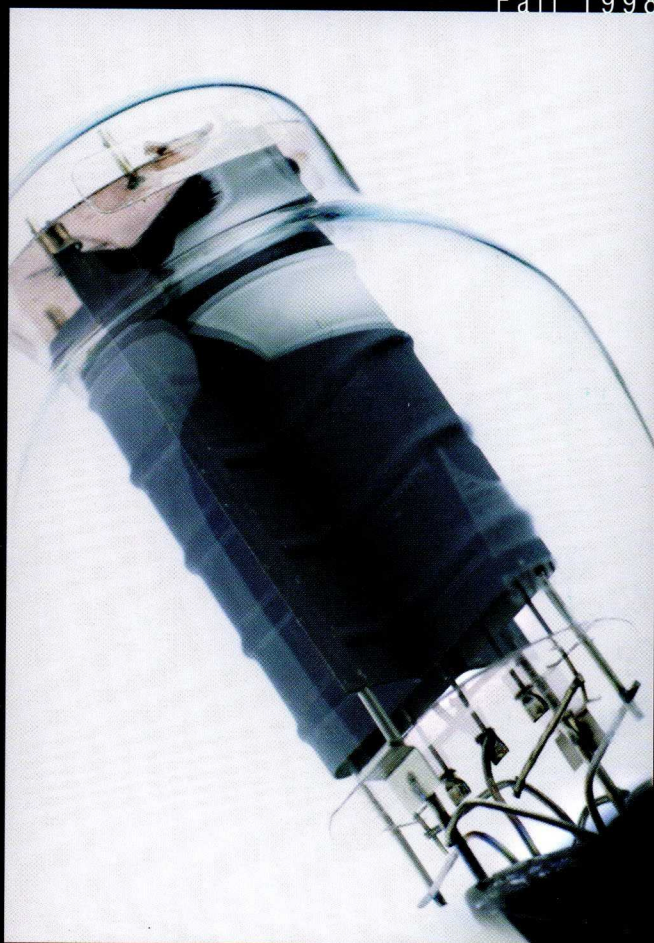


Svetlana Audio Tubes

Fall 1998



Svetlana
ELECTRON DEVICES

The Superior Sound of Svetlana Tubes

[Svetlana SV300B]...this is the one to place your bets on! It delivers the sonic goods for a reasonable investment. I and others have enjoyed over 100 hours of extremely pleasurable listening on these borrowed prototypes.

Matt Kamna
300Bs On Test
Glass Audio #4/98

SV300B

“To our ears, the best-sounding EL34 of the group was Svetlana’s EL34. Super rich with brilliant spank, these girthy and robust-sounding tubes came the closest to cloning the Mullard’s magic.”

Art Thompson
Power Tubes
Guitar Player 11/96

EL34

“Svetlana SV6L6GCs capture the golden tone of the 50s and 60s. I won’t plug in without em!”

Kenny Blue Ray
Lead Guitarist of the Buddy Holt Band

SV6L6GC

“...the Svetlana [SV6550C] tubes win, big time, and by a big margin. The Svetlana SV6550Cs exhibit both slam and fine nuance, revealing delicate tones and texture, simultaneously with full orchestral expression.”

A Tube Rave:
The Svetlana SV6550C!
Positive Feedback,
Vol.7, No.2 pg.75

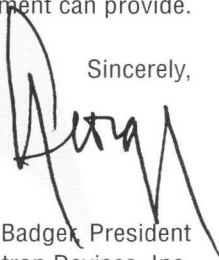
SV6550C

S v e t l a n a A u d i o T u b e s

Fall 1998

We are pleased to introduce the 1999 Svetlana Audio Tube catalog. Svetlana engineers and designers work closely with amplifier manufacturers to bring you the very best in audio tube designs. Svetlana has been making glass tubes since 1928, and is presently one of the largest suppliers of audio tubes to OEMs around the globe. From high-end audio to guitar amplifier applications, you will find a Svetlana audio tube that will meet your needs and exceed your expectations. You can count on Svetlana quality to ensure that your music accepts no compromise. So take a look at our new lineup, keep the volume peaked and enjoy the best sound your equipment can provide.

Sincerely,



George Badger, President
Svetlana Electron Devices, Inc.



