BIOTRONIK

Patient: --------
Device: **Lumax 540 HF-T**
S/N: **60658606 (PID 63)**

PSW 1202.A/1
RAM ID: 6.0.2

Parameters (perm.)

Date: **14/03/2013**
Time: **09:08**

Overview

Tachycardia detection : Enabled

	Rate	1. ATP	2. ATP	Shocks 1st	Shocks 2nd	Shocks 3-Nth
VT1	162 bpm	3×Burst	3×Ramp	40J	40J	6×40J
VT2	188 bpm	3×Burst	3×Ramp	40J	40J	6×40J
VF	222 bpm	OFF		40J	40J	6×40J

Progressive course of therapy ON

Mode	DDD
Ventricular pacing	BiV/T
Basic rate	60 bpm
Upper rate	130 bpm

	A	RV	LV
Pulse amplitude	3.6	3.6	4.8 V
Pulse width	0.4	0.4	0.4 ms

Bradycardia

	Permanent	Post shock	
Mode	DDD	DDI	
Basic rate	60	70	bpm
Night rate	OFF		
Rate hysteresis	OFF	OFF	
Ventricular pacing	BiV	RV	
LV T-wave protection	ON		
Triggering	RVs		
Maximum trigger rate	150		bpm
VV delay after Vp	5		ms
VV delay after RVs	0		ms
Initially paced chamber	LV		
AV delay	150/120	140	ms
Lower rate for AV delay	60		bpm
Upper rate for AV delay	130		bpm
Sense compensation	-30		ms
AV safety window	100		ms
AV hysteresis mode	OFF		
Upper rate	130		bpm
Upper rate response	WKB		
Atrial upper rate	240		bpm
Intervention rate	160		bpm
Mode	DDI		
Onset criterion	7		out of 8
Resolution criterion	5		out of 8
Change of basic rate	+10		bpm
Ventricular pacing	BiV		
LV T-wave protection	ON		
Triggering	RVs		
Post ModeSw rate	+10		bpm
Post ModeSw duration	01:00		mm:ss
PMT detection/termination	ON		
VA criterion	350		ms
Post-shock duration		00:30	mm:ss

Bradycardia

Pacing

	A	RV	LV
Pulse amplitude	3.6	3.6	4.8 V
Pulse width	0.4	0.4	0.4 ms

Sensing

	A	RV	LV
Sensing	Std.	Ind.	Std.
Blanking			
after atrial pace		50	100 ms
after RV pace		AUTO	80 ms
after LV pace		80	AUTO ms
Thresholds			
Upper threshold	50	50	50 %
Hold of upper threshold		360	360 ms
Lower threshold	25	25	50 %
Post pace T-wave suppr.		ON	
PVC			
Discrimination after As		350	ms
Minimum threshold	0.4	0.8	1.6 mV
Far-field protection after Vp	75		ms
Far-field protection after Vs	75		ms
PVARP	300		ms
PVARP after PVC	525		ms

LV polarity

LV sensing polarity	BIPL
LV pacing polarity	LV tip → LV ring

Detection

	VT1	VT2	VF
Rate	162	188	222 bpm
Detection counter	26	16	12 in 16
Redetection counter	20	14	
SMART detection	ON	ON	
SMART redetection	ON	ON	
Onset	20	20 %	
Stability	12	12 %	

Forced termination	1	min

VT1

Rate 162 bpm

ATP's

	1st	2nd
Type	3×Burst	3×Ramp
Ven. pacing	RV	RV
Number S1	5	5
Add S1	ON	ON
R-S1 Int.	80 %	80 %
S1 decrement		10 ms
S1-S2 Int.		
Scan decrement	OFF	OFF
Min.Interval	200 ms	
ATP optimizat.	ON	
ATP timeout	OFF	

Shocks

Energy	1st 40J	2nd 40J	3-Nth 6×40J

Confirmation	ON
Polarity	Normal
Waveform	Biphasic
Shock path	RV→Can+SVC

VT2

Rate 188 bpm

ATP's

	1st	2nd
Type	3×Burst	3×Ramp
Ven. pacing	RV	RV
Number S1	5	5
Add S1	ON	ON
R-S1 Int.	80 %	80 %
S1 decrement		10 ms
S1-S2 Int.		
Scan decrement	OFF	OFF
Min.Interval	200 ms	
ATP optimizat.	ON	
ATP timeout	OFF	

Shocks

Energy	1st 40J	2nd 40J	3-Nth 6×40J

Confirmation	ON
Polarity	Normal
Waveform	Biphasic
Shock path	RV→Can+SVC

VF

Rate 222 bpm

ATP

Type	OFF
Ven. pacing	
Number S1	
R-S1 Int.	
S1 decrement	
S1-S2 Int.	

