

Flash XDR/nanoFlash ASI

Firmware Version 1.5.50/1.5.75

Installation

-If your XDR has a version earlier than 1.1.0, you need to first load version 1.1.0 and then load the new version of firmware. This is due to additional features implemented in versions after 1.1.0. Note that you cannot revert back to an earlier firmware version after updating to version 1.1.x.

-Unzip the firmware version. Put the }UPD{ directory with the }xdr{.bin(or } nano{.bin) file into the root directory of a CF card. Put the Card in a powered up Flash XDR/nanoFlash that is not in ASI mode (ASI mode disables the CF card interface). The XDR/nanoFlash will recognize the card as an update card and display a message prompting you to press F2 and F5 simultaneously to start the update. The update will take about 10 minutes. Once complete, the XDR/nanoFlash will display a message to remove the CF update card and cycle power.

-If you do not have a CF card, we can send you a 2 GB card for use with updates.

ASI mode Activation

-If you ordered your nanoFlash/XDR direct from the factory with the ASI option, it will already have been enabled for your unit.

-ASI mode is an activated extra cost feature in Flash XDR/nanoFlash. To do the activation, send an email to cdsupport@convergent-design.com and request ASI activation. We will send you a file }OPT{.bin. Put this file on the CF card under the }OPT{ directory. Be sure to delete the }UPD{ directory on the card first. Once inserted in the XDR/nanoFlash, the unit will display the message }USN{.bin written to card. Send us this }USN{.bin file (this is the internal serial number of the unit, it is located in the }OPT{ directory). We will create the activation file for that specific unit (another }OPT{.bin file) and send it to you. Note that the activation file will only work on the specific unit that you retrieved the serial number from.

ASI Encode

-To enter ASI encode mode, power on the unit, press the down arrow on the unit until you have selected ASI (underneath the Play menu). Press the right arrow to highlight the check box, press up or down to check the box and press enter. The unit will reboot into ASI mode.

-Select the bitrate by going to the video menu and then changing the bitrate option. There are separate bitrate selections for HD and SD. Note that ASI encode/decode starts automatically upon source detection and no changes can be made in the menu system while the unit is encoding/decoding. Remove the source to make changes.

-Attach a valid video source into the SDI in BNC. The ASI encoded video will be output on the SDI/ASI out BNC.

-Encoding starts automatically (will take a couple seconds to start encoding).

ASI Decode

-First put the XDR in ASI mode as done in ASI encode mode.

-Attach the ASI source to the SDI/ASI in BNC. Note that the unit says Asi on the status line when an ASI source is detected (but only in ASI mode).

-ASI decoding starts automatically after a couple seconds

-The option next to ASI on in the menu system for Loop-out forces the unit to loop the ASI input out the SDI output in decode mode on the nanoFlash. This is useful if the upstream source is either a video source or ASI source and downstream from the nanoFlash always expects ASI.

NOTE: Settings cannot be changed while the Flash XDR/nanoFlash is encoding or decoding, to change settings, please disconnect the input.

Technical Specifications and what is currently working

-The XDR currently encodes video and audio. Audio encoding is at 384 kbps stereo MPEG1 layer 2. The video encoding options are 19, 25, 35, and 50 Mbit (HD) and 5, 6, 7, 8, 9 Mbit (SD). 50 Mbit encoding is currently done in the 4:2:2 color space.

-The XDR currently has fixed PIDs and Program numbers. These will be programmable in the near future. The current PIDs used are:

Video PID: 0x0810 (decimal 2064)

Audio PID: 0x0814 (2068)

PCR PID: 0x0134 (308)

PMT PID: 0x0081 (129)

Program number: 0x01 (1)

-We have tested with the Alitronika ASI to USB converter and the TSReader software, which successfully decodes the video from the XDR/nanoFlash. We have also tested with BMS microwave modulators/demodulators using the XDR/nanoFlash encode/decode functionality and video lan player using TSReader software to dump the raw transport stream and VLC to play it back.

-Tandberg RX1290 works with XDR/nanoFlash ASI encoder

-Miranda IRD-3802 works with XDR/nanoFlash ASI encoder

-Miranda HD-Bridge DEC+ works with XDR/nanoFlash ASI encoder

- Sencore MRD 3187A works with the XDR/nanoFlash ASI encoder

-Tektronix MTS400 MPEG analyzer - shows no errors

-The XDR/nanoFlash are not designed to be universal decoders and are only designed to work with a XDR/nanoFlash encoder.

Planned Schedule for ASI features

-Programmable PIDs, Program number - 2010

-Low latency I frame mode (160 Mbit, 60 mSec latency for encode)

-SMPTE 302M LPCM multichannel audio embedding/de-embedding in ASI stream