

Plush Touch[™] Electronic Textile Sense Technology

TECHNOLOGY and **LICENSING**

A NEW, SOFT and SENSUOUS way to control lighting, electronic devices and appliances.

With IFM's Plush Touch[™] Sensors, the textile *is* the sensor, so our sensors feel completely soft and luxurious, with no hidden hard buttons or switches. Other e-textile sensors use layers of rubber or fabric and often feel like standard rubberized keypads. Our patented and patent pending Plush Touch[™] Sensor is the only product where the yarn is the sensor, so all the consumer feels is pom poms, velvet and tufting.

Use Plush Touch[™] Sensors to replace any button or switch. Sew them into soft-good products, create a new way to control a robot, or transform lamps and other lighting devices around the home. IFM's Plush Touch[™] sensing technology can take on a variety of form factors, pom poms, tassels, braids, fabrics, embroidery, making the design possibilities unlimited.

IFM's e-textile Plush Touch[™] Sensors consist of electronic textile elements and capacitive touch sensing circuitry. Capacitive touch sensing circuitry is well understood, and many kinds are available as OEM parts. Capacitive touch sensing involves electrically charging a metal electrode. When the user touches the electrode the charge is removed, and a circuit senses the change. Combining this method of sensing with our fuzzy sensors makes for a simple and effective sensing technology.

Working with IFM

IFM's unique intellectual property, technical, and design expertise, as well as product development experience provides our partners with a full range of development possibilities. With over 15 years worth of experience in e-textiles, interactive media and electronics we can help you make your product a reality.

IFM Licensing Kit

Our licensing kit contains:

Samples of IFM's patented and patent pending Plush Touch™ Sensors

Samples of IFM's exclusive Plush Touch™ design products.

Samples of electronic sensing circuits, for lighting control and electronic devices.

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Plush Touch[™] Electronic Textile Sense Technology

MORE ABOUT LICENSING

E-Textile Manufacturing Expertise

IFM has researched and implemented numerous materials and methods for manufacturing Plush Touch[™] Sensors. Our e-textile materials are readily available. IFM's textile fabrication methods are similar to traditional textile methods. IFM can work with any manufacturer to refine their process, find alternative materials and reduce costs.

E-Textile Market Readiness

IFM's Plush Touch[™] Sensors are ready for market. They have already been sold in IFM's UL Listed product the POM POM Dimmer. IFM works with non-corrosive and inert materials, making our sensors safe and durable.

E-Textile Costs

Plush TouchTM sensors are made with e-textile material that cost little more than traditional textiles. Added material cost for one of our sensors can be as little as pennies.

Electronics Parts Sourcing and Costs

IFM's Plush Touch[™] Sensors work with a variety of capacitive sensing circuits and technology. IFM has sourced many electronic components. Partners can work with our known sources or can leverage their own expertise in electronics by purchasing or manufacturing these parts directly from Asia.

Patents

IFM's patent 7,054,133 provides broad coverage of any e-textile lighting capacitive touch controller. This includes lamps, wall mounted dimmers and any other capacitive e-textile method for controlling lighting—including night-lights and wireless light controls that use an e-textile connected to a sensing circuit. IFM's patent and pending patents provide broad coverage of an electronic textile controller "pom pom" which can be used to control toys or any electronic device. IFM's strong patent applications support this broad patent with additional coverage. These additional applications will cover all fuzzy sensors, lofted, and piled novelty yarns and e-textile kits that enable the crafting of electronic textile devices.

Trade Secrets

With over 15 years of expertise in e-textile construction, IFM has developed considerable trade secrets involving materials, construction, textile processes and connection strategies. Our know how presents a barrier to entry to other companies, and helps our partners get to market faster and solve problems in a timely manner. IFM's materials and methods are currently protected by its trade secret policy.

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Plush Touch[™] Electronic Textile Sense Technology

IFM PRODUCTS

IFM has created a number of innovative design products using its Plush Touch[™] Sensor technology.



with tufted Plush Touch™ Sensors. © 2006



Plush Touch[™] Sensors. © 2006

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POM POM Wall Dimmer (UL Listed), with POM POM Plush Touch[™] Sensors © 2005



ESSENTIAL Wall Dimmer, with tufted Plush Touch™ Sensors on Designtex felt. © 2006



Plush Touch[™] Electronic Textile Sense Technology

SENSOR FORMS

IFM's Plush Touch[™] Sensors can be fabricated in a variety of textile forms, from braids to tassels, novelty yarns to woven fabrics.