Svetlana
ELECTRON DEVICES

Headquarters:

8200 S. Memorial Parkway Huntsville, AL 35802

Phone: 256-882-1344 Fax: 256-880-8077

Engineering:

3000 Alpine Road Portola Valley, CA 94028

Phone: 650-233-0429 Fax: 650-233-0439

www.svetlana.com

Svetlana Audio Tubes

Fall 1998

3CX300A1	page 1
6AS7G	page 2
6BM8	page 3
6D22S	page 4
6N1P	page 5
811A	page 6
812A	page 7
EF86	page 8
EL34	page 9
EL509	page 10
KT88	page 11
SV83	page 12
SV300B	page 13
SV572-3	page 14
SV572-10	page 15
SV572-30	page 16
SV572-160	page 17
SV6550C	page 18
SV6L6GC	page 19
SV811-3 & SV811-3A	page 20
SV811-10 & SV811-10A	page 21



SVETLANA 3CX300A1 AUDIO POWER TRIODE

High-power triode, metal-ceramic construction, external anode with 300-watt dissipation. Designed for forced-air cooling. Extremely rugged and linear, suitable for Class A1 or AB1 service in high-end audio or music amplification.

Electrical

Voltage (AC or DC)	6.3 ± 0.3	V
Current	2.65	A
Heater-cathode voltage, max.	±100	V _{peak}
Cathode	Oxide-coated, unipotential	
Amplification factor (nominal)	9	
Transconductance (nominal)	20,000	μS
Plate resistance (nominal)	450	Ω
Interelectrode capacitances (typical), with cathode grounded :		
Input	25	pF
Output	1	pF
Feedback	10	pF

Maximum Ratings

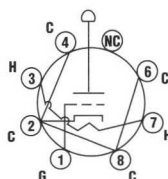
DC plate voltage	1800	V
Maximum signal DC plate current	470	mA
Plate dissipation w/forced-air cooling	300	W
Plate dissipation w/convection cooling	30	W
Grid dissipation (maximum)	1	W
Operating temperature (metal/ceramic seals or metal core)	250°	C
Control grid maximum negative voltage	-400	V

Typical Operation, Class A, Audio Amplifier (single tube)

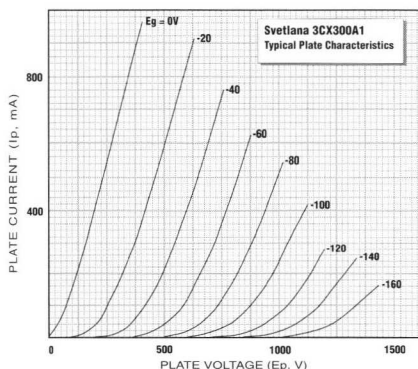
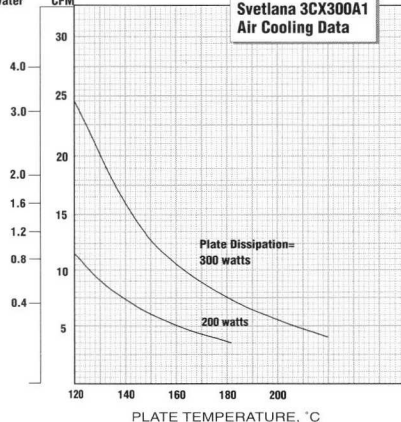
DC plate voltage	500	V
Grid voltage	-55	V
Peak grid drive	120	V P-P
Plate current, no signal	80	mA
Plate current, max. signal	95	mA
Effective load resistance	1600	Ω
Distortion at 1 watt into 8 ohms	0.67	%
Power output at 5% distortion	15	W

Typical Operation, Class AB1, Audio Power Amplifier, Push-Pull

DC plate voltage	500	V
Grid voltage	-45	V
Peak grid drive	100	V P-P
Plate current, no signal (both tubes)	300	mA
Load resistance, plate-to-plate	2000	Ω
Power output	40	W



Pressure drop, for plate inches cooling, of water





SVETLANA 6AS7G DUAL POWER TRIODE FOR HIGH PERFORMANCE AUDIO APPLICATIONS

Dual power triode, octal base, intended for audio or power-supply applications. Low mu, low plate resistance, and classic construction similar to the original RCA version. Suitable for transformer-coupled or output-transformerless audio amplifiers.

