

# **S-V16AR**

**16 CHANNEL ACTIVE RECEIVER RACK BALUN CHASSIS**






## Table of Contents

Overview.....	4
Installation and Operation.....	5
Troubleshooting.....	9
Technical Specifications .....	10
Warranty .....	12
Contact Information.....	14

Copyright 2009 Intelix LLC.  
**DESIGN WITH INTELLIGENCE**

## 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

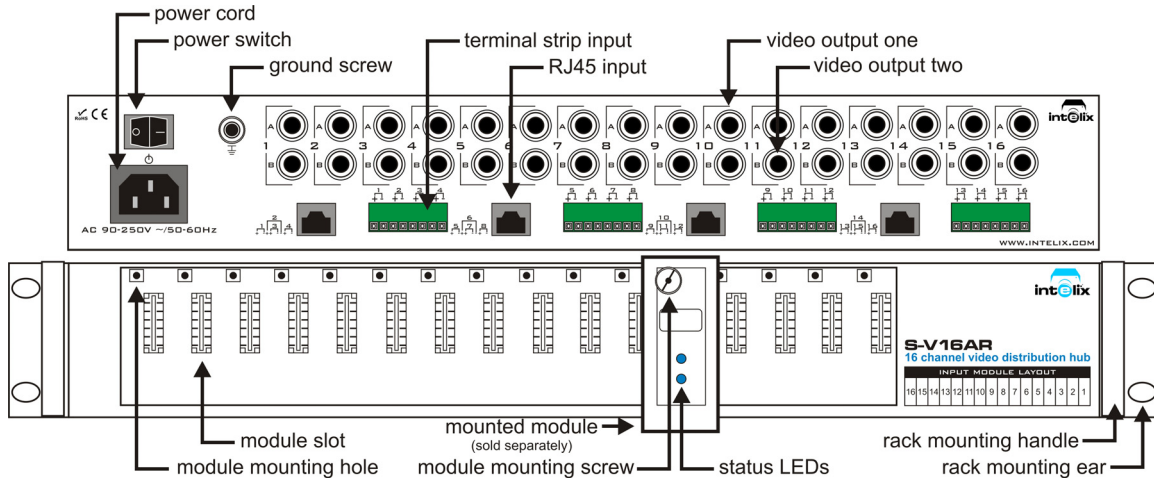
The Intelix S-V16AR receives composite video up to 4,000 feet over standard twisted pair cabling, such as Cat 5 and Cat 6. When used in conjunction with compatible passive Intelix baluns, the S-V16AR effectively extends cabling distances and replaces traditional bulky video cable.

A rack-mounted card frame system, the S-V16AR supports up to 16 active input modules (sold separately), thereby allowing custom configurations depending on the application requirements. Each channel features dual buffered BNC outputs, built-in surge suppression, ground loop isolation, gain and loss control, diagnostic video detection, and automatic video adjustment. The S-V16AR is ideal for security and monitoring applications with such equipment as CCTV cameras, monitors, DVRs, video sequencers, video multiplexers, quads, switchers, and servers.

**When signal quality matters, choose Intelix.**

### *S-V16AR Package Contents*

- S-V16AR chassis
- Power cord
- 19" rack-mounting ears
- 19" rack-mounting handles
- Four (4) terminal connection blocks
- Manual



## Installation and Operation

To install the Intelix S-V16AR chassis, please perform the following steps.

1. If mounting in a 19" audio/video rack, affix the 19" rack ears to the S-V16AR. The S-V16AR requires 1.5 rack units of spacing.

### *Ventilation when Rack Mounting*

- At least 2 inches of free air space is required on both sides of the S-V16AR for proper side ventilation.
- Ensure there are no closeable doors on the rack that might seal the S-V16AR from a steady supply of cool air.
- Avoid mounting the S-V16AR near a power amplifier or any other source of significant heat.
- It is recommended that you leave empty rack space above and below the S-V16AR for additional cooling.