Conductive Braids or Trim



Sewing Thread



Pom Poms

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Tassels



Eyelash Yarns



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LIGHTING AND LAMPS

Touch the Plush Touch[™] Sensor and turn on and off lamp.



Plush Touch[™] Table Lamps



Plush Touch™ Night Light



Plush Touch™ Ceiling Lamps



Plush Touch™ Lamp Controller with Velcro Chair Attachment

Plush Touch™ Floor Lamps



Plush Touch[™] Electronic Textile Sense Technology

LIGHTING CONTROL

Touch the Plush Touch[™] Sensor and turn on and off lamp.



Table Top Plush Touch™ Lamp Dimmer



Plush Touch™Reading Lamps Clip or velcro to head board or place on table top.

FURNITURE



Chair with Plush Touch™ Sensors for turning on Lamp.



Chair with Plush Touch™ Sensor and built in reading lamp.



► Plush Touch Electronic Textile Sense Technology

RUGS

Touch the Plush Touch[™] Sensor to control music and lights..



Plush Touch™ Musical Bedside Rug. Step out of bed, and hear music.



Plush Touch[™] Light Up Bedside Rug. Step out of bed, and light edges of rug.

PILLOWS



Plush Touch[™] Pillow for wireless control of room lighting.



Plush Touch™ LED Pattern Pillow Touch POM POMs and create patterns.



Plush Touch[™] Musical Pillow Touch POM POMs and turn on music.





TOYS AND ELECTRONICS

Touch the Plush Touch[™] Sensor for fun with toys and games.



Plush Touch™ Pom Pom Stuffed Animal Use pom pom to control any stuffed animal with 'electronics, light, robotics or sound.



Plush Touch[™] Sensors Pom Pom Game Controller



Plush Touch™ POM POM Alarm Clock Touch pom pom to turn off alarm.

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Plush Touch™ Pom Pom Light Game



Plush Touch™ Pom Pom Music Box

Plush Touch™ Pom Pom Scent Box Touch pom pom to release aroma or scent.



Plush Touch[™] Electronic Textile Sense Technology

CRAFT KITS

Make your own electronic textiles!









Conductive yarns

Pom pom maker

Plush Touch[™] POM POM Lamp Kit

Make your own electronic textile pom pom and attach to lamp.





► Plush Touch Electronic Textile Sense Technology

SOFT GOODS and NOVELTIES

Touch the Plush Touch[™] Sensor for light and sound.



Plush Touch[™] Pom Pom Flower Purse Touch pom pom and lights blink.



Plush Touch[™] Pom Pom and LED Hat Touch pom pom and LED lights.



Plush Touch™ Pom Pom

Fairy Wand



Plush Touch[™] Pom Pom Fashion Light Attach to anything.



Plush Touch[™] Lighted Backpack with pom pom controller.



Plush Touch[™] Electronic Textile Sense Technology

MORE ABOUT IFM

IFM and MAGGIE ORTH

The brainchild of artist and technologist, Maggie Orth, International Fashion Machines, Inc. is a recognized innovator in e-textile technology and textile design. Electronic textiles use textile processes, such as weaving or sewing, to incorporate electronics, circuitry and conductive fibers directly into fabric.

IFM's textile design methods look to the future, combining traditional textile practices with contemporary design, and the latest in computational design and manufacturing techniques to create products that are as uniquely decorative as they are functional. IFM's high quality, exclusive, electronic textile products are rigorously tested for safety and durability.

Located in Seattle WA, IFM is a unique design studio and research facility, with expertise in textiles and electronics. IFM conducts fundamental research in electronic textiles, developing exclusive e-textile IP and design products. IFM also works with select fashion and industry partners to develop their own electronic fashion and soft-goods products.

IFM's partners and clients include: The North Face, Motorola, Bekaert Yarns, Triton Systems, Leviton, Gore, E-ink, and DARPA.

Maggie Orth, PhD, is considered a pioneer in the field of electronic textiles, interactive fashions and wearable computing. Orth received a Phd. in Media Arts and Sciences from the Massachusetts Institute of Technology, Media Lab, and a BFA from the Rhode Island School of Design.

Maggie Orth and IFM's design and artworks have been widely exhibited. Venues include; The Cooper Hewitt Design Museum, NY, NY; Ontario Science Center, Ontario, Canada; Museum of Craft and Design, San Fransisco, CA; Museum of Science, Boston, MA; NTT ICC, InterCommuncication Center, Japan; The National Textile Museum, Washington D.C.; The Stedelijk Museum, Amsterdam; The DeCordeva Museum, MA; SIGGRAPH, and Ars Electronica, Linz, Austria.

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