COVIDIEN

positive results for life

(1)

Dated: 10th February, 2016

To Whom It May Concern

This is to certify that MEDTECH, Near: HDFC ATM, Lamphel Super Market, Imphal - 795004, Manipur is our authorised channel partner for the state of Manipur for the below mentioned products manufactured by us.

Force Fx Electrosurgical Generator
Force Triad Energy Platform
Sonicision cordless ultrasonic dissection device

We do hereby authorise MEDTECH to quote, negotiate, sell, and handle all commercial terms directly.

Your Sincerely

Amit Singh
Regional Manager
(9830688770)

Covidien Healthcare India Pvt Ltd
CIN: U85190HR2008PTC039539

6th Floor, Tower A & B,
SAS Tower,
Medanta The Medicity Complex,
Sector-38, Gurgaon-122001
Haryana, India

91-124-4769800 [T]
91-124-4284500 [F]

www.covidien.com

(2)

COVIDIEN

Date: 28th Sep, 2015

Proprietary Article Certificate

This is to certify that the following products:

Cat no	Item description
FORCETRIAD	Force Traid advanced vesseal sealer with Tissuefect sensing technology , 3333 decisions / second with additional option of bipolar resection as well.
E6008B	Monopolar footswitch
E6009	Bipolar foot switch
E0017	Universal active adaptor
LS0300	Ligasure foot switch
FT0501	BIPOLAR ADAPTER, BANANA LEADS
LF1737	LIGASURE MARYLAND JAW 37CM, shaft rotation 350 degrees, Jaw aperture 13mm,Seal plate length 20mm & cut length 18mm
LF1212	LIGASURE CUR SM JAW SEALER/DIV , seal length 16.5mm & cut length 14.7mm
LF4318	LIGASURE IMPACT INSTRUMENT, shaft diameter 13.5mm oval shaped, shaft rotation 180 degrees, curved jaw, seal length 36mm and cut length 34mm
LF1637	LIGASURE 5MM BLUNT TIP 39CM
LS1037S	LIGASURE ATLAS HANDSWITCH 37CM
LF1723	Ligasure Maryland jaw, 23cm for open procedure
LF1623	LIGASURE BLUNT TIP 23CM

are the proprietary products of Covidien LLC, 15 Hampshire Street, Mansfield, MA 02048 USA.

The product design and specifications are the Proprietary of and controlled by **Covidien LLC, USA.**

For Covidien Healthcare India Pvt. Ltd
Sincerely,

Pragati Srivastava
Regulatory Affairs Specialist- Indian Subcontinent

COVIDIEN HEALTHCARE INDIA PVT LTD
CIN: U51909HR2008FTC040016
04TH FLOOR, TOWER A & B,
SAS TOWER,
MEDANTA THE MEDICITY COMPLEX,
SECTOR-38, GURGAON-122001,
HARYANA, INDIA
91-124-4709800 [T] WWW.COVIDIEN.COM
91-124-4206850 [F]

COVIDIEN

Date: 27/07/2014

To Whomsoever It May Concern

This is to certify that the following products

Product Code	Product Description
LF1637	Ligasure 5mm Blunt tip 39 cm ; double action contoured tip, 180 degrees shaft rotation, seal length 19.5mm & cut length 17.5mm
LF5544	Ligasure Advance Pistol44cm ; shaft rotation 340 degrees, seal width 2-3 mm, cut length 15.5 mm and jaw length 18 mm.
LS1020S	Ligasure Atlas handswitch 20cm
LS1037S	Ligasure Atlas handswitch 37cm
LS3090	Ligasure max instrument ; 23 cm length, curved 30 degree jaw angle, 2.5 cm curved jaw with activation button on both sides
LS3092	Ligasure max hand switching electrode; Grained electrode texture with 2.5 cm electrode length & 3-5m seal width.
LF1723	Maryland Jaw , 23cm

are the proprietary product of Covidien IIc, 15 Hampshire Street, Mansfield, MA 02048 USA.

The Product design and specifications are the property of and controlled by Covidien IIc, USA.

For Covidien Healthcare India Pvt. Ltd.

Sincerely,

Pragati Srivastava
Regulatory Affairs Specialist- Indian Sub-Continent

COVIDIEN HEALTHCARE INDIA PVT LTD
CIN: U51397HR2002FTC030210
04TH FLOOR, TOWER A & B,
SAS TOWER,
MEDANTA THE MEDICITY COMPLEX,
SECTOR-38, GURGAON-122001,
HARYANA, INDIA
91-124-4709800 [T]
91-124-4206850 [F]
WWW.COVIDIEN.COM

COVIDIEN

Date: 27/07/2014

To Whomsoever It May Concern

This is to certify that the following products

E2516	Disposable hand switching monopolar pencil
E7507	Polyhesive II return electrode
E751025	Pediatric return electrode
FT3000	Force Triverse 1450X Edge ; electrosurgical device with 10 inch cord. Facilitates power setting from the sterile field.
E2777-36	Solid laproscopic electrode, wire J hook type, 4.8 mm diameter and 36cm shaft length

are the proprietary product of Covidien IIc, 15 Hampshire Street, Mansfield, MA 02048 USA.

The Product design and specifications are the property of and controlled by Covidien IIc, USA.

For Covidien Healthcare India Pvt. Ltd.

Sincerely,

Pragati Srivastava
Regulatory Affairs Specialist- Indian Sub-Continent

COVIDIEN HEALTHCARE INDIA PVT LTD
CIN: U51397HR2002FTC034230
04TH FLOOR, TOWER A & B,
SAS TOWER,
MEDANTA THE MEDICITY COMPLEX,
SECTOR-38, GURGAON-122001,
HARYANA, INDIA
91-124-4709800 [T]
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WWW.COVIDIEN.COM

MEDTECH
Health with Technology

MAILING ADDRESS: Near Manipur AIDS Control Society (MACS)
Lamphel Super Market Imphal 795 004
PHONE : +91-9206118591/ +91-9612906994/ +91-8974064301
E-mail: med_tch@yahoo.co.in

REGD. OFFICE: Wangkhei Khunou Checkon, Imphal East - 795 005.
PHONE: +91-9862578457, E-mail: med_tch@yahoo.co.in

(5)

Mt/rims/Qtn/16-02/A
Dated : 10/02/2016

To
Director
Regional Institute of Medical Sciences
Lamphel
Imphal – 795004
Manipur

Subject : **PROFOMA INVOICE FOR COVIDIEN – FORCETRAID Energy Platform with TissueFect Sending Technology**