Shocks

Energy	1st 40J	2nd 40J	3-Nth 6×40J

Confirmation	ON
Polarity	Normal
Waveform	Biphasic
Shock path	RV→Can→SVC

Patient

ID	500831/025
Name	--------
First name	--------
Date of birth	--------
Gender	Male
Symptom	Prophylactic indication
ECG indication	Not documented
Etiology	Coronary artery disease
LVEF	15 %
NYHA	II

Implantation

Implantation	12/03/2013
Hospital, City	FN BRNO - BOHUNICE
Physician	MUDr. Kozak
Phone	+420532232459

Leads

	A
Lead position	Appendage
Manufacturer	BIOTRONIK
Type	Siello S 53
Serial number	25787702
	RV
Lead position	Septum
Manufacturer	BIOTRONIK
Type	LinoxSmart SD 65/16
Serial number	10491781
	LV
Lead position	LV posterolateral
Manufacturer	BIOTRONIK
Type	Corox OTW-L 75 BP
Serial number	25103501

Diagnostics/HM

Program No. 5

Home Monitoring

Home Monitoring	ON
Time of transmission	01:00 hh:mm
IEGM for therapy episodes	ON
IEGM for monitoring episodes	ON
Periodic IEGM	1 Months
Ongoing atrial episode	12 h
Thoracic impedance	ON

Statistics

AT/AF rate	200 bpm
Start rest. period	02:00 hh:mm
Rest. period dur.	04:00 hh:mm
Automatic impedance measurement	ON
AV delay adj. sensing test	300 ms
Thoracic impedance	ON

Recording episodes

For AT/AF	ON
For SVT	ON

Autom. threshold monitoring (ATM)

