



Introduction to Implantable Transponders for Professionals

What is a transponder?

Transponders are a form of RFID tag. The term RFID stands for Radio Frequency Identification. Any technology that can identify something via radio signals technically qualifies as an RFID device, however this white paper focuses on a very narrow and specific type of RFID device – subcutaneous implantable magnetically coupled transponders.

What are Dangerous Things implantable transponders made of?



Our implantable transponders are small cylindrical shaped devices encased in lead-free soda-lime Schott 8625 bio-compatible glass, or lead-free borosilicate glass. Both glass types have been approved by the APP as a safe initial piercing material. Inside this glass casing is a small microchip, a copper antenna wire coil, and a bio-safe epoxy resin.

What is the APP's stance on implantable transponders?

While the APP does not specifically endorse implants, the glass materials used to encapsulate our transponders is fully approved by the APP as safe for initial piercings. Additionally, as of the 2013 version of the APP procedure manual (available at www.safepiercing.org) includes the following passage;

The APP supports the right for all adults to adorn or modify their bodies in a safe, informed, and consensual manner when performed by a qualified practitioner under appropriate asepsis. The APP does not directly regulate, perform outreach, or offer procedural guidelines on practices other than body piercing, but we support health and safety organizations that do. Our most fundamental principles as expressed in our environmental criteria and ethical standards extend to the greater body modification community and its practices.

The primary mission of Dangerous Things has always been and will continue to be: to provide quality RFID tags made with verified safe materials, improve the safety of implantation procedures, and increase global access to professional services. The wide-spread implantation of personal use RFID tags began in 2005 as a DIY endeavor in basements and kitchens, but it's time to shift this practice into the hands of professional artists in clean safe studios. We want to build our referral and partner network, so please check out www.dangerousthings.com/pro to sign up to get wholesale pricing on gear, procedure guides, pro partner support, and get new info updates.

How are Dangerous Things implantable transponders installed?

Dangerous Things bioglass encased transponders are 2mm in diameter and 12mm long, and can be easily installed using a hollow 10G or 11G piercing needle and taper to push the tag through. The transponder should lay directly under the dermis, in the fascia. Standard piercing tools and techniques can be used, and no scalpel or sutures are necessary. A complete procedure guide for professionals is available at <http://dangerousthings.com/pro-guide>

How do they work? Is there a battery inside? How long will they last?

All Dangerous Things implantable transponders are passive devices, meaning they have no battery or power source of their own. When not being read by a reader, passive transponders are powerless, do not transmit anything, and do absolutely nothing. The reader creates a small magnetic field or “bubble” around its coil antenna. When a tag is brought inside that bubble, the transponder pull enough power from the field to power up the chip inside and communicate with the reader. Once the transponder is removed from the reader's magnetic field, it loses power and becomes inert. Because there is no battery, transponders have an indefinite lifespan.

What can I and/or my customers do with them?

With implantable transponders, customers typically use them to set up access control systems so they can use their new transponder to gain access to something by simply presenting the transponder to a reader. This can be a doorway, a vehicle, a computer log in, etc.

A new technology appearing in mobile phones and tablets is called NFC or Near Field Communication, and Dangerous Things has implantable transponders like the xNT which work with these NFC enabled devices. This allows customers to use their NFC mobile device to program their implant with additional information that, when scanned by another NFC mobile device, can bring up the customer's Facebook page, contact information, play a video, etc. - perfect for sharing contact details with others, and customers can still use their transponders for typical access control applications.

What privacy and security issues exist for implantable transponders?

Dangerous Things transponders are extremely short range, passively powered devices that require extremely close proximity to a compatible reader in order to power up. This is why the user's hand is the ideal location to install our transponders – they can easily position the transponder near the intended reader. This makes it very difficult to read a user's transponder without their knowledge or consent. We also offer transponders with password protection and crypto-security features which allow the user to protect the contents of their transponder if they wish. Finally, users typically use these transponders with their own projects and systems they own and control, so there is no information shared with external parties about when, where, and how customers use their transponders.

How can I partner with Dangerous Things?

Dangerous Things wants to refer our customers to you for installation services! We're expanding our partner network with professionals like you. Please visit www.dangerousthings.com/pro to sign up, get procedure guides, and pro partner support.