Sl no.	Cat No.	Item description	Qty	Price (INR)
		FORCETRIAD Energy Platform		**24,90,000.00**
01	FORCETRIAD	FORCETRIAD GENERATOR	01	
02	E6008B	MONOPOLAR FOOTSWITCH	01	
03	E6009	BIPOLAR FOOTSWITCH	01	
04	TE0017	UNIV ACTIVE ADPT	01	
05	TFT0501	BIPOLAR ADAPTER, BANANA LEADS	02	
06	TLS0300	LIGASURE SINGLE FOOTSWITCH	01	
07	TLF1737	LIGASURE MARYLAND JAW 37CM	02	
08	TLF1637	LIGASURE 5MM BLUNT TIP 39CM	02	
09	TLF4318	LIGASURE IMPACT INSTRUMENT	02	
10	TLF1212	LIGASURE CUR SM JAW SEALER/DIV	02	
11	TLS1037S	LIGASURE ATLAS HANDSWITCH 37CM	02	
12	TFT3000	FORCE TRIVERSE 1450X EDGE	05	
13	E2516	DISPOSIBLE HAND SWITING MONOPOLAR PENCIL	10 NOS	
14	E7507	POLYHESIVE II RETURN ELECTORDE	10 NOS	
15	E751025	PAEDIATRIC RETURN ELECTRODE	10 NOS	
16	FT900	FORCETRAID CART	1 NO	
17	E4051CT	Scoville – Greenwood bayonet forceps, 19.7cm, 1.5 mm	1 NO	
18	E0020V	REUSABLE BIPOLAR CORD, 4.6 m	2 NOS	
			SUB TOTAL	24,90,000.00
			VAT 13.5%	3,36,150.00
			TOTAL AMOUNT	**28,26,150.00**
RUPEES TWENTY EIGHT LAKH TWENTY SIX THOUSAND ONE HUNDRED AND FIFTY ONLY				

MEDTECH LAMPHEL SUPER MARKET Imphal 795004

MEDTECH
Health with Technology

MAILING ADDRESS: Near Manipur AIDS Control Society (MACS)
Lamphel Super Market Imphal 795 004
PHONE : +91-9206118591/ +91-9612906994/ +91-8974064301
E-mail: med_tch@yahoo.co.in

REGD. OFFICE: Wangkhei Khunou Checkon, Imphal East - 795 005.
PHONE +91-9862578457, E-mail: med_tch@yahoo.co.in

TERMS AND CONDITIONS

1. **The price given is inclusive of transportation, handling charges, installation and user training.**
2. **Warranty of the main unit is of 1 year from the date of installation.**
3. **Delivery: within 45 days from the date of confirm supply order.**
4. **Charges for comprehensive annual maintenance contract for 5 years after 1 year warranty**

1st year after 1 year warranty	Rs 1,20,000.00
2nd year after 1 year warranty	Rs 1,32,000.00
3rd year after 1 year warranty	Rs 1,45,200.00
4th year after 1 year warranty	Rs 1,59,720.00
5th year after 1 year warranty	Rs. 1,75,692.00

5. **Supply order to be given to MEDTECH, Lamphel, Imphal, Manipur.**

For MEDTECH,

Kishor Thingbaijam

MEDTECH LAMPHEL SUPER MARKET Imphal 795004



Technical Specifications

All specifications are nominal and subject to change without notice. A specification referred to as "Typical" is within ± 20% of a stated value at room temperature (25° C / 77° F) and a nominal line input voltage.

Caution

Read all warnings, cautions, and instructions provided with this system before use.

Read the instructions, warnings, and cautions provided with electrosurgical instruments before use. Specific instructions for electrosurgical instruments are not included in this manual.

Performance Characteristics

General

Output configuration	Isolated output
Cooling	Natural convection and fan
Display	Three LCD touchscreens
Connector ports	LED illuminated Smart connector readers
Mounting	• ForceTriad energy platform cart (FT900), Universal Mounting cart (UC8009), and/or the UC8010 Overshelf • Operating room boom systems • Any stable, flat surface such as a table or cart top

Dimensions and Weight

Width	45.8 cm (18 in.)
Depth	50.8 cm (20 in.)
Height	25.5 cm (10 in.)
Weight	13.6 kg (30 lbs)

Operating Parameters

Ambient temperature range	+10° C to +40° C
Relative humidity	30% to 75% non-condensing
Atmospheric pressure	700 millibars to 1060 millibars
Warm-up time	If transported or stored at temperatures outside the operating temperature range, allow one hour for the energy platform to reach room temperature before use.

Transport and Storage

Ambient temperature range	-30° C to +65° C
Relative humidity	0% to 90% (non-condensing)
Atmospheric pressure	500 millibars to 1060 millibars
Duration of storage	The ForceTriad energy platform may be stored indefinitely. If the energy platform is stored for over one year, the memory battery must be replaced.

Internal Memory

Nonvolatile, battery-backed RAM	Battery type: Lithium Battery life: 120 mAh
Storage capacity	256 KB

Activation Tone

The audio levels stated below are for activation tones (cut, Valleylab, coag, bipolar, and LigaSure modes) and alarm tones (REM and system alarms) at a distance of one meter.

Volume (adjustable)	45 to 65 dBA
Frequency	Cut: 660 Hz Valleylab: 800 Hz Coag: 940 Hz Bipolar: 940 Hz LigaSure: 440 Hz
Duration	Continuous while the system is activated

Alarm Tone

Volume (not adjustable)	>65 dBA
Frequency	REM: 660 Hz Regrasp: Two tones: High = 985 Hz, Low = 780 Hz Seal Complete: 985 Hz Error/System Alert: Beep tone = 1400 Hz
Duration	REM: Two 1/ 2 second tones separated by 1/2 second for each REM event Reactivate/Regrasp: Four 175 msec tones -- high, low, high -- low separated by 1/2 second Check Instrument: Six 175 msec tones -- high, low, high, low, high, low Seal Complete: Two 175 msec tones separated by 175 msec for each Seal Complete event Error/System Alert: Two 1/ 2 second tones separated by 1/2 second for each Error/System Alert event

REM Contact Quality Monitor

Interrogation frequency	80 kHz ± 10 kHz
Interrogation current	< 100 µA
Interrogation voltage	< 12V RMS

Acceptable Resistance Range

REM resistance measurements are ± 10% during RF activation and ± 5% when RF output is not activated.

REM patient return electrode: 5 to 135 ohms or up to a 40% increase in the initial measured contact resistance (whichever is less).

If the measured resistance is outside the acceptable range(s) noted above, a REM fault condition occurs.

REM Alarm Activation

REM patient return electrode: When the measured resistance exceeds the standard range of safe resistance (below 5 ohms or above 135 ohms) or when the initial measured contact resistance increases by 40% (whichever is less), the REM alarm indicator enlarges and flashes red and yellow, a tone sounds twice, and RF output is disabled. The indicator remains illuminated red and yellow until you correct the condition causing the alarm. Then, the indicator illuminates green and RF output is enabled.

Autobipolar

The ForceTriad energy platform is equipped with an autobipolar feature that allows for automatic activation of bipolar energy.

Note: The autobipolar electrode function requires the use of the Valleylab E0018 bipolar instrument cord.

