌘ + U	Control + Alt + U
Tornar Privado	⌘ + ⌘ + L	Control + Alt + L
Trimming - Marcar Entrada	I	I
Trimming - Marcar Saída	O	O
Trimming - Limpar Marcação	U	U
Copiar	⌘ + C	Control + C
Colar	⌘ + V	Control + V
Recortar	⌘ + X	Control + X
Selecionar Tudo	⌘ + A	Control + A

Atalho	Mac OS	Windows
Atualizar	⌘ + R	Control + R
Tocar/Pausar	Space	Space
Reproduzir em Loop	⌘ + L	Control + L
Skimming	S	S
Janela - Library	⌘ + 1	Control + 1
Janela - Pesquisas	⌘ + 2	Control + 2
Janela - Pesquisa Refinada	⌘ + 3	Control + 3
Janela - Visualizador	⌘ + 4	Control + 4
Janela - Inspetor	⌘ + 5	Control + 5
Janela - Gaveta	⌘ + 6	Control + 6
Janela - Projeto	⌘ + 7	Control + 7
Abas do Inspetor - Geral	⌘ + ⌘ + 1	Control + Alt + 1
Abas do Inspetor - Mídia	⌘ + ⌘ + 2	Control + Alt + 2
Abas do Inspetor - Anotações	⌘ + ⌘ + 3	Control + Alt + 3
Abas do Inspetor - Análises	⌘ + ⌘ + 4	Control + Alt + 4
Ir Para - Library	⌘ + ⌘ + 1	Control + Shift + 1
Ir Para - Pesquisas	⌘ + ⌘ + 2	Control + Shift + 2
Ir Para - Pesquisa Refinada	⌘ + ⌘ + 3	Control + Shift + 3
Ir Para - Visualizador	⌘ + ⌘ + 4	Control + Shift + 4
Ir Para - Inspetor	⌘ + ⌘ + 5	Control + Shift + 5
Ir Para - Gaveta	⌘ + ⌘ + 6	Control + Shift + 6
Ir Para - Pesquisa Geral	⌘ + ⌘ + 7	Control + Shift + 7
Ir Para - Projetos	⌘ + ⌘ + 8	Control + Shift + 8
Processos	⌘ + .	Control + .
Tela Cheia	⌘ + ⌘ + F	Control + Shift + F

Glossário

Ativos - São as unidades básicas de mídia do catálogo do sistema. Cada ativo inclui seu arquivo original - o arquivo ingerido no sistema, mais os metadados inseridos e representações criadas (thumbnails e proxies). Os ativos são classificados em ativos de Vídeo, Áudio, Imagem e do tipo Genérico, dependendo do tipo do arquivo e de sua extensão.

Metadados - Os metadados são os campos de vários tipos (texto, texto multilinha, numérico, de data, checkbox e menu combo-box) usados para o preenchimento de informações as quais são relacionadas a cada ativo. Os metadados são importantes na busca dos ativos no catálogo do sistema, funcionando como um índice para o mesmo.

Thumbs ou **thumbnail** - É uma das representações dos ativos, sendo uma imagem em miniatura do arquivo. De acordo com o tipo de ativo, os thumbnails serão:

- Ativo de vídeo: primeiro quadro (frame) do vídeo ou quadro escolhido no visualizador.
- Ativo de imagem: a própria imagem.
- Ativo de áudio: a "waveform" do próprio áudio ou seu "CD Cover".
- Ativo de documento: dependendo do formato do documento, poderá ser uma imagem de parte dele ou um ícone específico do sistema para ativos de documento.

Proxies - É uma das representações dos ativos, específica para ativos de vídeo, sendo uma versão em baixa resolução do vídeo. Seu formato é pré-definido pelo administrador do sistema.

Skimmer - É uma das representações dos ativos, específica para ativos de vídeo, permitindo que diferentes quadros do vídeo sejam mostrados com a passagem do cursor pelo mesmo.

Status - É um metadado padrão do sistema e determina a condição do ativo junto ao mesmo. As opções de status são: Aprovado, Rejeitado e Revisar.

Automações - São funções automáticas pré-configuradas, iniciadas a partir de determinadas condições e que executam ações nos ativos os quais atendam a estas condições.