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NEWS RELEASE

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FOR IMMEDIATE RELEASE

Image Sensing Systems Expands Econolite Agreement to Include RTMS® for North America

Details Business Model Conversion and Rightsizing Activities

Saint Paul, Minn., December 20, 2011-- Image Sensing Systems, Inc. (NASDAQ: ISNS) announced today that it has amended its agreement with its long-time partner, Econolite Control Products, Inc. (Econolite), to expand the exclusive North American manufacturing and distribution agreement to include the RTMS® radar product line effective in 2012 after a short transition period.

Ken Aubrey, CEO, said, "This is the final stage in our RTMS (radar) acquisition integration process for North American sales, and, in conjunction with the planned introduction of our hybrid product in the first quarter of 2012, aligns directly with one of our primary strategic goals; namely, a focus on organic sales and income growth. For over twenty years we have reaped the rewards of the Econolite exclusive agreement for Autoscope products; now our RTMS products will enjoy the same benefits.

"We see moving North American RTMS manufacturing and sales to Econolite as a logical next step in enhancing the profitability and spurring growth of our domestic radar business. With Econolite's manufacturing expertise, substantially larger sales force and unyielding commitment to deliver innovative solutions to the ITS market, we believe we can gain significant leverage," Aubrey added.

"Econolite is delighted to add the RTMS product suite to our already highly successful Autoscope agreement with ISS. We are certain that this will broaden and further enhance our constantly growing ITS footprint, and in addition bolster our concerted efforts to provide transportation agencies with reliable detection solutions," said David St. Amant, COO of Econolite.

Sales of RTMS through Econolite will be recognized under a profit sharing method similar to that of Autoscope sales and reported as royalties (but no longer as gross revenues). Sales of RTMS in North America were \$6.4 million in 2010 and \$4.5 million through the first nine months of 2011. Certain ISS sales and sales support employees will transfer to Econolite as part of the transition. As with Autoscope, ISS will retain all intellectual property rights and be responsible for research and ongoing development of RTMS.

As a result of this business model conversion and in conjunction with previously announced plans for rightsizing, ISS expects to incur pre-tax basis restructuring expenses of approximately \$650,000 to \$900,000 related mainly to severance costs, reserves for RTMS inventory and other transition costs, of which \$550,000 to \$750,000 in expense is anticipated to be recorded in the current fiscal quarter. ISS expects to reduce annual costs by over \$3.0 million from rightsizing and operating expenses eliminated in the conversion. This will be partially offset by a reduction in gross profit due to changing to a profit sharing basis.

“In conjunction with this RTMS business model integration finalization, we are working to bring overall operating expenses on a company-wide basis down to support increased profitability in a continued difficult ITS market. We anticipate this RTMS business model integration final stage completion will be accretive to our operating profit in 2012 and that other rightsizing steps will further enhance our profit outlook,” said Aubrey.

About Image Sensing

Image Sensing Systems, Inc. is a provider of software-based detection solutions for the Intelligent Transportation Systems (ITS) sector and adjacent markets including security, police and parking. We have sold more than 120,000 units of our industry leading Autoscope® machine-vision, RTMS® radar and CitySync automatic number plate recognition (ANPR) products in over 60 countries worldwide. The depth of our experience coupled with the breadth of our product portfolio uniquely positions us to provide powerful hybrid technology solutions and to exploit the convergence of the traffic, security and environmental management markets. We are headquartered in St. Paul, Minnesota. Visit us on the web at imagesensing.com.

Safe Harbor Statement: Statements made in this release concerning the Company’s or management’s intentions, expectations, or predictions about future results or events are “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements reflect management’s current expectations or beliefs, and are subject to risks and uncertainties that could cause actual results or events to vary from stated expectations, which variations could be material and adverse. Factors that could produce such a variation include, but are not limited to, the following: the inherent unreliability of earnings, revenue and cash flow predictions due to numerous factors, many of which are beyond the Company’s control; developments in the demand for the Company’s products and services; relationships with the Company’s major customers and suppliers; the mix of and margins on the products we sell; unanticipated delays, costs and expenses inherent in the development and marketing of new products and services, including ANPR products; adverse weather conditions in our markets; the impact of governmental laws and regulations; increased international presence; our success in

integrating acquisitions; and competitive factors. Our forward-looking statements speak only as of the time made, and we assume no obligation to publicly update any such statements. Additional information concerning these and other factors that could cause actual results and events to differ materially from the Company's current expectations are contained in the Company's reports and other documents filed with the Securities and Exchange Commission, including its Annual Report on Form 10-K for the year ended December 31, 2010 filed in March 2011.