ATM RV	ON
ATM LV	ON

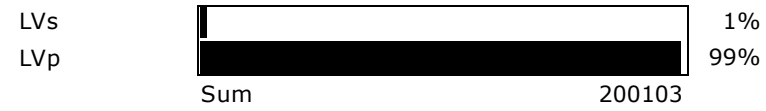
Diagnostics

Date: **14/03/2013**
Time: **09:08**

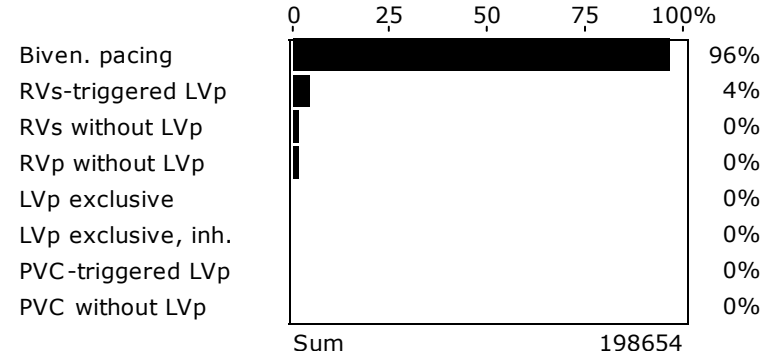
Timing

Start 12/03/2013
Duration 1 days

Event counters



Event episodes



Diagnostics

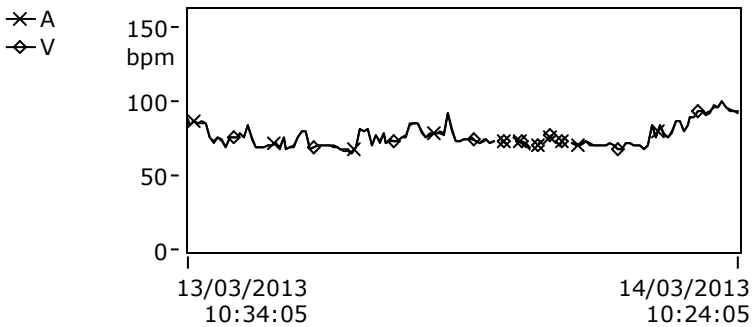
Date: **14/03/2013**
Time: **09:08**

Heart rate statistics

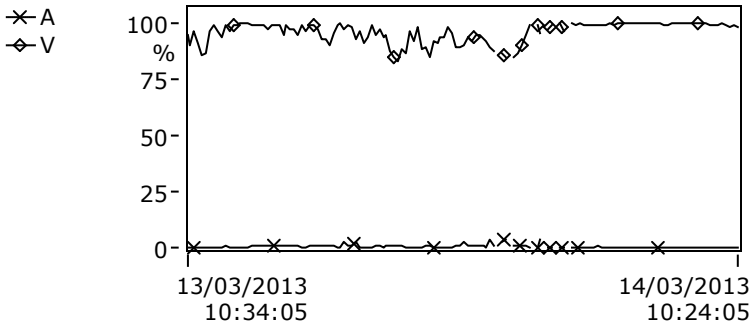
Start 12/03/2013
Duration 1 days

Rate trend 24 h

Rate



Paced



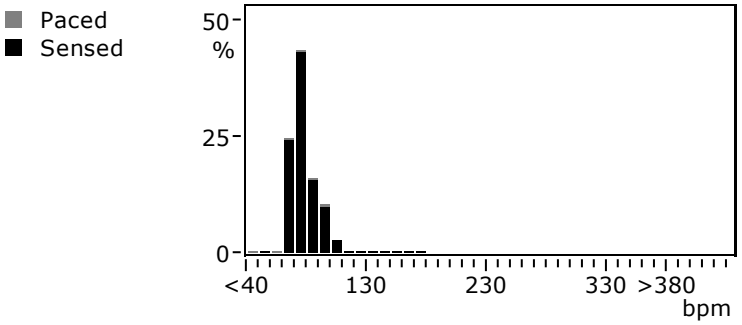
Long term rate trend

Rate

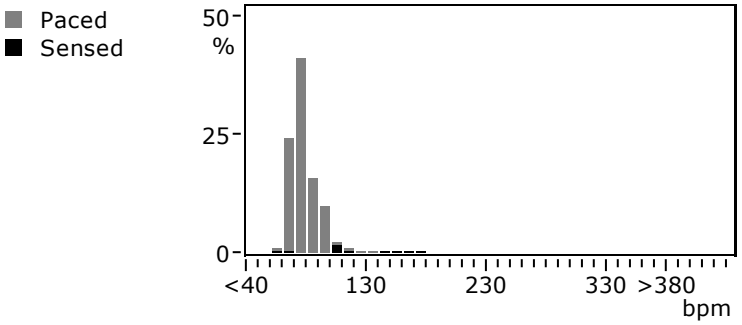
Paced

Rate histogram

Atrium



Ventricle



Counters

PMT counter	0
Safety window pacing	2
Mode switching episodes	0

Diagnostics

Date: **14/03/2013**
Time: **09:08**

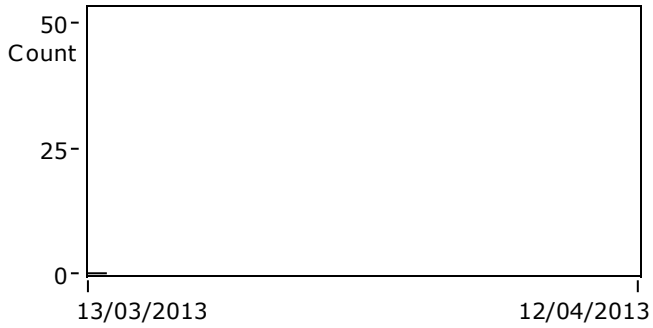
Atr. arrhythmia

Start	12/03/2013
Duration	1 days

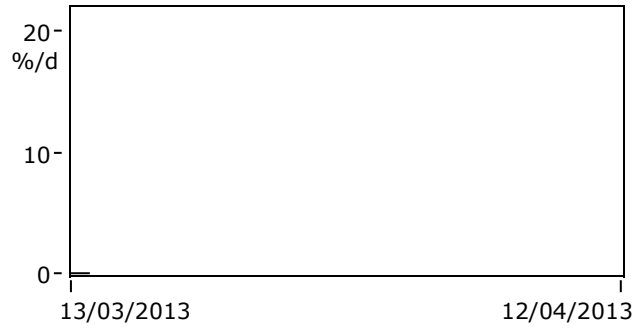
Atrial burden

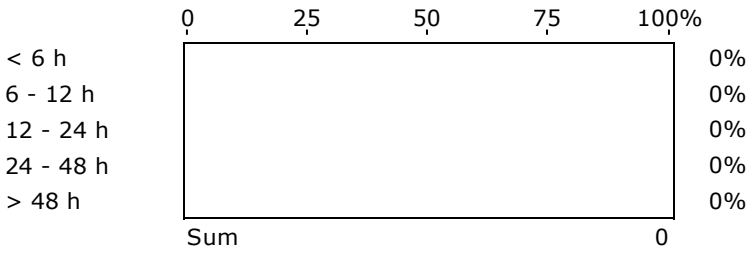
Atrial burden	0.0	%
AT/AF rate	200	bpm

Number of episodes