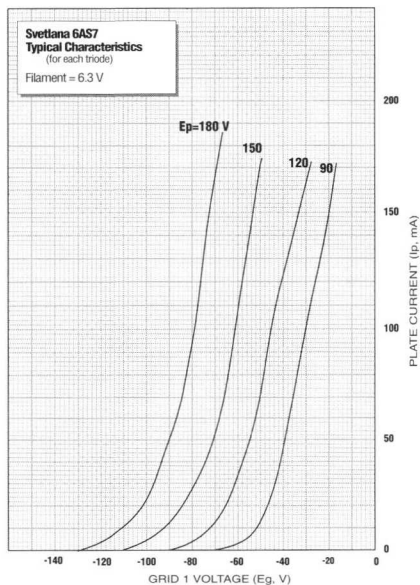
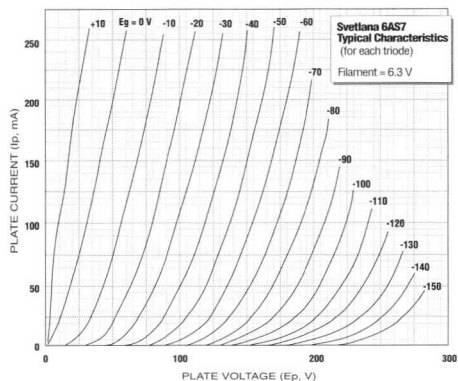
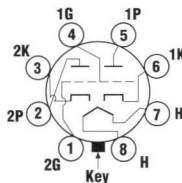
Electrical

Heater	Min Nom	Max	
Voltage (AC or DC)	5.7	6.3	6.9 V
Current	2.5		A
Cathode	Oxide-coated, unipotential		
Cathode-to-heater potential, max.	± 300		V
Direct interelectrode capacitances, max. *			
Grid to cathode	8		pF
Plate to cathode	3		pF
Grid 1 to plate	11		pF

AF Power Amplifier, Maximum Ratings (per triode)

DC plate voltage	250	V
Transconductance (nominal)	5500	μ S
Grid 1 (control) voltage	-150	V
DC cathode current	130	mA
Plate resistance	280	Ω
Plate dissipation	13	W
Bulb temperature (surface hottest point)	250°	C

*Without external shielding, nominal values





SVETLANA 6BM8

HIGH PERFORMANCE AUDIO DUAL PACKAGE, TRIODE AND PENTODE

9-pin miniature tube containing a high- μ triode and a small power pentode, which can be used independently. Rugged, low distortion, suitable for preamp or output use in audio or guitar amplification.

Electrical

Heater	Min ... Nom Max	
Voltage (AC or DC)	5.7 6.3 6.9	V
Current	0.78	A
Cathode	Oxide-coated, unipotential	
Cathode-to-heater potential, max.	100	V
Direct interelectrode capacitances, max. *	Triode Pentode	
Input	2.7 9.3	pF
Output	4 8	pF
Grid 1 to plate	4 0.3	pF

Maximum Ratings

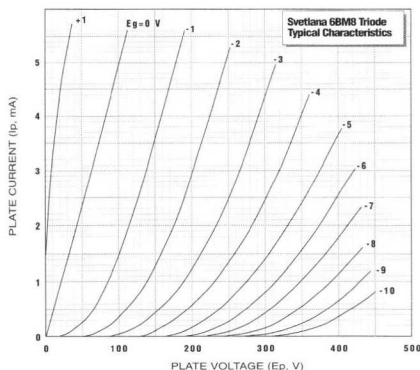
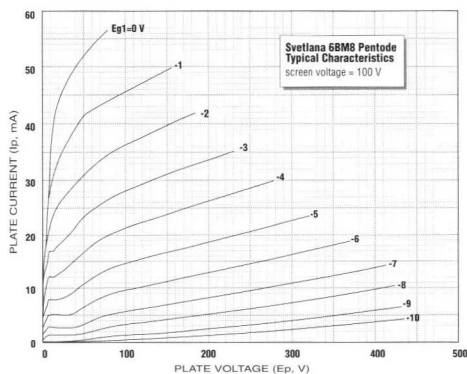
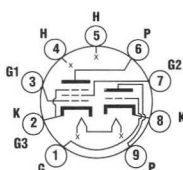
DC plate voltage	Triode Pentode	
DC plate voltage	300 600* *	V
Cathode current	15 50	mA
Grid 2 DC (screen) voltage	300	V
Amplification factor (nominal)	70 9.5	μ
Transconductance (nominal)	2500 6400	μ S
Plate resistance (nominal)	20,000	Ω
Plate dissipation	1 7	W