The autobipolar specifications are:

Interrogation frequency	80 kHz ± 10 kHz
Interrogation current	< 100 µA
Interrogation voltage	< 12V RMS
Activation impedance	20 Ω to 500 Ω

Deactivation impedance	User selectable: 1,500 Ω, 1,800 Ω, 2,000 Ω or 2,200 Ω
Measurement accuracy	± 14% of Full Scale activation impedance while keying active above 10 watts + 50%, -14% of full scale activation impedance while keying active at 10 watts or below ± 5% of Full Scale activation impedance while keying inactive
Keying delay	User selectable in 500 msec increments from 0 sec to 2.5 sec

Duty Cycle

Under maximum power settings and rated load conditions, the ForceTriad energy platform is capable of operating a duty cycle of 25%, defined as 10 seconds active and 30 seconds inactive, in any mode for a period of 4 hours.

Caution

Use of duty cycles greater than 25% (10 seconds active followed by 30 seconds inactive) will increase the risk that heat build-up under a return electrode may be high enough to injure the patient. Do not continuously activate for longer than one minute.

Low Frequency (50/60 Hz) Leakage Current

Enclosure source current, ground open	< 300 µA
Source current, patient leads, all outputs	Normal polarity, intact ground: < 10 µA Normal polarity, ground open: < 50 µA Reverse polarity, ground open: <50 µA Mains voltage on applied part: < 50 µA
Sink current at high line, all inputs	< 50 µA

High Frequency (RF) Leakage Current

	Measured with leads recommended by Valleylab	Measured directly at the energy platform terminals
Bipolar RF leakage current	< 59.2 mA $_{rms}$	< 59.2 mA $_{rms}$
Monopolar RF leakage current	< 150 mA $_{rms}$	< 100 mA $_{rms}$
LigaSure leakage	<132 mA $_{rms}$	< 100 mA $_{rms}$

Input Power

100–120 Volt	220–240 Volt
Maximum VA at nominal line voltage: Idle: 52 VA Bipolar: 450 VA Cut: 924 VA Coag: 530 VA	Maximum VA at nominal line voltage: Idle: 52 VA Bipolar: 450 VA Cut: 924 VA Coag: 530 VA
Input mains voltage, full regulation range: 90–132 Vac	Input mains voltage, full regulation range: 208–264 Vac
Input mains voltage, operating range: 85–132 Vac	Input mains voltage, operating range: 170–264 Vac
Mains current (maximum): Idle: 0.4 A Bipolar: 2.0 A Cut: 7.0 A Coag: 4.0 A LigaSure: 5.0 A	Mains current (maximum): Idle: 0.2 A Bipolar: 1.0 A Cut: 3.5 A Coag: 2.0 A LigaSure: 2.5 A
Mains line frequency range (nominal): 50 Hz to 60 Hz	Mains line frequency range (nominal): 50 Hz to 60 Hz
Fuses (2): 5 mm x 20 mm 8A, 250 V fast blow	Fuses (2): 5 mm x 20 mm 8A, 250 V fast blow
Power cord: 3-prong hospital grade connector	Power cord: 3-prong locally approved connector

Power Cord Specification

This unit was equipped from the factory with a 110 VAC hospital grade NEMA 5-15 power cord. Should the AC power cord need to be replaced to match another plug configuration, the replacement plug/cable/receptacle configuration must meet or exceed the following specifications:

100-120 VAC

Cable - SJT16/3, IEC color code, maximum length 15 ft (5 m)
Plug - minimum 10 A - 125 VAC
Unit receptacle - IEC female, minimum 10 A - 125 VAC

220-240 VAC

Cable - H05VVF3G1.0 VDE, maximum length 15 ft (5 m)
Plug - minimum 6 A - 250 VAC
Unit receptacle - IEC female, minimum 6 A - 250 VAC

Input Frequency

The ForceTriad energy platform operates within specification at all line input frequencies between 48 Hz and 62 Hz. The User does not need to reconfigure the ForceTriad energy platform for different line frequencies.

Input Current

The ForceTriad energy platform draws no more than 10A at any line input voltage.

Backup Power

The ForceTriad energy platform retains all user programmed features, calibration, and statistical data when switched off and unplugged. The ForceTriad energy platform operates within specification when switched over to a supplied line power by hospital backup systems.

Equipotential Ground Connection

An equipotential ground connection is provided to allow connection of the ForceTriad energy platform to ground.

ECG Blanking

An ECG blanking port is provided to signal other devices that the ForceTriad energy platform is active. The receptacle is a 2.5 mm mono jack. It is electrically isolated from the internal ground referenced electronics with the shell electrically connected to the chassis for ESD protection.

Standards and IEC Classifications

The ForceTriad energy platform meets all pertinent clauses of the IEC 60601-1 second edition and IEC 60601-2-2 third edition.



ATTENTION
Consult accompanying documents



The generator output is floating (isolated) with respect to ground.



DANGER
Explosion risk if used with flammable anesthetics



To reduce the risk of electric shock, do not remove the cover. Refer servicing to qualified service personnel.



Unit produces non-ionizing radiation



Classified with respect to electrical shock, fire, and mechanical hazards only in accordance with UL60601-1 and CAN/CSA C22.2 No. 601.1

Symbols



Monopolar instrument receptacle



Monopolar footswitching receptacle



Bipolar instrument receptacle



LigaSure related receptacle or footswitch



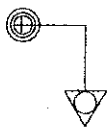
Color-coded LigaSure footswitch symbol for matching rear panel connector to front panel receptacle



REM patient return electrode receptacle



Volume adjustment for activation tones



Equipotential grounding point



Equipment should not be disposed in trash

Class I Equipment (IEC 60601-1)

Accessible conductive parts cannot become live in the event of a basic insulation failure because of the way in which they are connected to the protective earth conductor.

Type CF Equipment (IEC 60601-1)/Defibrillator Proof



This generator provides a high degree of protection against electric shock, particularly regarding allowable leakage currents. It is type CF isolated (floating) output and may be used for procedures involving the heart.

This generator complies with the ANSI/AAMI HF18 specifications for "defibrillator proof" designation and IEC 60601-2-2.

Liquid Spillage (IEC 60601-2-2 Clause 44.3)

The ForceTriad energy platform is constructed so that liquid spillage in normal use does not wet electrical insulation or other components which when wetted are likely to adversely affect the safety of the equipment.

Voltage Transients (Emergency Energy Platform Mains Transfer)

The ForceTriad energy platform continues to operate normally with no errors or system failures when transfer is made between line AC and an emergency energy platform voltage source. (IEC 60601-2-2 sub-clause 51.101 and AAMI HF18 sub-clause 4.2.2)

Electromagnetic Compatibility (IEC 60601-1-2 and IEC 60601-2-2)

The ForceTriad energy platform complies with the appropriate IEC 60601-1-2 and 60601-2-2 specifications regarding electromagnetic compatibility.