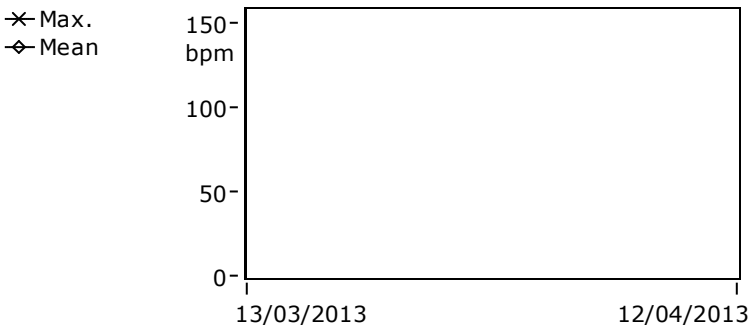
Stress duration

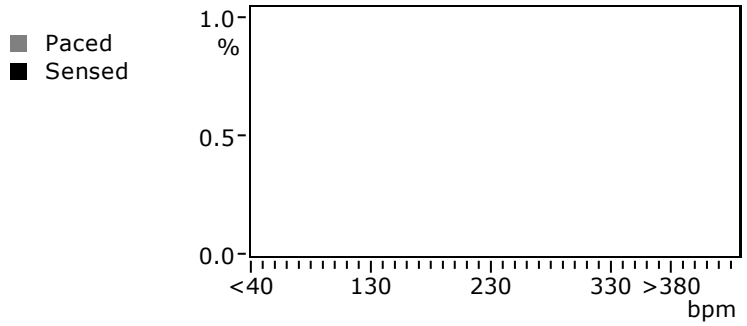




Ventricular reaction

Rate





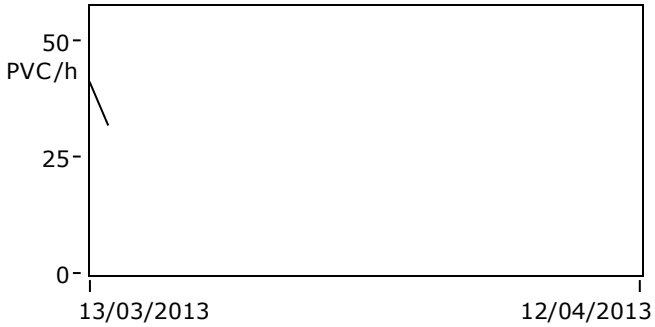
Diagnostics

Date: **14/03/2013**
Time: **09:08**

Ven. arrhythmia

Start	12/03/2013
Duration	1 days

PVC/h



Total number in time range	1442

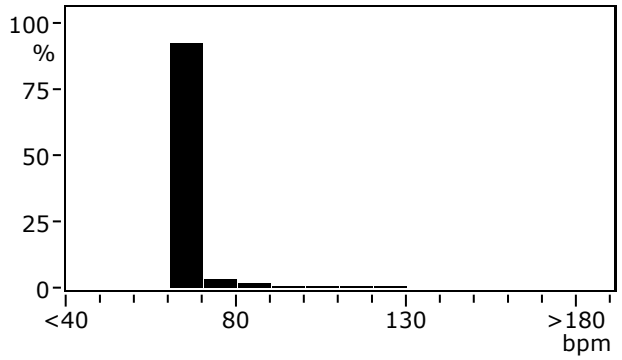
Diagnostics

Date: **14/03/2013**
Time: **09:08**

Sensor

Start	12/03/2013
Duration	1 days

Sensor rate



Diagnostics

Date: **14/03/2013**
Time: **09:08**

Sensing

Start	12/03/2013
Duration	1 days

P/R amplitude

Diagnostics

Date: **14/03/2013**
Time: **09:08**

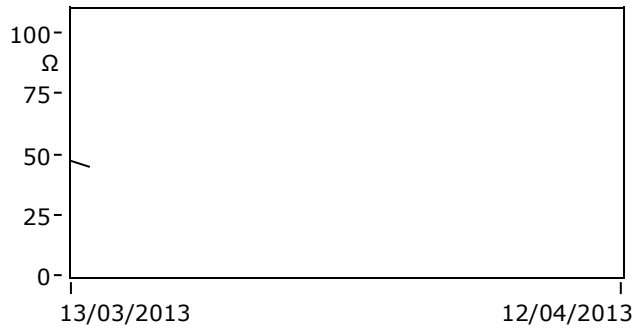
Pacing

Start	12/03/2013
Duration	1 days

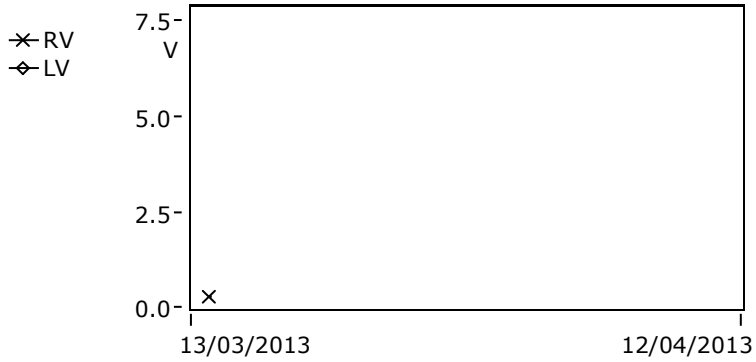
Impedance trend

Brady

Shock

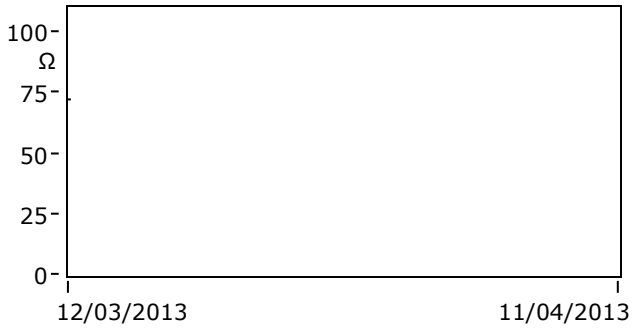


Pacing threshold



Thoracic impedance

Impedance



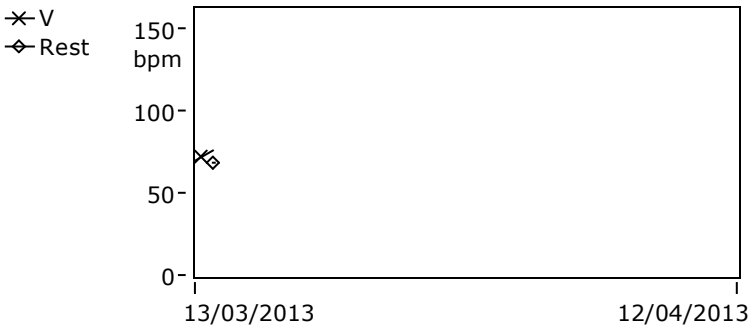
Diagnostics

Date: **14/03/2013**
Time: **09:08**

HF monitor

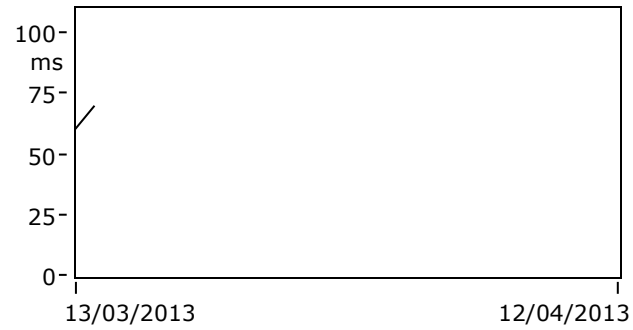