2. Power-off the source and destination audio and video devices.

**Caution:** To minimize the possibility of equipment damage from electrostatic discharge (ESD), all source and destination equipment must be powered off during installation. This includes signal extenders, splitters, and switches.

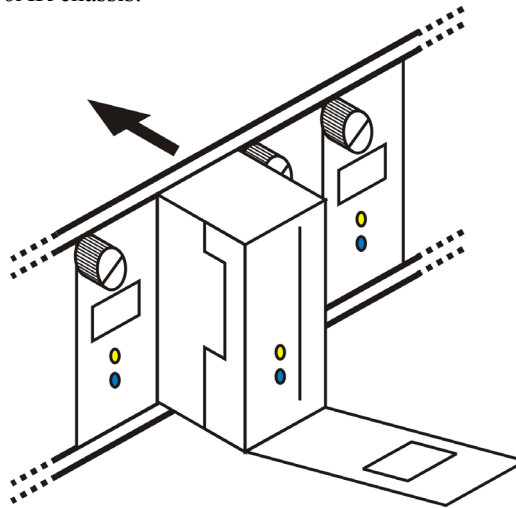
3. Determine how many video channels will be used. For each necessary channel, install one Intelix S-V16AR-MOD (sold separately) in the S-V16AR chassis.

### Installing a S-V16AR-MOD Module

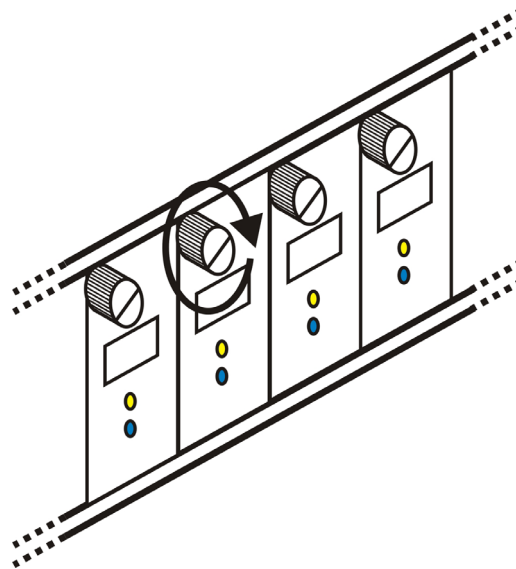
1. Determine which video channel will be installed.

INPUT MODULE LAYOUT															
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

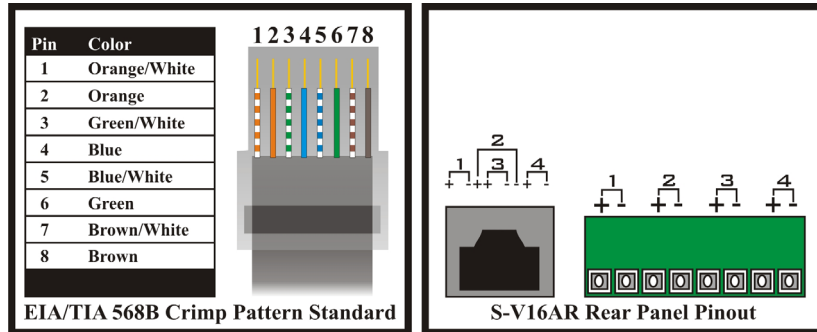
2. Open the S-V16AR-MOD front panel.
3. Slide the S-V16AR-MOD into the desired channel's slot on the S-V16AR chassis.



4. Slide the module into the S-V16AR chassis until it seats into the rear connector board.
5. Close the S-V16AR-MOD front panel.
6. Tighten the module mounting screw.



