

DIGI-SCAL-1 1 X2

1 1 X2 SWITCHER/SCALER/FORMAT CONVERTER






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DESIGN WITH INTELLIGENCE
Rev. 1103

Important Safety Instructions

- **Please completely read and verify you understand all instructions in this manual before operating this equipment.**
- Keep these instructions in a safe, accessible place for future reference.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Use only accessories specified or recommended by Intelix.
- Explanation of graphical symbols:
 - Lightning bolt/flash symbol: the lightning bolt/flash and arrowhead within an equilateral triangle symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product enclosure which may be of sufficient magnitude to constitute a risk of shock to a person or persons. 
 - Exclamation point symbol: the exclamation point within an equilateral triangle symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product. 
- **WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.**
- Use the mains plug to disconnect the apparatus from the mains.
- **THE MAINS PLUG OF THE POWER SUPPLY CORD MUST REMAIN READILY ACCESSIBLE.**
- Do not defeat the safety purpose polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of your obsolete outlet. **Caution! To reduce the risk of electrical shock, grounding of the center pin of this plug must be maintained.**
- Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.
- Do not block the air ventilation openings. Only mount the equipment per Intelix’s instructions.
- Use only with the cart, stand, tripod, bracket, table, or rack specified by Intelix or sold with the equipment. When/if a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over. 
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- **Caution! Shock Hazard.** Do not open the unit. Refer to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Overview

How do you integrate multiple analog and digital devices into a single, comprehensive high-definition environment? Magic? Miracle? Intelix.

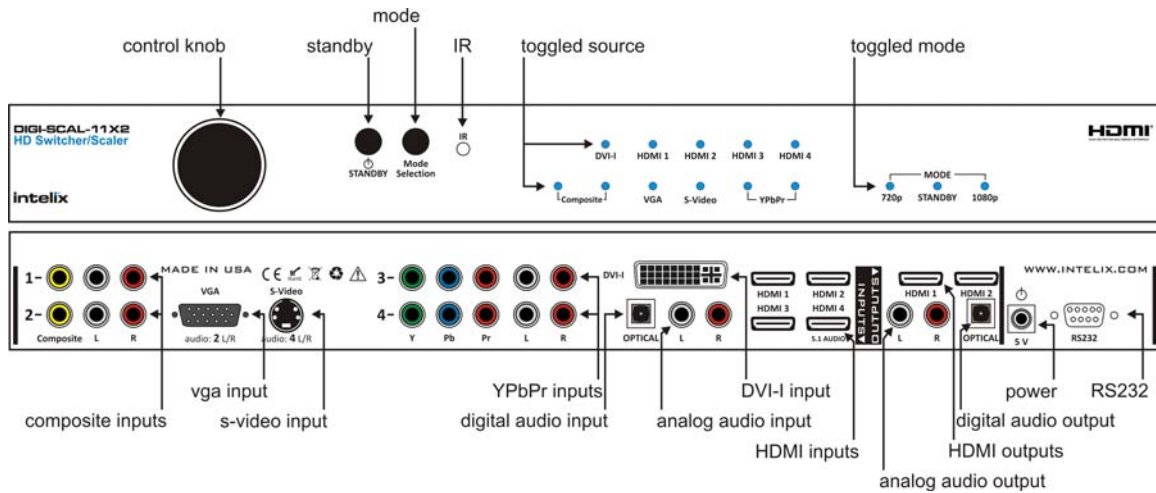
The Intelix DIGI-SCAL-11X2 features the processing of three different devices—switching, scaling, and format conversion—in a single, 1RU chassis. It provides switching between eleven different audio-visual sources, it scales the sources up to 720p or 1080p, and it converts the signals to HDMI for seamless integration into your HD environment.

The DIGI-SCAL-11X2 makes your old skool equipment look good and your new school technology state-of-the-art.

Design with Intelix and Design with Intelligence.

DIGI-SCAL-11X2 Package Contents

- DIGI-SCAL-11X2 switcher/scaler/format converter
- 5 VDC power supply
- 19" rack-mounting ears
- Remote control
- Manual



Installation

To install the Intelix DIGI-SCAL-11X2, please perform the following steps.

