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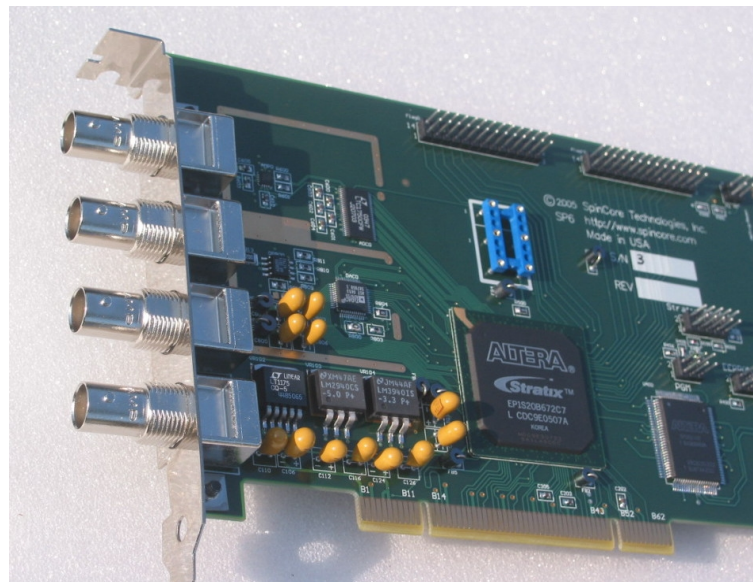
# RadioProcessor™

Firmware Revision 10-10

## Addendum to Owner's Manual

Prepared for TopSpin Medical

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SpinCore Technologies, Inc.  
<http://www.spincore.com>

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## I. Your customized design

### Differences from the main User's Manual

Your version of the RadioProcessor™, firmware revision 10-10, exhibits all the functionality described in the main RadioProcessor manual as of June 12, 2006. This addendum contains additional information which is intended to supersede what is contained in the original product manual.

Your board differs from the main RadioProcessor design in the following ways:

	RadioProcessor Manual	Firmware 10-10
Frequency registers	16	4
Tx phase registers	16	2
Digital output bits	4	9

**Table 1:** Changes in capability

The available signals on the IDC Header pins have also changed:

Bit in flag word	Function	Pin on Flag12..23	Bit in flag word	Function	Pin on Flag0..11
N/A	Ground	14-26	N/A	Ground	14-26
N/A	Unused	13	N/A	Unused	13
23	sin (imaginary channel)	12	11	Frequency register select	12
22	phase register select	11	10	trigger_scan	11
21	cos (real channel)	10	9	phase_reset	10
20	phase register select	9	8	Shape period select	9
19	TTL bit 8	8	7		8
18	TTL bit 7	7	6		7
17	TTL bit 6	6	5	Amplitude select	6
16	TX phase register select	5	4		5
15	tx_enable	4	3	TTL bit 3	4
14	TTL bit 5	3	2	TTL bit 2	3
13	TTL bit 4	2	1	TTL bit 1 (also BNC1)	2
12	Frequency register select	1	0	TTL bit 0 (also BNC 0)	1

**Table 2:** New IDC connector pin out

### Differences in programming with spinapi

This design is backward-compatible with code written for the standard RadioProcessor. To make use of the extra output bits, simply pass 9 bits for the *flags* argument in `pb_inst_radio()` or `pb_inst_radio_shape()`. For example, passing 0x1FF will turn on all TTL bits shown above in Table 2. Passing 0x010 will turn on TTL bit 4 and turn all other TTL bits off.

## **Contact Information**

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