Notice

The ForceTriad energy platform requires special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the ForceTriad energy platform service manual.

Portable and mobile RF communications equipment can affect the ForceTriad energy platform. Refer to the EMC information provided in the ForceTriad energy platform service manual.

The ForceTriad energy platform meets the following requirements:

ESD Immunity (IEC 60601-1-2 Sub-Clause 36.202 and IEC 61000-4-2)

Radiated Immunity (IEC 60601-1-2 sub-clause 36.202.2 and IEC 61000-4-3)

Electrical Fast Transient/Burst (IEC 60601-1-2 sub-clause 36.202.3.1 and IEC 61000-4-4)

Surge Immunity (IEC 60601-1-2 sub-clause 36.202.3.2 and IEC 61000-4-5)

Emissions (IEC 60601-1-2 sub-clause 36.201.1, IEC 60601-2-2 sub-clause 36 and CISPR 11 Class A)

Harmonic distortion (IEC 60601-1-2 sub-clause 36.201.3.1 and IEC 61000-3-2)

Conducted disturbances (IEC 60601-1-2 sub-clause 36.202.6 and IEC 61000-4-6)

Power frequency magnetic fields (IEC 60601-1-2 sub-clause 36.202.8.1 and IEC 61000-4-8)

Voltage dips, short interruptions and variations (IEC 60601-1-2 sub-clause 36.202.7 and IEC 61000-4-11)

Output Characteristics

Maximum Output for Bipolar, Monopolar, and LigaSure Modes

Power readouts agree with actual power into rated load to within 15% or 5 watts, whichever is greater.

Mode	Open Circuit Peak Voltage (max)	Open Circuit P–P Voltage (max)	Rated Load (max)	Power (max)	Crest Factor*	Duty Cycle
Bipolar						
Low	250 V	500 V	100 Ω	95 W	1.42	N/A
Standard	175 V	350 V	100 Ω	95 W	1.42	N/A
Macro	250 V	500 V	100 Ω	95 W	1.42	N/A
Monopolar Cut						
Cut	920 V	1840 V	300 Ω	300 W	1.42	N/A
Blend	1485 V	2970 V	300 Ω	200 W	2.7	50%
Valleylab (HWD)	2365 V	4730 V	300 Ω	200 W	4.3	25%
Monopolar Coag						
Fulgurate	3050 V	6100 V	500 Ω	120 W	5.55	6.5%
Spray	3625 V	7250 V	500 Ω	120 W	6.6	4.6%
LigaSure	287.5 V	575 V	20 Ω	350 W	1.42	N/A

** An indication of a waveform's ability to coagulate bleeders without a cutting effect.*

Available Power Settings in Watts

Bipolar and Autobipolar (All Modes)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
45	50	55	60	65	70	75	80	85	90
95									

Monopolar Cut

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
45	50	55	60	65	70	75	80	85	90
95	100	110	120	130	140	150	160	170	180
190	200	210	220	230	240	250	260	270	280
290	300								

Monopolar Blend

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
45	50	55	60	65	70	75	80	85	90
95	100	110	120	130	140	150	160	170	180
190	200								

Valleylab

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
45	50	55	60	65	70	75	80	85	90
95	100	110	120	130	140	150	160	170	180
190	200								

Monopolar Coag

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
45	50	55	60	65	70	75	80	85	90
95	100	110	120						

Output Waveforms

Tissue Sensing Technology, an automatic adjustment, controls all modes. As tissue resistance increases from zero, the energy platform outputs constant current followed by constant power followed by constant voltage. The maximum output voltage is controlled to reduce capacitive coupling and video interference and to minimize sparking.

Bipolar

Low	472 kHz sinusoid continuous
Standard	472 kHz sinusoid continuous
Macro	472 kHz sinusoid continuous

Monopolar Cut

Cut	472 kHz sinusoid continuous
Blend	472 kHz bursts of sinusoid, recurring at 26.21 kHz intervals. 50% duty cycle.

Valleylab

Valleylab	472 kHz bursts of sinusoid, recurring at 28.3 kHz intervals. 25% duty cycle.

Monopolar Coag

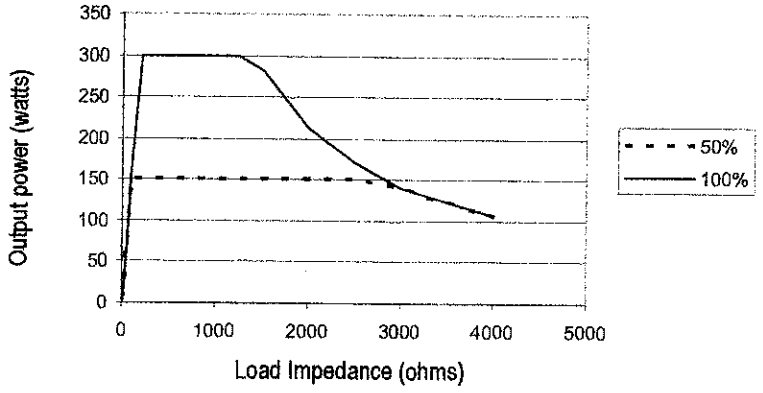
Fulgurate	472 kHz damped sinusoidal bursts with a repetition frequency of 30.66 kHz. 6.5% duty cycle.
Spray	472 kHz damped sinusoidal bursts with a randomized repetition centered at 21.7 kHz. 4.6% duty cycle.

Output Power vs. Resistance Graphs

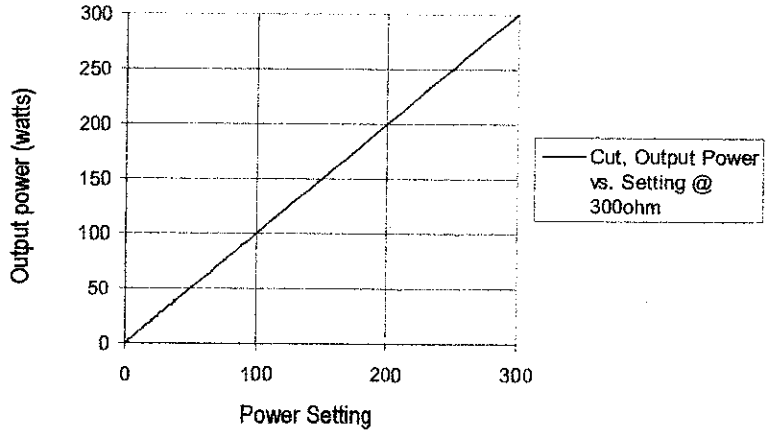
Monopolar Graphs

Pure Cut

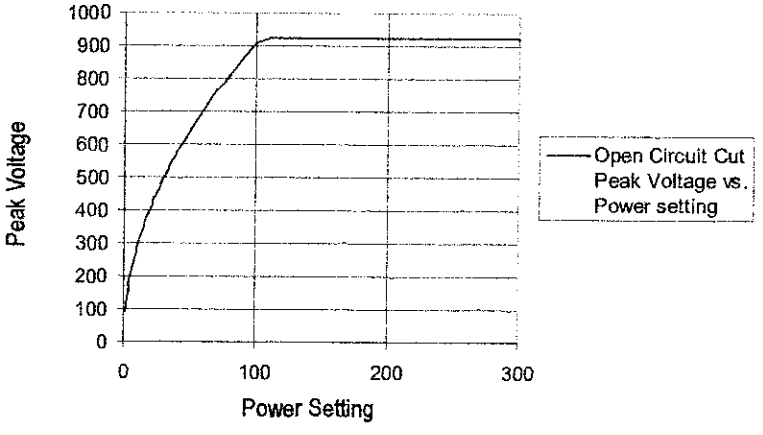
Output power versus impedance for Pure cut power