1. If mounting in a 19" audio/video rack, affix the 19" rack ears to the DIGI-SCAL-11X2. The DIGI-SCAL-11X2 requires one rack unit of spacing.
2. Power-off the source and destination audio and video devices.

Note: All connecting audio-visual equipment must be powered off.

3. Connect the input sources to the DIGI-SCAL-11X2 using high-quality cables.

Ventilation when Rack Mounting

- At least 2 inches of free air space is required on both sides of the DIGI-SCAL-11X2 for proper side ventilation.
- Ensure there are no closeable doors on the rack that might seal the DIGI-SCAL-11X2 from a steady supply of cool air.
- Avoid mounting the DIGI-SCAL-11X2 near a power amplifier or any other source of significant heat.
- It is recommended that you leave an empty rack space above and below the DIGI-SCAL-11X2 for additional cooling.

4. Connect the output destinations to the DIGI-SCAL-11X2 using high-quality HDMI, stereo audio, and/or digital audio cables.
5. If desired, connect a second HDMI destination to the DIGI-SCAL-11X2. HDMI outputs 1 and 2 are paralleled.
6. Connect the included 5 VDC power supply to the DIGI-SCAL-11X2.
7. If controlling remotely, connect an RS232 or IR control cables.

8. Power-on the DIGI-SCAL-11X2.
9. Power-on the source and destination audio and video devices.

Operation

To operate the Intelix DIGI-SCAL-11X2, please perform the following steps.

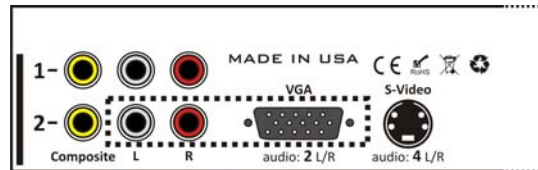
Note: The DIGI-SCAL-11X2 features on-board memory. Settings are stored during power off and restored during power on. Additional system saves occur automatically every five minutes.

Channel Pairing

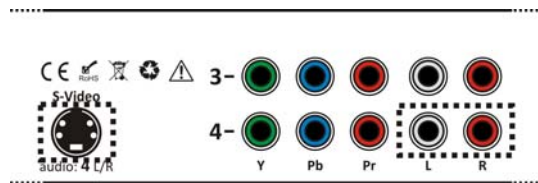
The DIGI-SCAL-11X2 features eleven different audio/video inputs. To best utilize the switching functionality, audio and video pairing are as follows.

Input	Video Format	Audio Format
1	Composite	Stereo audio
2	Composite	Stereo audio
3	YPbPr	Stereo audio
4	YPbPr	Stereo audio
5	VGA	Stereo audio
6	S-video	Stereo audio
7	DVI-I	Stereo audio & digital audio
8	HDMI	Digital audio
9	HDMI	Digital audio
10	HDMI	Digital audio
11	HDMI	Digital audio (Dolby 5.1)

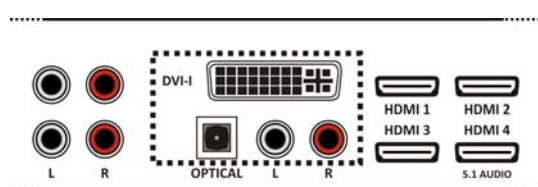
When using VGA sources with audio, stereo audio channel two should be used.



When using S-video sources with audio, stereo audio channel four should be used.



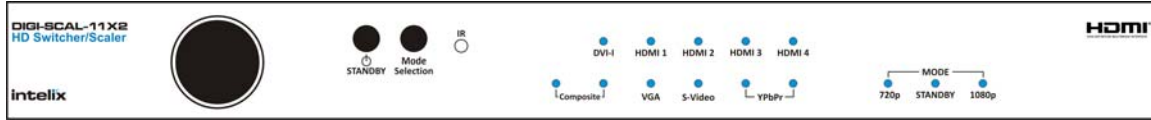
When using DVI-I sources with audio, both digital (optical) and analog (stereo) audio are available.



Note: The DIGI-SCAL-11X2 converts analog audio to digital audio; however, it will not convert digital audio from the optical audio input or HDMI input 4 to stereo audio.

Front Panel Control

The DIGI-SCAL-11X2 features front panel control for source and mode selection.