4. Connect the output destinations to the S-V16AR using high-quality BNC cables. Connect the output destinations to the outputs labeled “A”.
5. If a second output destination is necessary, connect the secondary output destinations to the outputs labeled “B”.
6. The S-V16AR features paralleled RJ45 and screw terminal twisted pair inputs. Both are live simultaneously. Connect the input sources to the S-V16AR using twisted pair cables, such as Cat 5, Cat 5e or Cat 6. If using the RJ45 inputs, the connector pinout in the twisted pair cabling should conform to the EIA/TIA 568A or 568B standard. If using the screw terminal inputs, the twisted pair cable jacket should be stripped back about ¼ inch. Note that the exposed cable pairs should remain twisted up to the S-V16AR connector.



### Stripping RJ45 Cable Jacket/Insulation

There is no single method when exposing the four individual pairs in twisted pair cabling, such as Cat 5 and Cat 6; however, it does help to have a cable stripping tool designed to strip the cable jacket/insulation.

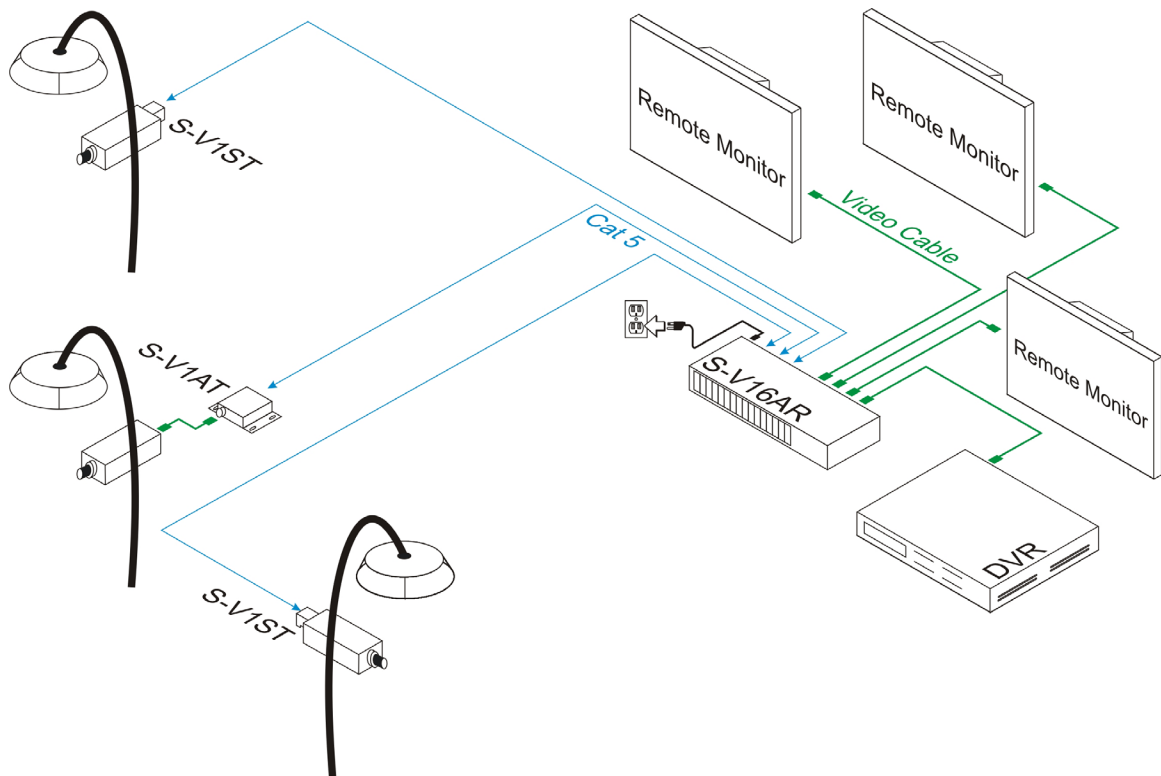
Begin by stripping back the cable's outer jacket/insulation about ¼ inch (or more depending on whether multiple baluns will be connected to the pairs of a single cable) so that the internal wires are exposed. Be careful not to cut the internal wires when stripping the insulation/jacket. Eight twisted wires and a string should now be visible; the string is unnecessary and may be removed. These eight wires, which when combined form four pairs, connect directly to the baluns. Typical protocol pairs similar colors; the important thing is to verify the same color-coded pairs are used on each end.