Output power versus power setting for Pure cut power

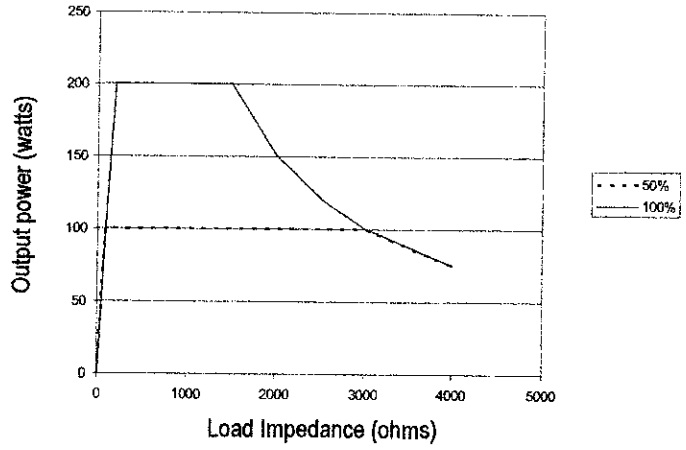


Peak voltage versus power setting for Pure cut power

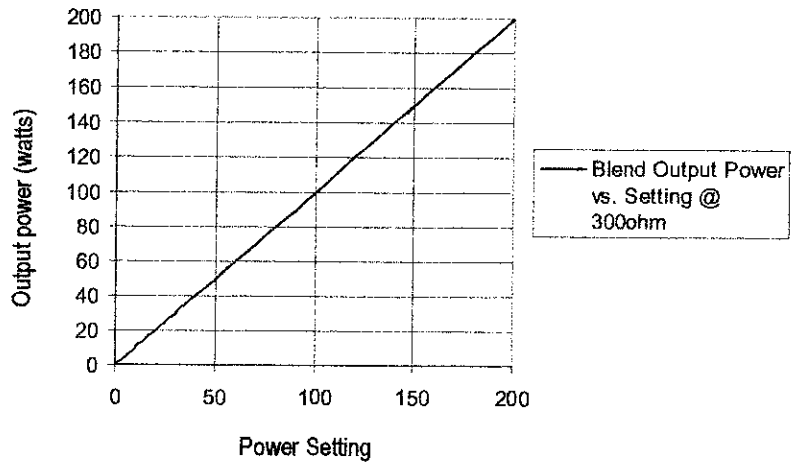


Blend

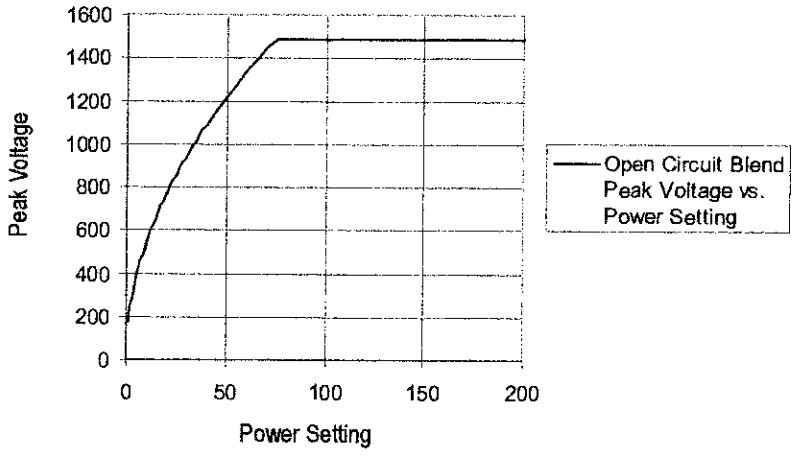
Output power versus impedance for Blend power