1. Power on the unit by selecting the *Standby* button.
2. Select the desired audio-visual input with the rotary control knob.
3. Select the desired mode (720p or 1080p) with the *Mode Selection* button.

Supported Signal Formats

Input Signal	Format
Composite	PAL, NTSC
S-video	PAL, NTSC
YPbPr ¹	480i, 480p, 576i, 576p, 720p, 1080i, 1080p
VGA ²	800x600, 1024x768, 1152x864, 1280x768, 1280x960, 1280x1024, 1440x900, 1400x1050, 1600x1200, 1920x1200
DVI-I ²	800x600, 1024x768, 1152x864, 1280x768, 1280x960, 1280x1024, 1440x900, 1400x1050, 1600x1200, 1920x1200
HDMI ¹	480i, 480p, 576i, 576p, 720p, 1080i, 1080p

Output Signal	Format
HDMI ¹	720p, 1080p

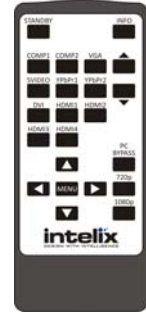
¹supported modes: 50 and 60 hz

²supported modes: 60 hz

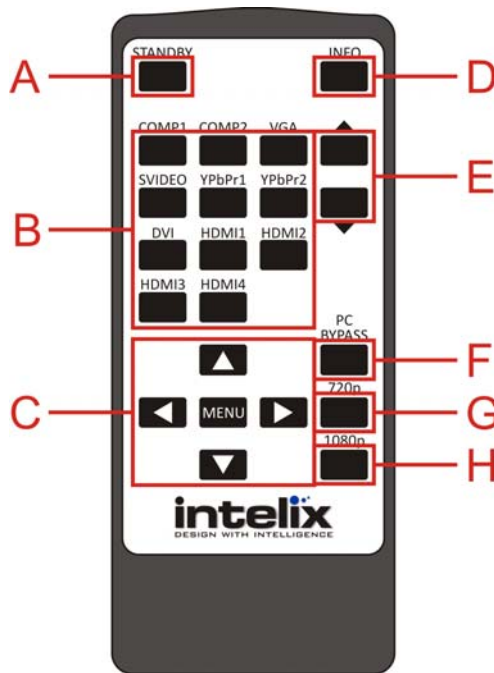
Included Remote Control

The DIGI-SCAL-11X2 includes a wireless remote control for source selection, mode selection, and system configuration.

1. Verify the IR sensor on the front panel of the DIGI-SCAL-11X2 is visible.
2. Aim the remote control at the sensor window. Push the desired button. Boo yah.



Note: If your boo yah isn't working, try moving closer to the unit. If it still isn't working, verify the battery is fully charged.



Function	Description
A Standby	Toggles on and off standby mode (low power mode)
B Source Selection	Directly selects an audio-visual input
C Menu	Toggles the onscreen menu
D Info	Toggles the input and output messaging
E Source Scrolling	Toggles the next or previous audio-visual input
F PC Bypass	Toggles on and off PC bypass mode
G 720p Mode	Toggles the output mode to 720p
H 1080p Mode	Toggles the output mode to 1080p

PC Bypass Mode

PC Bypass Mode allows a computer's native resolution to display on the destination monitor. In essence, this mode disables format conversion of the DVI and VGA inputs, even though the output is still on the HDMI connectors.

When using *PC Bypass Mode*, the front panel indicators will disable. In addition, the default output will be in 1080p.

PC Bypass Supported Resolutions

Input ²	800x600, 1024x768, 1152x864, 1280x720, 1280x960, 1280x1024, 1440x900, 1600x1200, 1920x1080
Output ²	800x600, 1024x768, 1152x864, 1280x720, 1280x960, 1280x1024, 1440x900, 1600x1200, 1920x1080

