Universal modular frame designed for compact, economical system building. Build an optimal system for your environment from a full array of modules.

Available frames.
- 1RU size. Holds up to 5 modules: USF-105AS.
- 2RU size. Holds up to 12 modules: USF-212AS/212BS.
- Hot-swappable, front-accessible power unit and module bays.
- New design combining SDI and Ethernet.

Available modules
Below is the maximum number of modules mounted on each frame. For details, please contact FOR-A office.

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<td>USF-1013DEMUX</td>
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Available modules

**USF-10IP-TRC**

**USF-10IP-TRC-FS**

**USF-10IPSDI6-FS**

**USF-10IPSDI12-FS**

**USF-Series Universal System Frame**

**SMPTES T 2022-8 ↔ SMPTES T 2110 conversion**

- IP format: SMPTES T 2022-8, SMPTES T 2110.
- IP synchronization: PTP (SMPTES T 2059).
- Four 10 GbE (SFP+) port supports hitless operation for redundancy (SMPTES T 2022-7).
- Control: Web GUI, NMOS (IS-04/05 In-band).

**SMPTES T 2022-6 ↔ SMPTES T 2110 conversion**

- IP format: SMPTES T 2022-6, SMPTES T 2110.
- IP synchronization: PTP (SMPTES T 2059). Equipped with frame synchronization to synchronize SMPTES T 2022-6 sources using PTP.
- Four 10 GbE (SFP+) port supports hitless operation for redundancy (SMPTES T 2022-7).
- Control: Web GUI, NMOS (IS-04/05 In-band).

**IP ↔ SDI conversion**

- IP format:
  - SMPTES T 2022-6/8, SMPTES T 2110 (used by switching, cannot be mixed).
  - IP synchronization: PTP (SMPTES T 2059).
  - Frame synchronizer:
    - Selectable from sync signal generated from PTP or external BB input.
    - Two 10 GbE (SFP+) port supports hitless operation for redundancy (SMPTES T 2022-7).
  - Video format: 1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i.
  - Conversion of up to 6 streams.
  - HD-SDI: Up to 6 inputs or 6 outputs, or 3 inputs/3 outputs.
  - Compresses 12G-SDI to 3G/1.5G-SDI and processes 4K signals by using codec module USF-106TI-CO-12G simultaneously with input/output signals.
  - Control: Web GUI, NMOS (IS-04/05 In-band).

- IP format:
  - SMPTES T 2022-6/8, SMPTES T 2110 (used by switching, cannot be mixed).
  - IP synchronization: PTP (SMPTES T 2059).
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  - HD-SDI: Up to 6 inputs/6 outputs.
  - Compresses 12G-SDI to 3G/1.5G-SDI and processes 4K signals by using codec module USF-106TI-CO-12G simultaneously with input/output signals.
  - Control: Web GUI, NMOS (IS-04/05 In-band).
Available modules

**USF-106TICO-12G**

4K/TICO encoder/decoder

- TICO codec support enables video compression and expansion with high image quality and low latency.
- 4K video transfer over 3G/HD-SDI.
- One 12G-SDI input, 2 outputs.
- 4K 2SI/3GSDI, Level-A/B support.
- Downconversion from 4K to HD (1080i/1080p).
- Upconversion available as an option.
- HDR/WCG-compatible color processing.
- Audio processing enables automatic/semi-automatic audio delay setting.
- Frame synchronization.

**USF-105FS-12G**

12G-SDI frame synchronizer

- Supports 3840x2160 Single Link 12G-SDI.
- Supports 3840x2160 Quad Link (3G/2SI), Level-A/B 3G-SDI (input and output are switched from a menu).
- 12G-SDI and Quad Link 3G-SDI (3G/2SI, Level-A/B) conversion (Gearbox).
- FS mode: Adjusts phases and syncs asynchronous SDI signals to genlock signals.
- Automatic muting for detected audio errors.
- 16-channel audio sample rate converter (SRC).
- Audio delay adjustment for each channel (up to 1,000 ms), and audio channel remapping.
- Audio downmixing for linear PCM.
- H/V ancillary data pass-through (synchronous input only).
- Proc amp, video clip, video delay, and freeze.
- 16-channel embedded audio support (asynchronous audio support for 3G/HD-SDI).
- SNMP monitoring.