Output power versus power setting for Blend power

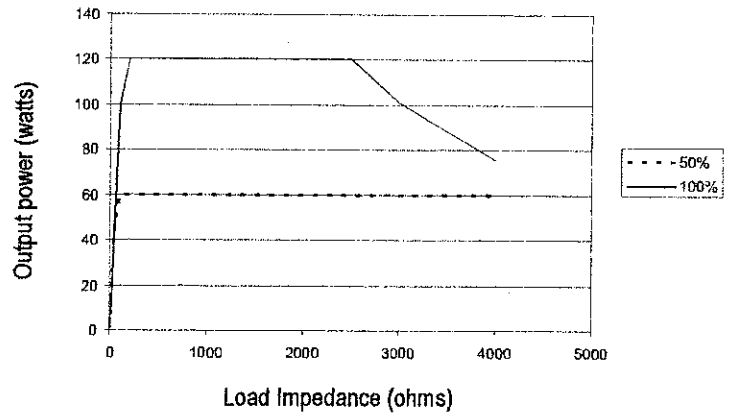


Peak voltage versus power setting for Blend power

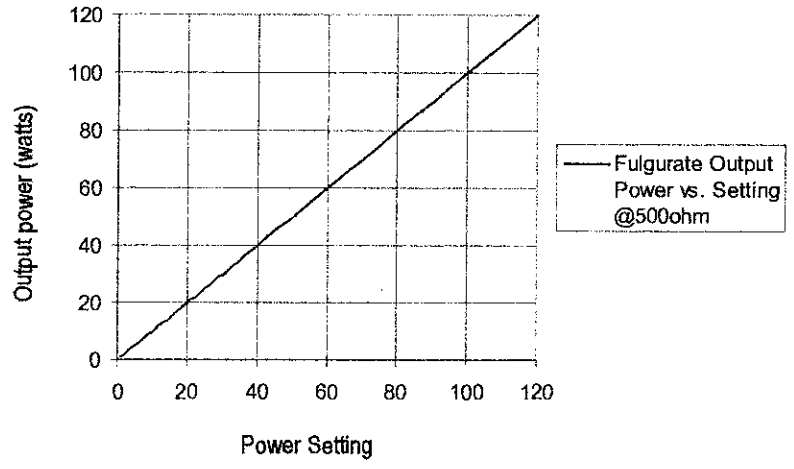


Fulgurate

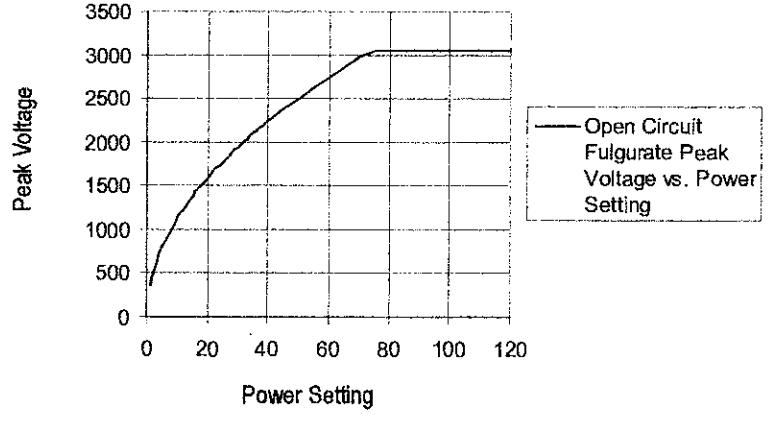
Output power versus impedance for Fulgurate power



Output power versus power setting for Fulgurate power

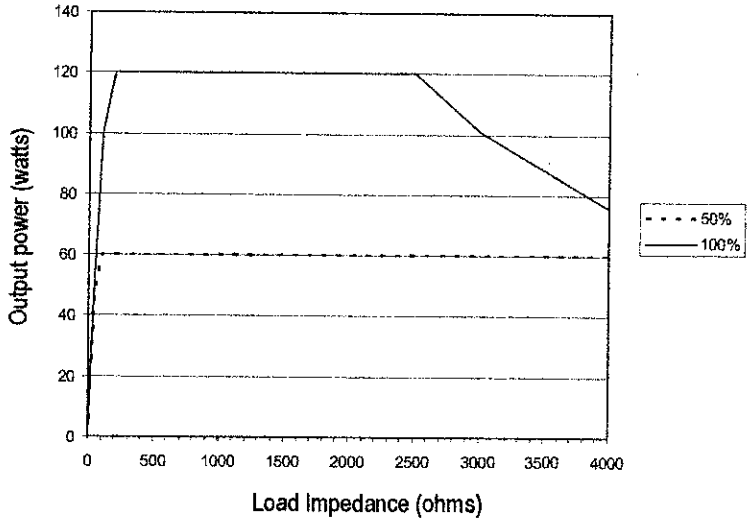


Peak voltage versus power setting for Fulgurate power

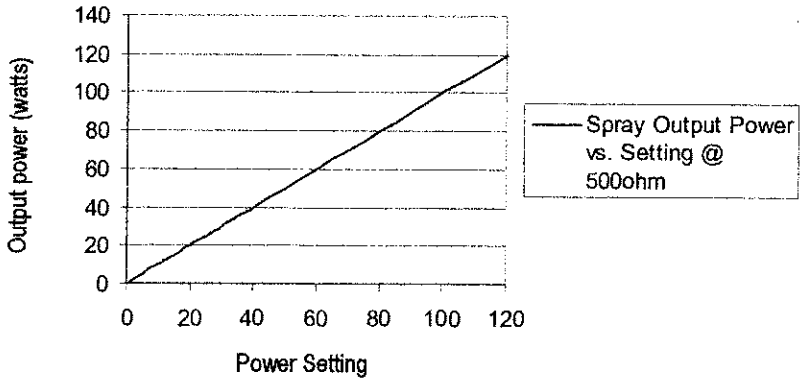


Spray

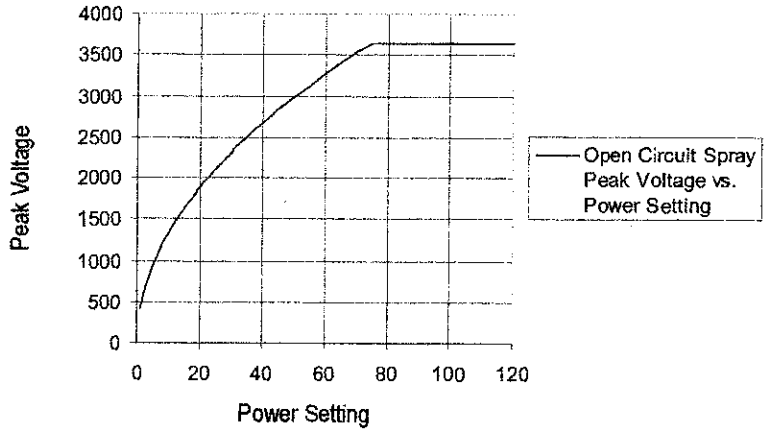
Output power versus impedance for Spray power