AF Power Amplifier, Average Ratings

DC plate voltage	Triode Pentode	
DC plate voltage	300 300	V
Grid 2 DC (screen) voltage	200	V
Grid 1 (control) voltage	-1.3 -24	V
DC plate current	1.1 40	mA
Grid 2 DC (screen) current	8	mA
Plate load	150,000 7000	Ω
Output power at 5% distortion	1.8	W

* Without external shielding, nominal values

** Max. peak positive pulse voltage 2500 V





SVETLANA 6D22S

HIGH PERFORMANCE

HALF - WAVE RECTIFIER

Power diode for use as a half-wave B+ rectifier in high-quality audio amplifiers. Originally intended for color-TV damper-diode service, the 6D22S is similar to the 6DL3 except for base connections and some ratings. Features very slow warmup (30 seconds typical), making it an excellent, rugged power-on delay device for audio amplifiers. Its warm-up time is longer than that of common rectifier tubes (such as the 5AR4/GZ34), and it is lower in cost than electronic delay relays.

Its heater may be operated from the same supply as other tubes in amplifier, up to $E_p = 600V$. Its high pulse current capability gives sound quality which is superior to commonly-used rectifier tubes.

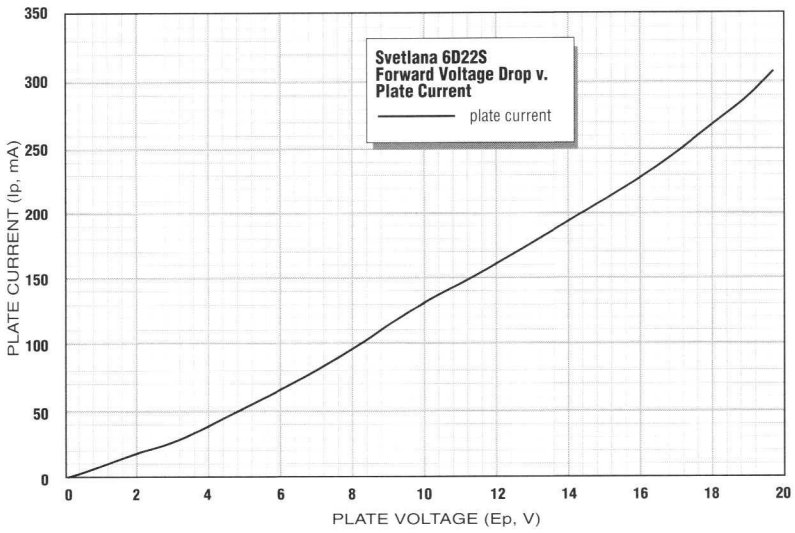
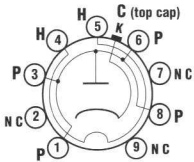
Electrical

Cathode	Oxide-coated, unipotential	
Voltage (AC or DC)	6.3 ± 0.6	V
Current	1.9	A
Heater-cathode voltage	+200V, -600V, continuous	
Interelectrode capacitances (typical):		
Plate to cathode	12.0	pF

Forward voltage drop w/ 300mA DC forward current (typical)	20	V
---	----	---

Maximum Ratings

Peak inverse plate voltage	6000	V
Peak plate current	1	A
Plate current, continuous	300	mA
Plate dissipation	11	W
Envelope temperature	200 °	C





SVETLANA 6N1P DUAL AUDIO TRIODE

Miniature glass-envelope small-signal dual triode intended for use as a line-level amplifier or driver in high-quality audio amplifiers. Except for higher heater-current consumption, it is a direct plug-in replacement for the 6DJ8, ECC88 or 6922 in most high-level audio applications. Features include very low distortion—optimized for line stages; medium transconductance; internally shielded between sections, allowing their use at differing signal levels; higher plate-voltage and dissipation rating than 6DJ8 types; and larger cathode than 6DJ8 types, giving it longer life and more transient current capability.