**Caution:** Do not connect the balun to a telecommunication outlet wired to unrelated equipment. Doing so may damage the unit or any connected equipment. Ensure all connected twisted pair cabling is straight-through (point-to-point).

7. Verify the remote end of the twisted pair cables are connected to a compatible Intelix balun.

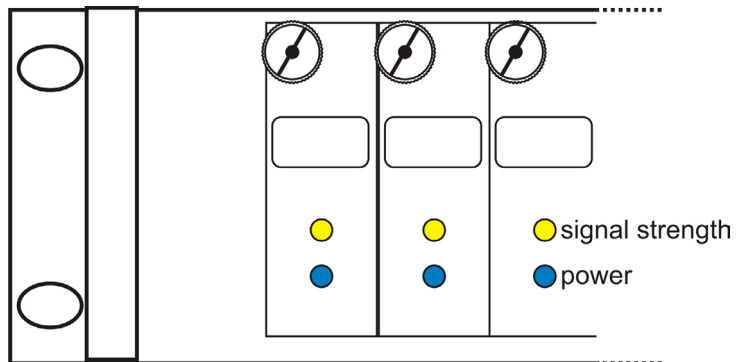
<u>Compatible Intelix Baluns</u>		
Product	Signals	Max Distance
S-V1AT	composite video	4,000 feet
S-V1ST	composite video	1,850 feet

8. Connect the included power cable to the S-V16AR.
9. Power-on the S-V16AR.
10. Power-on the source and destination audio and video devices.



## Troubleshooting

Symptom	Probable Causes	Possible Solutions
No picture	Defective link or equipment	Verify the desired channel's S-V16AR-MOD module displays illuminated power and signal strength LEDs.
Image not stable	Defective link or equipment	Verify source and destination equipment and cabling
Unusual colors	Reversed polarity	Verify RJ45 pinout conforms to EIA/TIA 568A or 568B standard
Smearing or weak video contrast	Exceeded cable distance	Verify cable grade and total cabling distance
Horizontal bars moving upward in background	Ground loop problem	Verify the source and destination equipment are at the same ground potential. Ground the source and destination equipment.
Shaking image	Ground loop problem	Verify the source and destination equipment are at the same ground potential. Ground the source and destination equipment.
Variance in hue	EMI interference	Identify possible radiating frequency sources and isolate them from the cabling. Use shielded twisted pair cabling.
Background pattern	EMI interference	Identify possible radiating frequency sources and isolate them from the cabling. Use shielded twisted pair cabling.