Output power versus power setting for Spray power

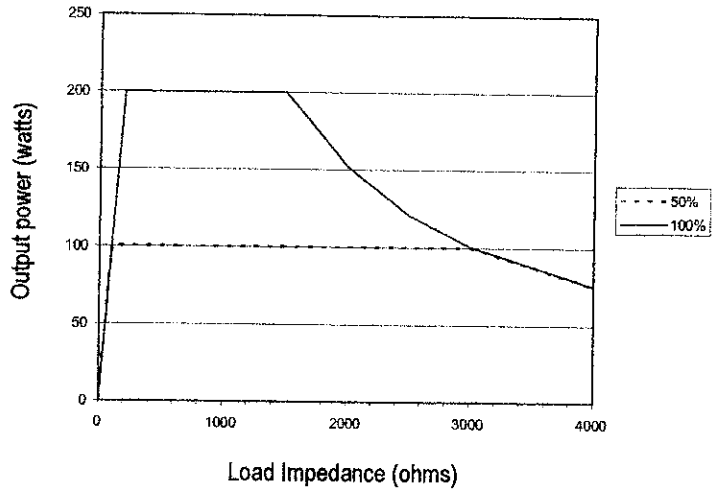


Peak voltage versus power setting for Spray power

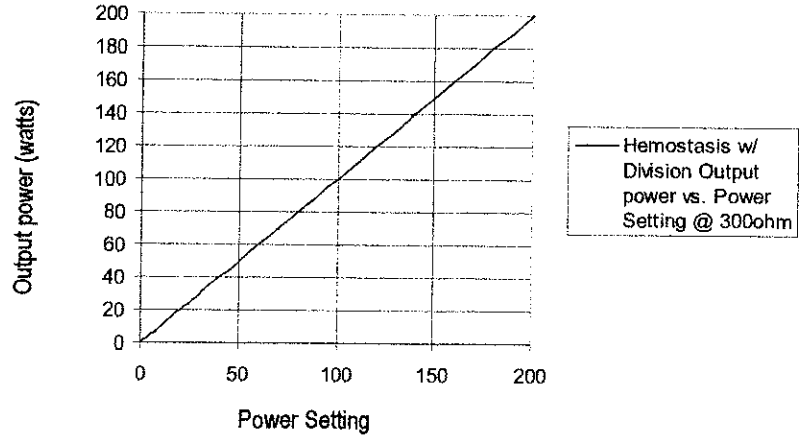


Valleylab

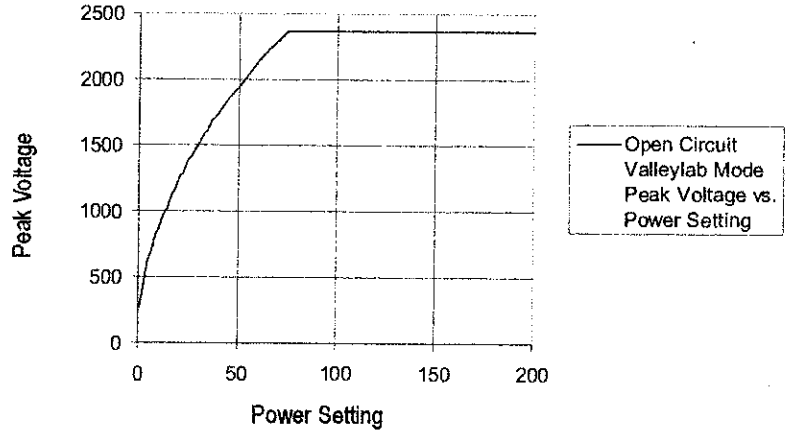
Output power versus impedance for Valleylab power



Output power versus power setting for Valleylab power



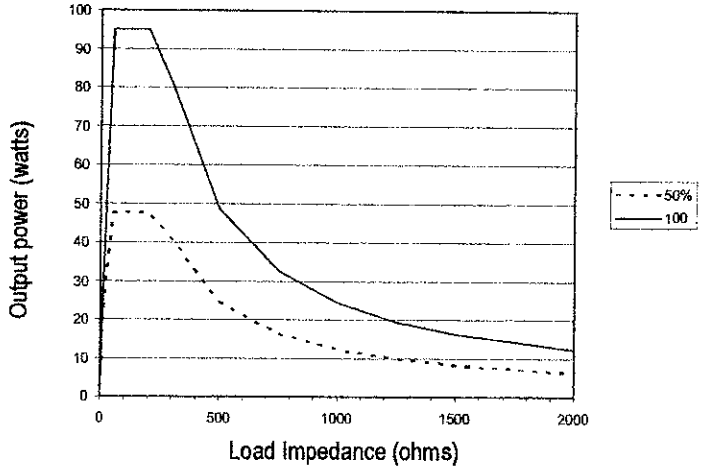
Peak voltage versus power setting for Valleylab power



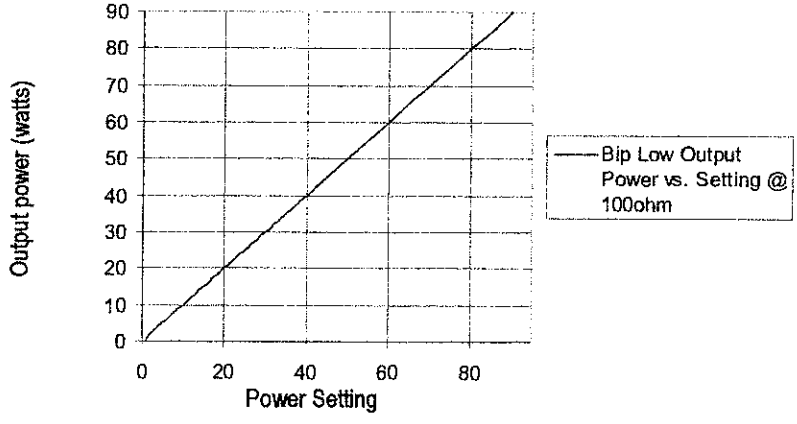
Bipolar Graphs

Bipolar Low

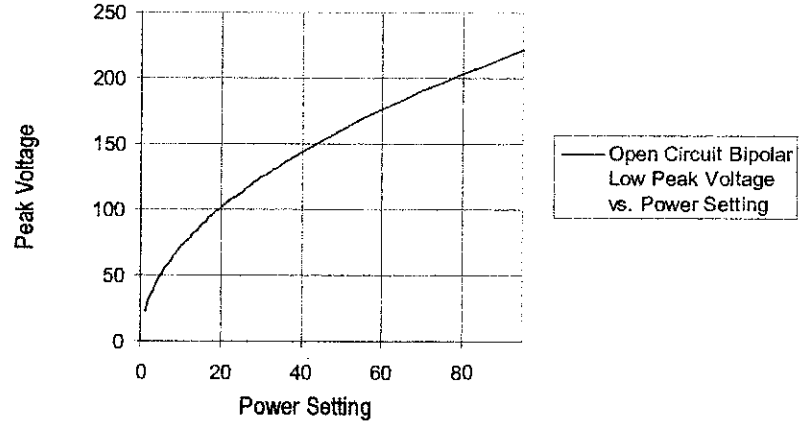
Output power versus impedance for Bipolar Low power