**USF-1043FS**

3G/HD/SD-SDI frame synchronizer

- Splits a 3G/HD/SD-SDI source selected from 2 inputs, for distributed output to 4 ports.
- FS mode: Adjusts phases and syncs asynchronous SDI signals to genlock signals.
- Automatic muting for detected audio errors.
- 16-channel audio sample rate converter (SRC).
- Audio delay adjustment for each channel (up to 1,000 ms), and audio channel remapping.
- Audio downmixing for linear PCM.
- Seamless switching of audio and video inputs.
- H/V ancillary data pass-through (synchronous input only).
- Proc amp, video clip, video delay, and freeze.
- 16-channel embedded audio support (asynchronous audio support for 3G/HD-SDI).
- SNMP monitoring.
Available modules

**USF-106UDC-12G**

12G-SDI 4K/HD up/down converter
- Supports 3840 x 2160 Single Link 12G-SDI.
- Supports 3840 x 2160 Quad Link (2SI/SQD) 3G-SDI (input and output are switched from a menu).
- 3G-SDI Level-A/B conversion.
- Dynamic range conversion.
- Color processing circuit to support 4K/HD production.
- 16-channel embedded audio support.
- Sync modes: Frame, Line, AVDL, Line (Min.).
- GUI software (full) and web browser (limited) control.
- SNMP monitoring.

**USF-106DC-12G**

12G-SDI 4K to HD down converter
- Supports 3840 x 2160 Single Link 12G-SDI.
- Supports 3840 x 2160 Quad Link (2SI/SQD) 3G-SDI (input and output are switched from a menu).
- Dynamic range conversion.
- Color processing circuit to support 4K/HD production.
- 16-channel embedded audio support.
- Sync modes: Frame, Line, AVDL, Line (Min.).
- GUI software (full) and web browser (limited) control.
- SNMP monitoring.

**USF-111DDA-12G**

12G-SDI 11 outputs digital video distributor
- Supports SDI 12 Gbps, 3 Gbps, 1.5 Gbps, or 270 Mbps signals.
- DVB-ASI (270 Mbps) also supported.
- SNMP monitoring.
- Equalizer and re-clock functions.
Available modules

USF-105DDA-12G

12G-SDI 5 outputs digital video distributor
- Supports SDI 12 Gbps, 3 Gbps, 1.5 Gbps, or 270 Mbps signals.
- DVB-ASI (270 Mbps) also supported.
- SNMP monitoring (USF-212AS or USF-105AS frame required).
- Equalizer and re-clock functions.

USF-1053DDA

5 outputs 3G/1.5G/270 Mbps digital video distributor
- 1 input, 10 distribution outputs available with 2 USF-1053DDA modules.
- 3G/HD/SD-SDI equalization and reclocking.
- Supports SDI 3.0 Gbps, 1.5 Gbps, or 270 Mbps signals.
- DVB-ASI (270 Mbps) also supported.
- SNMP monitoring.

USF-1043VM

3G/HD/SD-SDI digital video distributor with signal monitor and change-over switch
- Supports 3G/HD/SD-SDI signals.
- Can be configured for 1 input/4 outputs or 2 inputs/2 outputs systems.
- Switches seamlessly to the other line when errors of input signals are detected.
- SNMP monitoring.

* 2 of the input signal must be the same format.
10 outputs analog video distributor

- Cable equalization corrects frequency characteristics in analog video distribution.
- Ideal for BB or tri-level sync signal distribution.
- Pass-through input supported.
- Browser-based control and SNMP monitoring (optional).