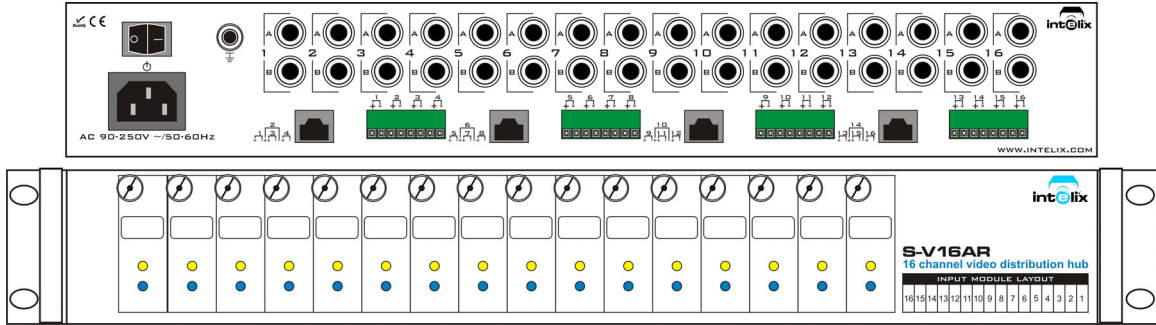


## Technical Specifications

Maximum Distance*	active system: 4,000 feet passive system: 1,850 feet
Supported Video	all baseband video signals SECAM, NTSC, PAL
Signal Band	250 MHz
Balance Band	0-6 MHz
Attenuation	1.5 dB max
External Power	90 – 250 VAC 50 – 60 Hz
MTBF	greater than 30,000 hours
Frequency Response	DC to 6 MHz
Video Input Protection	2KV IEC6100-4-5/1955(GB/T) 1726,5-1999
Video Input Protection	4KV 10/700 $\mu$ s IEC6100-4-5/1955(GB/T) 1726,5-1999
Over-current Protection	100 mA max
CMRR	70 dB
Transient Immunity	6000V 1.2 $\mu$ s x 50 $\mu$ s
Interference Rejection	greater than 75 dB
Compatible Cable	Cat 5, Cat 5e, Cat 6, Cat 7
Compatible Intelix Baluns	active: S-V1AT passive: S-V1ST
Input Connectors	4 RJ45 16 terminal blocks
Output Connectors	32 female BNC
Operating Temperature Range	-41 to 95 degrees F -5 to 35 degrees C
Operating Humidity Range	5 to 90% non-condensing
Dimensions	16.9" x 5.2" x 2.6" 1.5 RU
Diagnostic	power LED signal LED
Signal Adjustment	automatic
Enclosure	shielded metal
Regulatory	FCC, CE, RoHS
Intelix Part Number	S-V16AR S-V16AR-MOD (channel modules; sold separately)
Warranty	2 years

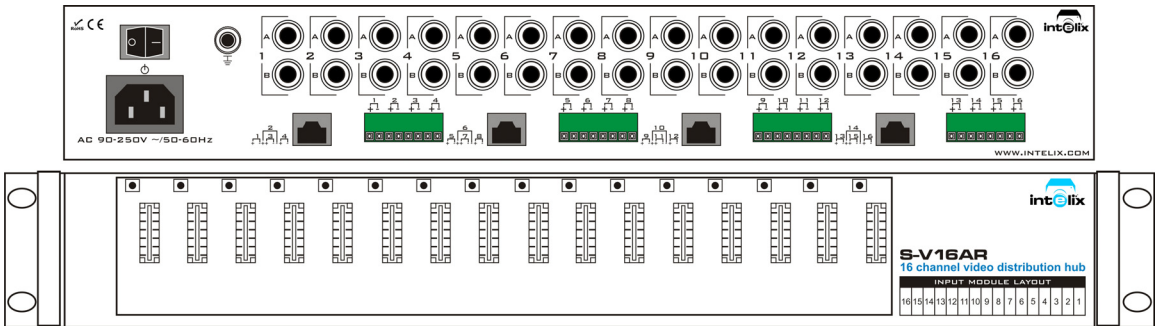
\* Distances and picture quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches. Intelix specifications are based on straight-through cabling with standard-grade Cat 5.





S-V16AR fully populated (channel modules sold separately)

S-V16AR unpopulated



## 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.

Warranty 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 terms and conditions subject to change and do not apply outside of United States and Canada.*

*Intelix Warranty is subject to change. 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.

Intelix  
2222 Pleasant View Road Suite 1  
Middleton, WI 53562

Phone: 608-831-0880  
Toll-Free: 866-4-MATMIX  
Fax: 608-831-1833

[www.intelix.com](http://www.intelix.com)  
[intelix@intelix.com](mailto:intelix@intelix.com)



Copyright 2009 Intelix LLC.  
DESIGN WITH INTELLIGENCE