Start	12/03/2013
Duration	1 days

Rate

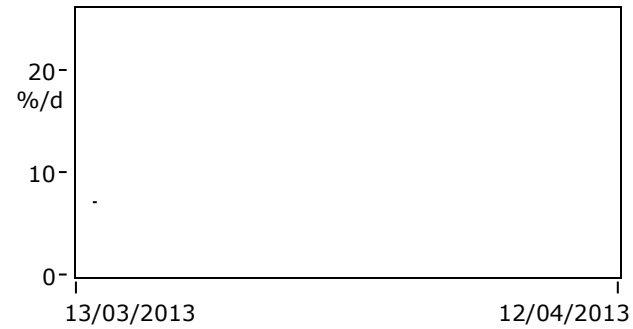


Start rest. period	02:00 hh:mm
Rest. period dur.	04:00 hh:mm

HR variability



Patient activity



Recordings

Date: **14/03/2013**
Time: **09:08**

Shocks

No.	Time	Energy [J]	Charge time [s]	Imped. [Ω]	Description

Total number of charges 0

Recordings

Date: **14/03/2013**
Time: **09:08**

Episodes

No.	Time	Zone	PP [ms]	RR [ms]	Description	PP [ms]	RR [ms]

Display episodes [x] AT/AF [x] VT/VF [x] SVT [ ] Since last follow-up

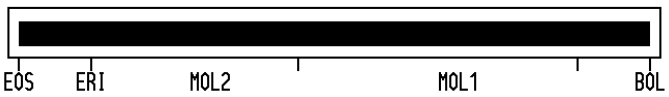
Status

Date: **14/03/2013**
Time: **09:09**

Device

Software release	6.0.2
ICD	OK
PID	63

Battery



Battery status	BOL
Voltage	3.15 V
Battery ID number	1

Shocks/Reforms

Total number of charges 0

	Last charge event	Last with max. energy	
Energy	-----	-----	J
Charge time	-----	-----	s
Date	-----	-----	
Time	-----	-----	

Home Monitoring

Type of message	-----
Last message	XX/XX/XXXX XX:XX:XX

Impedance

Date: **14/03/2013**