²supported modes: 60 hz

Onscreen Display Menu

Picture	Contrast	0 – 100 of contrast level
	Brightness	0 – 100 of brightness level
	Saturation	0 – 100 of saturation level
	Sharpness	0 – 100 of sharpness level
	Hue	0 – 100 of hue level
	Picture Mode	standard / dynamic / soft / personal
	Scale	full / overscan / underscan / letterbox / panscan
	Noise Rejection	high / mid / low / auto / off
	Reset	reset settings to factory default
	PC	Contrast
Brightness		0 – 100 of brightness level
Horizontal Position		adjust horizontal positioning
Vertical Position		adjust vertical positioning
Horizontal Size		adjust horizontal size
Vertical Size		adjust vertical size
Reset		reset settings to factory default
Onscreen Display	Horizontal Position	adjust horizontal positioning of onscreen display
	Vertical Position	adjust vertical positioning of onscreen display
	Duration	5 sec / 15 sec / 30 sec / 60 sec
	Halftone	0 – 8 of halftone level
	Reset	reset settings to factory default

Note: Changes in the onscreen display settings affect the currently selected input. Each channel may be configured independently.

IR Remote Control

The DIGI-SCAL-11X2 supports remote control via IR through a front panel IR sensor.

1. If controlling the DIGI-SCAL-11X2 through the IR sensor on the front panel, place an IR emitter directly over the front panel sensor.

IR Emitter Mounting Tips

- Surrounding electrical equipment may be producing high levels of IR noise. Plasma TVs and compact fluorescent lights are known polluters. Shield the outside of the emitter and the hardware's IR window with electrical tape.
- Verify the emitter is directly on the hardware's IR window and directly over the IR sensor. Operation may be intermittent if the emitter is too far away from the sensor.
- Clean the DIGI-SCAL-11X2 IR sensor window with an alcohol-based cleaner before applying the emitter to guarantee adhesion.
- Should the emitter not adhere to the DIGI-SCAL-11X2 sensor window, apply a small drop of glue to the adhesion pad on the emitter and re-apply.

RS232 Remote Control

The DIGI-SCAL-11X2 supports remote control through a rear panel RS232 control port.

1. If controlling the DIGI-SCAL-11X2 through the RS232 control port on the rear panel, connect a straight-through serial cable directly to the matrix.

9600 baud rate
8 data bits
1 stop bit
No parity bit
No handshake

RS232 Commands

Code	Description	Ascii	Hex
	Switch to AV 1	s1	0x7C 0x73 0x31
	Switch to AV 2	s2	0x7C 0x73 0x32
	Switch to VGA	s3	0x7C 0x73 0x33
	Switch to S-Video	s4	0x7C 0x73 0x34
	Switch to Component 1	s5	0x7C 0x73 0x35
	Switch to Component 2	s6	0x7C 0x73 0x36
	Switch to DVI	s7	0x7C 0x73 0x37
	Switch to HDMI 1	s8	0x7C 0x73 0x38
	Switch to HDMI 2	s9	0x7C 0x73 0x39
	Switch to HDMI 3	sA	0x7C 0x73 0x41
	Switch to HDMI 4	sB	0x7C 0x73 0x42
	Menu	mm	0x7C 0x6D 0x6D
	Menu Left	ml	0x7C 0x6D 0x6C
	Menu Right	mr	0x7C 0x6D 0x72
	Menu Up	mu	0x7C 0x6D 0x75
	Menu Down	md	0x7C 0x6D 0x64
	Info	mi	0x7C 0x6D 0x69
	PC Bypass	bp	0x7C 0x62 0x70
	720P	o2	0x7C 0x6F 0x32
	1080P	o1	0x7C 0x6F 0x31

Note that the "0x" in the *Hex* column denotes that the number is a hexadecimal number. The programmer should only transmit the number in the proper format for their control system.

Technical Specifications

Vertical Frequency Range	24 - 60 Hz
Signaling Rate	2.25 gigabits per second
Input DDC Signal	5.0 volts p-p (TTL)
Input Video Signal.....	0.5 – 1.0 volts p-p
Video Amplifier Bandwidth	255 MHz
Input Connectors	Four (4) HDMI type A connectors Two (2) composite video RCA connectors (2) YPbPr video RCA connectors One (1) HD15 VGA connector One (1) 4-pin S-video connector One (1) DVI-I video connector Five (5) stereo audio RCA connectors One (1) optical digital audio connector
Output Connectors.....	Two (2) HDMI type A connectors Two (2) stereo audio RCA connectors One (1) optical digital audio connector
Supported Video Resolutions	480i, 480p, 576i, 576p, 720p, 1080i, 1080p 8, 10, 12 bits per channel
Diagnostic.....	Front panel input to output LEDs Front panel mode LED
Operating Temperature Range.....	-41 to 95 degrees F -5 to 35 degrees C
Operating Humidity Range.....	5 to 90% non-condensing
Included Accessories	One (1) 5 VDC power supply Two (2) 19" rack mounting ears One (1) remote control
Control.....	Front panel, RS232, and IR
Dimensions	16.9" x 1.75" x 7.9" 1 RU
Enclosure	Black metal
Max Power Consumption	15 watts
Power	5 VDC
Regulatory	CE, RoHS
Shipping Weight	8 lbs
Intelix Part Number	DIGI-SCAL-11X2
Warranty	2 years