4 outputs analog video distributor

- Cable equalization corrects frequency characteristics in analog video distribution.
- Ideal for BB or tri-level sync signal distribution.
- Pass-through input supported.
- Browser-based control and SNMP monitoring (optional).

5 outputs unbalanced digital audio distributor

- Expandable to 20 outputs, using 4 modules.
- LTS and Word Clock signals can be supported by changing the signal mode.
- SNMP monitoring.
Available modules

**USF-108ADA**

8 outputs analog audio distributor
- Can be configured for 1 input/8 outputs or two 1 input/4 outputs systems.
- Browser-based control and SNMP monitoring (optional).

When distributing 1 input to 8 outputs

When distributing 1 input to 4 outputs (2 inputs to 8 outputs in total)

**USF-204ADAC**

Digital-to-analog audio converter with AES/EBU 2 channels input/output
- Converts 2 channels of digital audio to 4 channels of analog audio.
- Adjustable digital audio input level (-20/-18 dBFS).
- Adjustable audio output level (-10/0/4/8 dBu).
- Adjustable audio silence period (1 to 10 sec).
- SNMP monitoring.

**USF-402AADC**

Analog-to-digital audio converter
- Converts 4 channels of analog audio to 2 channels of digital audio.
- Adjustable input impedance (6000/10k).
- Adjustable input gain (+6 dB with front dial, ±20 dB via browser).
- Adjustable analog audio input level (-10/0/4/8 dBu).
- Adjustable digital audio reference level (-18/-20 dBFS).
- Adjustable audio silence period (1 to 10 sec).
- Supports output synced with reference signals from the USF.
- SNMP monitoring.
USF-101MDX4-12G

12G-SDI 4K audio multiplexer/demultiplexer with 8 channels of AES/EBU input/output

- Supports transfer rates from 270 Mbps to 12 Gbps.
- Sync modes: Frame, Line, AVDL, Line (Min.).
- Sample rate converter (SRC) for MUX/DEMUX of asynchronous AES/EBU signals (switched from a menu).
- MUX: Mapping 8 channels (4 pairs) of AES/EBU signals in 16 channels (at 4K) and embedding onto SDI signals.
- DEMUX: De-multiplexes 8 selected channels from 16 channels from SDI signals as AES/EBU audio output.
- LTC port is used for input and output.
- SNMP monitoring.

USF-101MDX8-12G

12G-SDI 4K audio multiplexer/demultiplexer with 16 channels of AES/EBU input/output

- Supports transfer rates from 270 Mbps to 12 Gbps.
- Sync modes: Frame, Line, AVDL, Line (Min.).
- Sample rate converter (SRC) for MUX/DEMUX of asynchronous AES/EBU signals (switched from a menu).
- MUX: Mapping 16 channels (8 pairs) of AES/EBU signals in 16 channels (at 4K) and embedding onto SDI signals.
- DEMUX: De-multiplexes 8 selected channels from 16 channels from SDI signals as AES/EBU audio output.
- LTC port is used for input and output.
- SNMP monitoring.
**USF-1013MUX**

3G/HD/SD-SDI digital audio multiplexer
- Multiplexes 4 pairs (8 channels) of AES/EBU signals onto SDI signals.
- 1 input and 1 output (3G/HD/SD-SDI).
- Gain adjustment for audio input/output.
- Timecode (LTC) input (or AES IN 7/8 available).
- Sample rate converter for AES/EBU input.
- SNMP monitoring.

**USF-1013DEMUX**

3G/HD/SD-SDI digital audio demultiplexer
- Demultiplexes audio from SDI signals into AES/EBU audio output.
- 1 input and 1 output (3G/HD/SD-SDI).
- Gain adjustment for audio input/output.
- Timecode (LTC) input (or AES IN 7/8 available).
- SNMP monitoring.