Time: **09:09**

A + BiV

Impedance

Chamber(s)		A + BiV		
Mode		DDD		
Ventricular pacing		BiV		
Shock path		RV→Can+SVC		
	A	RV	LV	
Pulse amplitude	3.6	3.6	4.8	V
Pulse width	0.4	0.4	0.4	ms
LV pacing polarity		LV tip → LV ring		

Measured values

	A	RV	LV	
Shock		46		Ω
Pacing	537	510	714	Ω

Sensing

Date: **14/03/2013**
Time: **09:09**

VVI

Sensing

Mode		VVI		
Basic rate		30		bpm
Ventricular pacing		BiV		
	A	RV	LV	
Pulse amplitude		3.6	4.8	V
Pulse width		0.4	0.4	ms
LV sensing polarity			BIPL	

Measured values

Mean AV delay		155		ms
	A	RV	LV	
Mean rate	88			bpm
Min. amplitude	4.0	9.8	9.2	mV
Mean amplitude	5.3	10.3	10.1	mV
Max. amplitude	6.9	10.8	10.6	mV

Pacing threshold

Date: **14/03/2013**
Time: **09:10**

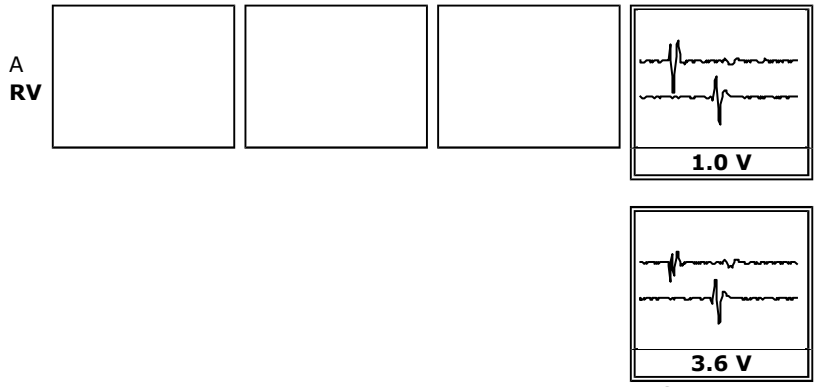
DDD in A

Pacing threshold

Mode	DDD in A		
Basic rate	90 bpm		
AV delay	250 ms		
Upper rate	130 bpm		
Threshold test display	IEGM		
Resolution	High		
Number of test pulses	3		
	A	RV	LV
Pulse amplitude	3.6	3.6	V
Pulse width	0.4	0.4	ms