Output power versus power setting for Bipolar Low power

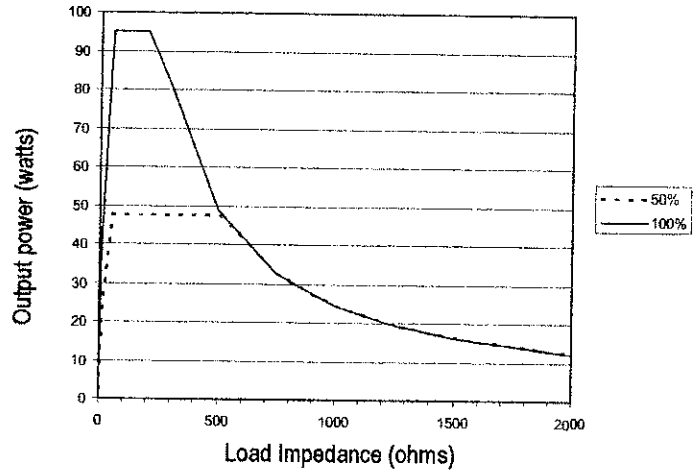


Peak voltage versus power setting for Bipolar Low power

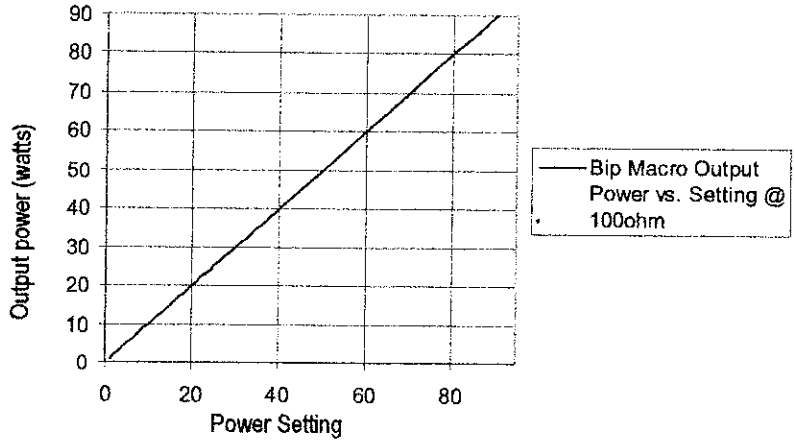


Bipolar Macro

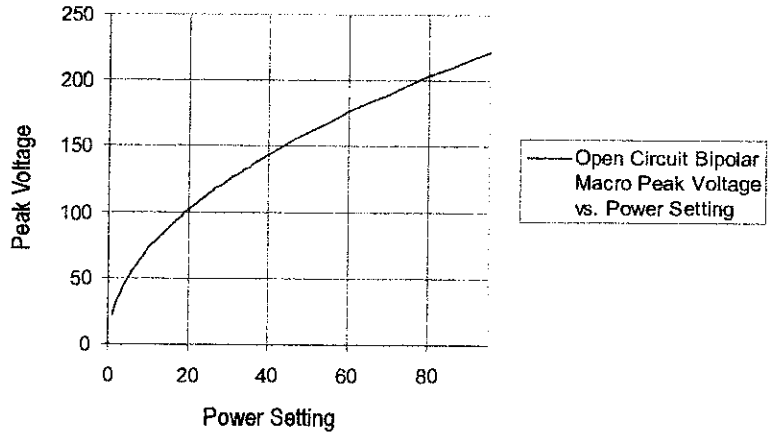
Output power versus impedance for Bipolar Macro power



Output power versus power setting for Bipolar Macro power

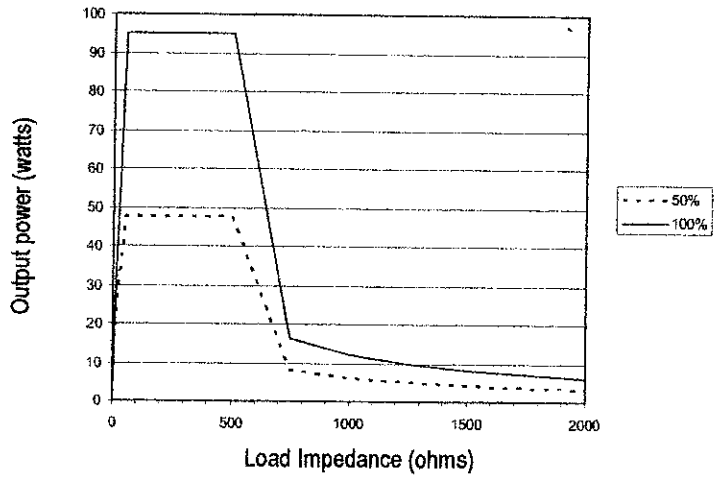


Peak voltage versus power setting for Bipolar Macro power

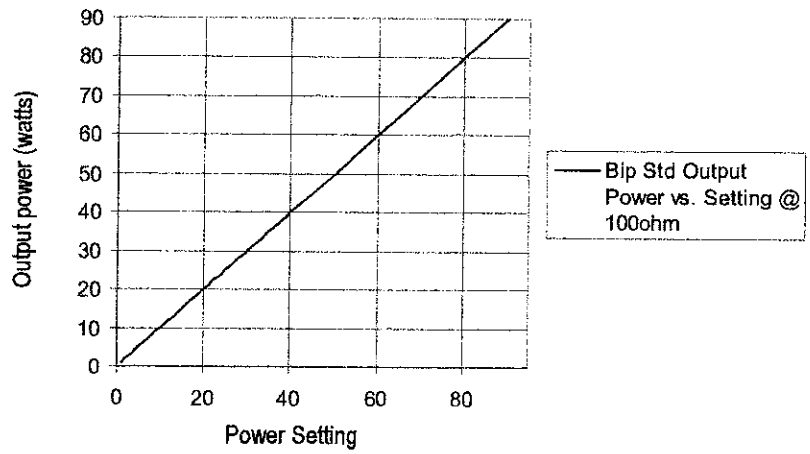


Bipolar Standard

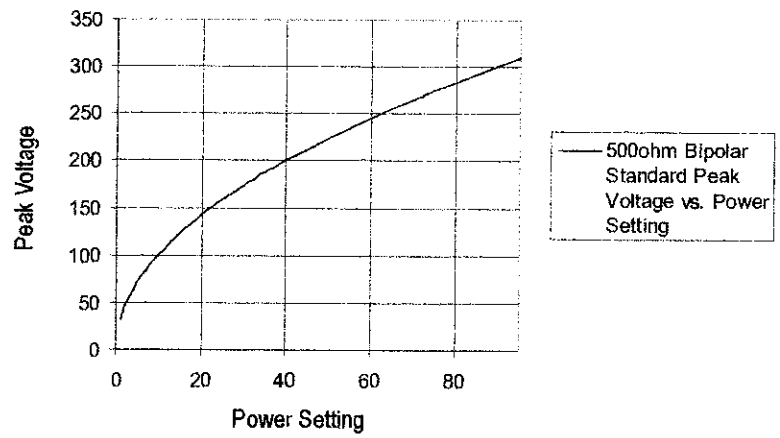
Output power versus impedance for Bipolar Standard power



Output power versus power setting for Bipolar Standard power



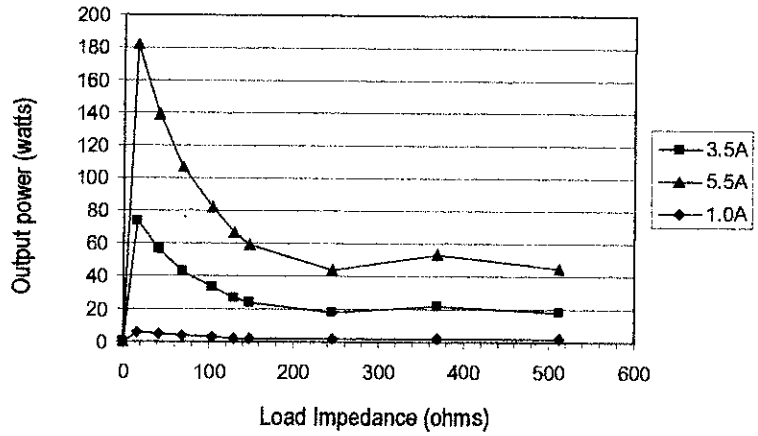
Peak voltage versus power setting for Bipolar Standard power



Note: Maximum peak voltage in the Bipolar Standard mode occurs at 500 Ω, not open circuit.

LigaSure

Output power versus impedance for LigaSure power



Peak voltage versus impedance for LigaSure power