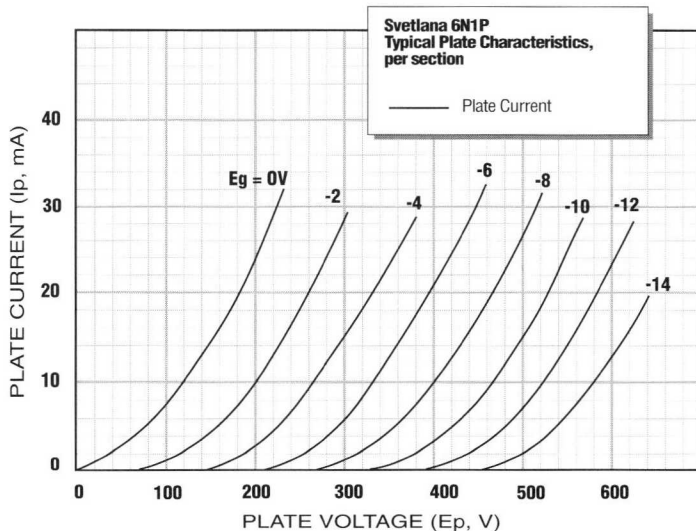
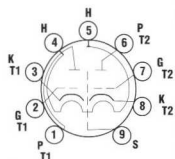
Electrical

Cathode	Oxide-coated, unipotential	
Heater voltage (AC or DC)	6.3 ± 0.6	V
Heater current	600 ± 35	mA
Heater-cathode voltage	± 100	Vpeak
Amplification factor (nominal)	33	
Transconductance (nominal)	7500	μS
Plate resistance (nominal)	4400	Ω
Interelectrode capacitances (typical), per section, with cathode grounded:		

Grid to cathode	3.2	pF
Plate to cathode	1.5	pF
Grid to anode	1.6	pF

Maximum Ratings

DC plate voltage	250	V
Plate dissipation, per triode	2.2	W
Cathode current, continuous, per triode	20	mA
Maximum grid-circuit resistance	0.5M	Ω





SVETLANA 811A HIGH - MU POWER TRIODE

Power triode intended for use in class AB, class B and class C RF and Audio amplifiers. Features a low loss ceramic base and a bonded-ceramic plate cap thermal insulator; two getters operate only at high temperature. The internal structure is well supported and is aligned for horizontal or vertical mounting.

Electrical

Filament	Thoriated-tungsten	
Voltage (AC or DC)	6.3 V \pm 0.3	V
Current	4	A
Amplification factor (average)	160	
Direct interelectrode capacitances, (grounded filament):		
Grid to plate	5.6	pF
Grid to filament	5.9	pF
Plate to filament	0.7	pF
Maximum frequency for full ratings	30	MHz

Linear RF Power Amplifier, Class B Grounded Grid

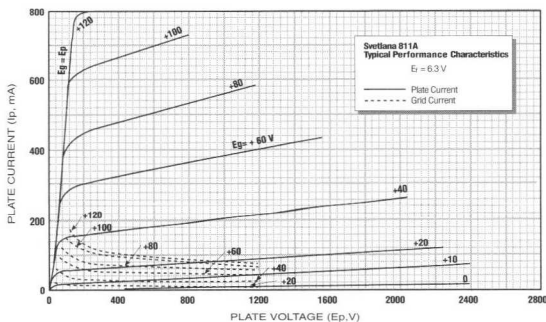
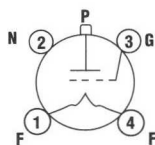
Maximum Ratings	CCS**	CAS***	
DC plate voltage	1250	1500	V
DC plate current	175	175	mA
Plate dissipation	45	60	W
DC Plate input	165	235	W
DC Grid current	50	50	mA
Typical Operation, frequencies to 30 MHz	CCS**	ICAS***	
DC plate voltage	1250	1500	V
DC grid voltage	0	-4.5	V
Zero-signal DC plate current *	25	16	mA
Single-tone DC plate current	130	157	mA
Average DC grid current	20	20	mA
Driving power	7	8	W
Single-tone useful output power *	120	160	W

Audio Frequency Power Amplifier or Modulator, Class B,

Grid Driven, Maximum Ratings	CCS**	ICAS***	
DC plate voltage	1250	1500	V
Maximum-signal DC plate current	175	175	mA
Plate dissipation	45	65	W
Maximum-signal plate input power	165	235	W
Typical Operation, Two Tubes	CCS**	ICAS***	
DC plate voltage	1250	1500	W
DC grid voltage	0	-4.5	V
Zero-signal DC plate current *	50	32	mA
Maximum-signal DC plate current	260	313	mA
Peak AF grid-to-grid voltage	145	170	V
Maximum-signal driving power	3.8	4.4	W
Effective load resistance (plate to plate)	12,400	12,400	Ω
Maximum-signal power output	235	340	W

* Approximate value ** Continuous commercial service

*** Intermittent commercial and amateur service





SVETLANA 812A

MEDIUM - MU POWER TRIODE

High perveance, easy to drive medium-mu triode closely modeled after the original RCA design. Improvements include a low loss, easy to clean ceramic base and a ceramic thermal insulator under the plate cap. May be used as an AF power amplifier, modulator or RF amplifier at full ratings to 30MHz and reduced ratings to 100MHz.