Measured values

Threshold	1.0 V



Pacing threshold

Date: **14/03/2013**
Time: **09:10**

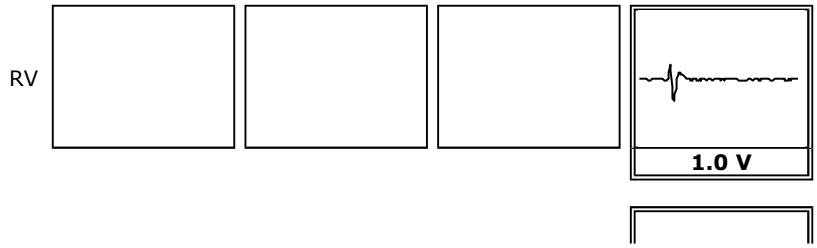
VVI in RV

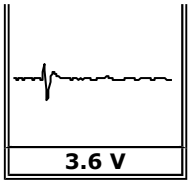
Pacing threshold

Mode	VVI in RV		
Basic rate	90 bpm		
Threshold test display	IEGM		
Resolution	High		
Number of test pulses	3		
	A	RV	LV
Pulse amplitude		3.6	V
Pulse width		0.4	ms

Measured values

Threshold	1.0 V





Reference

Pacing threshold

Date: **14/03/2013**
Time: **09:12**

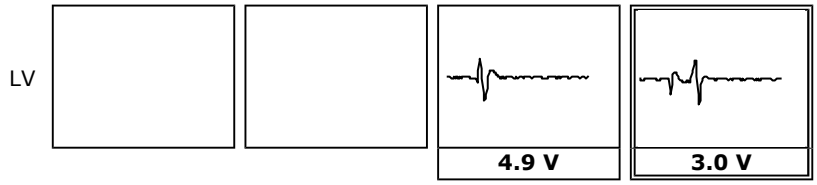
VVI in LV

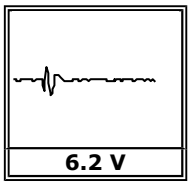
Pacing threshold

Mode	VVI in LV		
Basic rate	100 bpm		
Threshold test display	IEGM		
Resolution	High		
Number of test pulses	3		
	A	RV	LV
Pulse amplitude			6.2 V
Pulse width			1.0 ms
LV pacing polarity	LV tip → LV ring		

Measured values

Threshold	5.0 V





Reference

Parameters (perm.)

Date: **14/03/2013**
Time: **09:12**

Overview

Tachycardia detection : Enabled

	Rate	1. ATP	2. ATP	Shocks 1st	Shocks 2nd	Shocks 3-Nth
VT1	162 bpm	3×Burst	3×Ramp	40J	40J	6×40J
VT2	188 bpm	3×Burst	3×Ramp	40J	40J	6×40J
VF	222 bpm	OFF		40J	40J	6×40J

Progressive course of therapy ON

				A	RV	LV
Mode	DDD					
Ventricular pacing	BiV/T		Pulse amplitude	2.5	3.0	6.0 V
Basic rate	60 bpm		Pulse width	0.4	0.4	1.0 ms
Upper rate	130 bpm					

Bradycardia

	Permanent	Post shock	
Mode	DDD	DDI	
Basic rate	60	70	bpm
Night rate	OFF		
Rate hysteresis	OFF	OFF	
Ventricular pacing	BiV	RV	
LV T-wave protection	ON		
Triggering	RVs		
Maximum trigger rate	150		bpm
VV delay after Vp	5		ms
VV delay after RVs	0		ms
Initially paced chamber	LV		
AV delay	150/120	140	ms
Lower rate for AV delay	60		bpm
Upper rate for AV delay	130		bpm
Sense compensation	-30		ms
AV safety window	100		ms
AV hysteresis mode	OFF		
Upper rate	130		bpm
Upper rate response	WKB		
Atrial upper rate	240		bpm
Intervention rate	160		bpm
Mode	DDI		
Onset criterion	7		out of 8
Resolution criterion	5		out of 8
Change of basic rate	+10		bpm
Ventricular pacing	BiV		
LV T-wave protection	ON		
Triggering	RVs		
Post ModeSw rate	+10		bpm
Post ModeSw duration	01:00		mm:ss
PMT detection/termination	ON		
VA criterion	350		ms
Post-shock duration		00:30	mm:ss

