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SIGNATURES

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Revision History

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rev.** |  | **Date** |  | **Initials** |  | **Description** |
| 0.1 |  | 05-Oct-2009 |  | KW |  | Reformated from the 510K Submission |
| 0.2 |  | 24-Oct-2018 |  | KW |  | Reformated and updated |
| 0.3 |  | 15-Nov-2018 |  | KW |  | Added page numbering |
| A |  | 26-Sep-2019 |  | DAT |  | Update to Revision A |

Glossary

References

1. 15008077 – DYONICS POWER II Software Development Plan
2. 15008081 – DYONICS POWER II Software Development Environment Description

**Software Description**

**DYONICS POWER II Control Unit**

The DYONICS II software is composed of two discrete components:

* The System Controller
* The Motor Controller

The System Controller is responsible for displaying data, receiving input from the touch panel, communicating with external data ports, communicating with the Motor Controller, overall control of the GUI based application (Display and Touch Panel), overall mode of Handpiece operation and the facility to allow field software updates to the System Controller and Motor Controller software.

The Motor Controller is responsible for controlling Handpiece motor speed and direction and receiving commands from the wired footswitch.

These programs are developed by Smith & Nephew and exist in compiled form on the devices. They are written in the C/C++ and assembly programming languages.

The System Controller is compiled into a single binary image, run on an Atmel AT91SAM9263 ARM Processor under the Microsoft Windows CE © 5.0 operating system and has a code size of about 5,000 KB (including the operating system).

The Motor Controller runs as a single application (no operating system) on a Freescale 56F8357 microcontroller and has a compiled code size of about 25 KB.

The Development Environment is described in DYONICS POWER II Software Development Plan (SAP#15008077).

The Development Process is described in the DYONICS POWER II Software Development Environment Description document (SAP#15008081).

The Development Process generates the following run-time application files:

System Controller:

Boot.bin

Chip.bin

NextGen.upg

Motor Controller:

Motor Controller Application.elf.S

Motor Controller Boot.elf.S