Infinity™ DBS System

Provide your patients with streamlined, personalized deep brain stimulation (DBS) therapy with the St. Jude Medical Infinity™ DBS system, which delivers proven therapy for the management of symptoms associated with Parkinson's disease and essential tremor.[1,2]

The Infinity DBS system combines innovative directional lead technology and a wireless platform with enhanced patient comfort—including the smallest bilateral primary cell IPG on the market[3]—for one of the most advanced DBS platforms available.

ONLY WIRELESS IOS‡ SOFTWARE MOBILE PLATFORM

The Infinity DBS system also features the first and only DBS iOS‡ software wireless platform in the world,[5] designed to streamline therapy management for a discreet, personalized experience for your patients. It is also the only system on the market to use an iOS‡ software platform and Apple‡ mobile digital devices as programming platforms and offers the broadest programming range in the market.[5]

ENHANCED COMFORT

The St. Jude Medical Infinity DBS system's sleek, durable design helps improve patient comfort:

- There have been zero reported fractures in the global market with eXtend™ lead extensions technology.*[6]

- It is the smallest bi-lateral conventional cell IPG on the market with the St. Jude Medical Infinity™ 5 series IPG measuring 25% smaller than competition.[7]

DIRECTIONAL LEAD

The directional lead for the St. Jude Medical Infinity™ DBS system is designed to precisely steer current towards desired structural areas to potentially help maximize patient outcomes and help reduce side effects.

Our revolutionary directional lead technology, part of the St. Jude Medical Infinity™ DBS system, places you at the forefront of deep brain stimulation (DBS) therapy, so you can help patients to live their best lives.

EXPERIENCE PRECISE CONTROL

The directional lead for the St. Jude Medical Infinity™ DBS system has segmented electrodes that allow you to precisely steer current towards desired structural areas, helping maximize patient outcomes and reduce side effects[8]. It is configured in a single, triple, triple, single band (1-3-3-1) electrode for maximum targeting.
The directional lead gives you the ability to provide omnidirectional or targeted stimulation through the use of segmented electrodes. Every electrode can be turned on or off to facilitate stimulation direction, shape and length for precision targeting and adjustment.

GAIN PROCEDURAL EFFICIENCIES

Our new technology also features enhanced efficiencies for your practice:

- Programming is easy with an intuitive touch-screen interface.
- The directional lead's therapeutic current may use less total energy than a radial current field[9].

Our directional lead is part of a complete St. Jude Medical Infinity™ DBS system designed to deliver these benefits, as well as enhanced patient comfort and streamlined therapy programming in a wireless iOS‡ software mobile platform. Contact a St. Jude Medical representative to see how the newest direction in DBS technology can benefit your patients and your practice.

Table 3. IPG specifications

			MRI Status	Compatible Header
Model	6660	6662	MR Conditional	No
	6661	6663	MR Unsafe	Yes
Height	5.55 cm (2.19 in)	6.68 cm (2.63 in)		
Length	4.95 cm (1.95 in)	5.02 cm (1.98 in)		
Thickness	1.34 cm (0.53 in)	1.35 cm (0.53 in)		
Weight	48.9 g (1.7 oz)	58.3 g (2.1 oz)		
Volume	30.4 cm^3 (1.9 in^3)	38.6 cm^3 (2.4 in^3)		
Power source	Carbon monofluoride/silver vanadium oxide cell			
Connector strength	10 N (Models 6660, 6662) 5 N (Models 6661, 6663)			
Program storage capacity	15 programs with 1 stim set per lead			

The IPG has the following operating parameters.

Table 4. Operating parameters for the IPG

Parameter	Range	Steps
Pulse width	20–500 µs	10 µs
Frequency	2–240 Hz	2 Hz
Amplitude	0–12.75 mA	0.05–1.00 mA

Lead Specifications for the St. Jude Medical Infinity™ DBS System (8-Channel)

Table 7. Specifications for 8-channel leads of the St. Jude Medical Infinity™ DBS System

		1.5-mm electrode spacing	0.5-mm electrode spacing	MRI status
Model number by lead length	30 cm	6171	6170	MR Conditional[a]
	40 cm	6173	6172	MR Conditional[a]
Lead diameter		1.29 mm	1.29 mm	
Number of electrodes		8	8	
Electrode length		1.5 mm	1.5 mm	
Length between electrodes		1.5 mm	0.5 mm	
Length of electrode array		10.5 mm	7.5 mm	
Length of contact band-setscrew band array		24.8 mm	24.8 mm	

[a] The lead protection boot, which is included in the lead kit, is also an MR Conditional component.

REFERENCES

*Technology launched in 2011. Last report dated August 2015.
‡iOS is a trademark of Cisco Technology, Inc. Apple is a trademark of Apple, Inc.
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2. St. Jude Medical. (2014). Data on file, Tremor Study Final Report C-04-02.
3. St. Jude Medical. St. Jude Medical Infinity™ DBS System Size Related Claims Memo # SJM-INF-0815-0007
4. St. Jude Medical. SJM Infinity Clinical Compendium SJM-INF-0416-0046a.
5. St. Jude Medical. St. Jude Medical Infinity™ DBS System Programming Capabilities Memo #11444 SJM-INF-0815-

6. St. Jude Medical. St. Jude Medical Infinity™ Coiled Extensions No Fractures Claims Memo #11446 SJM-INF-

7. St. Jude Medical. St. Jude Medical Infinity™ DBS System Size Related Claims Memo # SJM-INF-0815-0007.
8. St. Jude Medical. SJM Infinity Clinical Compendium SJM-INF-0416-0046a.
9. Butson, C. R., & Venkatesan, L. (2014, June). *Comparison of neural activation between standard cylindrical and novel segmented electrode designs*. Presented at the meeting of the Movement Disorders Society, San Diego, CA.