Warranty

Intelix warrants to the original purchaser of new and B-stock products that the product will be free from defects in material and workmanship for a period of 2 years from the date of purchase from an authorized Intelix reseller, subject to the terms and conditions set forth below.

All Intelix products are guaranteed against malfunction due to defects in materials or workmanship for two years after date of purchase. If a malfunction does occur during the specified period, the defective product will be repaired or replaced at Intelix's option without charge. As a condition to receiving the benefits of this warranty, you must provide Intelix with documentation that establishes you were the original purchaser of the Intelix products. If you are not the original purchaser, the Intelix equipment must be accompanied by dated documentation of proof of purchase.

This warranty does not cover: 1) Malfunction resulting from use of the product other than as specified in the user manual; 2) Installation specific wiring; 3) Malfunction resulting from abuse or misuse of the product; 4) Exterior chassis appearance; 5) Malfunction occurring after repairs have been made by anyone other than Intelix or any of its authorized service representatives; 6) Acts of nature; 7) Optional software upgrades or updates.

This warranty will be void if the product's serial number or quality control sticker has been removed or defaced, or if the product has been altered, subjected to damage or abuse, repaired by any person not authorized by Intelix to make repairs, or installed in any manner that does not comply with Intelix's recommendations.

This warranty is in lieu of all other warranties, express or implied. Intelix disclaims all other warranties, express or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose.

No agent or reseller of Intelix is authorized to modify this warranty or to make additional warranties on behalf of Intelix. Statements, representations or warranties made by any party other than Intelix does not constitute warranties by Intelix. Intelix shall not be responsible or liable for any statement, representation or warranty made by any other person or party.

Return service is offered to the original purchaser of the equipment within 30 days from the original shipment from Intelix. All items must be in their original factory condition, including all accessories and packaging. A restocking fee of no less than 15% applies to all returns. A higher fee may be applied depending on condition, model, and the age of the equipment. Intelix reserves the exclusive right to determine the restocking fee. At Intelix's option, refunded amounts will be placed on the original purchaser's account in the form of a credit.

Returns and service is only offered after a return authorization (RA) number has been generated by an authorized Intelix factory representative. This RA number must be clearly referenced on the outside of all packages shipped to Intelix. Intelix Applications must be contacted prior to any return of goods; all return shipments received by Intelix without an RA number will be refused. All shipments must be received within 30 days from the RA number issue date.

At Intelix's option, Intelix will advance replace failing Intelix goods on direct reseller accounts within 90 days of shipment from Intelix. The advanced replaced goods will be invoiced and payment will be due under standard terms if the failing goods are not received within 14 days of the advanced replacement shipment.

Intelix will match shipping method for units still under warranty. If a unit which is out of warranty needs repair, the dealer must pay for shipping, replacement parts, and a fixed \$100/hr* labor fee. Normal Intelix credit terms apply to billable repairs. If a unit is returned and found to work according to factory specifications, a \$100 service fee* is billed regardless of warranty status. All repairs are made in a reasonably quoted amount of time; a rush shipment fee of \$50* may apply to repairs needing a quicker than usual turn-around time.

All goods outside of the standard warranty period which are repaired by Intelix are covered by an additional 90 day warranty. This 90 day warranty only covers the specific repaired components. All other standard warranty limitations apply.

**Or current applicable rate/fee.*

Warranty, return, and shipping terms and conditions subject to change and do not apply outside of United States and Canada. Please contact the factory for the most up-to-date information.

Thank you for your purchase.

We appreciate your business. Please contact us with your questions and comments.

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