Bradycardia

Pacing

	A	RV	LV	
Pulse amplitude	2.5	3.0	6.0	V
Pulse width	0.4	0.4	1.0	ms

Sensing

	A	RV	LV	
Sensing	Std.	Ind.	Std.	
Blanking				
after atrial pace		50	100	ms
after RV pace		AUTO	80	ms
after LV pace		80	AUTO	ms
Thresholds				
Upper threshold	50	50	50	%
Hold of upper threshold		360	360	ms
Lower threshold	25	25	50	%
Post pace T-wave suppr.		ON		
PVC				
Discrimination after As		350		ms
Minimum threshold	0.4	0.8	1.6	mV
Far-field protection after Vp	75			ms
Far-field protection after Vs	75			ms
PVARP	300			ms
PVARP after PVC	525			ms

LV polarity

LV sensing polarity	BIPL
LV pacing polarity	LV tip → LV ring

Detection

	VT1	VT2	VF
Rate	162	188	222 bpm
Detection counter	26	16	12 in 16
Redetection counter	20	14	
SMART detection	ON	ON	
SMART redetection	ON	ON	
Onset	20	20 %	
Stability	12	12 %	
Forced termination	1 min		

VT1

Rate 162 bpm

ATP's	1st	2nd
Type	3×Burst	3×Ramp
Ven. pacing	RV	RV
Number S1	5	5
Add S1	ON	ON
R-S1 Int.	80 %	80 %
S1 decrement		10 ms
S1-S2 Int.		
Scan decrement	OFF	OFF
Min.Interval	200 ms	
ATP optimizat.	ON	
ATP timeout	OFF	

Shocks	1st	2nd	3-Nth
Energy	40J	40J	6×40J
Confirmation	ON		
Polarity	Normal		
Waveform	Biphasic		
Shock path	RV→Can+SVC		

VT2

Rate 188 bpm

ATP's	1st	2nd
Type	3×Burst	3×Ramp
Ven. pacing	RV	RV
Number S1	5	5
Add S1	ON	ON
R-S1 Int.	80 %	80 %
S1 decrement		10 ms
S1-S2 Int.		
Scan decrement	OFF	OFF
Min.Interval	200 ms	
ATP optimizat.	ON	
ATP timeout	OFF	

Shocks	1st	2nd	3-Nth
Energy	40J	40J	6×40J
Confirmation	ON		
Polarity	Normal		
Waveform	Biphasic		
Shock path	RV→Can+SVC		

VF

Rate 222 bpm

ATP	
Type	OFF
Ven. pacing	
Number S1	
R-S1 Int.	
S1 decrement	
S1-S2 Int.	

Shocks	1st	2nd	3-Nth
Energy	40J	40J	6×40J
Confirmation	ON		
Polarity	Normal		
Waveform	Biphasic		
Shock path	RV→Can+SVC		

Patient

ID	500831/025
Name	--------
First name	--------
Date of birth	--------
Gender	Male
Symptom	Prophylactic indication
ECG indication	Not documented
Etiology	Coronary artery disease
LVEF	15 %
NYHA	II

Implantation

Implantation	12/03/2013
Hospital, City	FN BRNO - BOHUNICE
Physician	MUDr. Kozak
Phone	+420532232459

Leads

	A
Lead position	Appendage
Manufacturer	BIOTRONIK
Type	Siello S 53
Serial number	25787702
	RV
Lead position	Septum
Manufacturer	BIOTRONIK
Type	LinoxSmart SD 65/16
Serial number	10491781
	LV
Lead position	LV posterolateral
Manufacturer	BIOTRONIK
Type	Corox OTW-L 75 BP
Serial number	25103501

Diagnostics/HM

Program No.	6

Home Monitoring

Home Monitoring	ON
Time of transmission	01:00 hh:mm
IEGM for therapy episodes	ON
IEGM for monitoring episodes	ON
Periodic IEGM	1 Months
Ongoing atrial episode	12 h
Thoracic impedance	ON

Statistics

AT/AF rate	200 bpm
Start rest. period	02:00 hh:mm
Rest. period dur.	04:00 hh:mm
Automatic impedance measurement	ON
AV delay adj. sensing test	300 ms
Thoracic impedance	ON

Recording episodes

For AT/AF	ON
For SVT	ON

Autom. threshold monitoring (ATM)

ATM RV	ON
ATM LV	OFF