Electrical

Filament	Thoriated-tungsten	
Voltage (AC or DC)	1250 1500	V
Current	4	A
Amplification factor (average)	29	
Maximum frequency for full ratings	30	MHz
Interelectrode capacitances:		
Grid to filament	5.4	pF
Plate to filament	0.77	pF
Grid to plate	5.5	pF

Maximum Ratings

DC plate voltage	1250	1500	V
Maximum-signal DC plate current	175	175	mA
Plate Dissipation	45	65	W
Grid Dissipation	7	7	W
DC grid voltage	-200	-200	V

Typical Operation, Class C (Frequencies to 30 MHz)

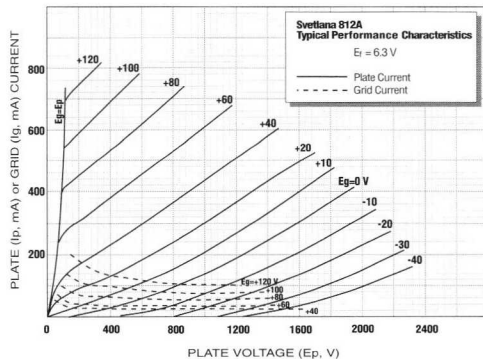
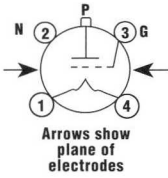
DC plate voltage	1250	1500	V
DC grid voltage	-90	-120	V
Peak grid voltage	200	240	V
Plate current	140	170	mA
DC grid current	30	30	mA
Grid drive power*	5.4	6.5	W
Power output*	130	190	W
Plate dissipation	45	65	W

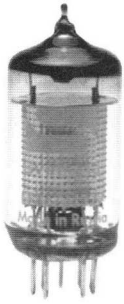
Typical Operation, Class B values for 2 tubes (AF Power Amplifier and Modulator)

DC plate voltage	1250	1500	V
DC grid voltage	-40	-48	V
Peak grid voltage	225	270	V
Plate current	260	310	mA
Zero signal plate current	22	28	mA
Grid driving power*	3.5	5	W
Power output*	235	340	W
Effective load resistance	12,200	13,200	Ω

* Approximate ** Continuous commercial service

*** Intermittent commercial and amateur service





SVETLANA EF86 HIGH PERFORMANCE AUDIO SMALL-SIGNAL PENTODE

9-pin miniature. High gain, low distortion, low noise-intended for high-fidelity audio. Built-in shield to reduce hum pickup.

Electrical

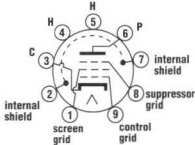
Heater	Min	Nom	Max	
Heater voltage (AC or DC)	5.7	6.3	6.9	V
Heater current		0.2		A
Cathode	Oxide-coated, unipotential			
Cathode-to-heater potential	±100			V

Maximum Ratings

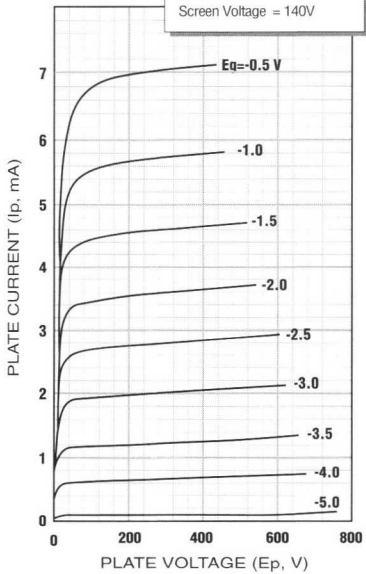
DC plate voltage	300	V
Screen grid voltage	200	V
Plate dissipation	1	W
Screen grid dissipation	0.2	W
Cathode current	6.0	mA

Typical operation, Class A Connection, Small-signal amplifier

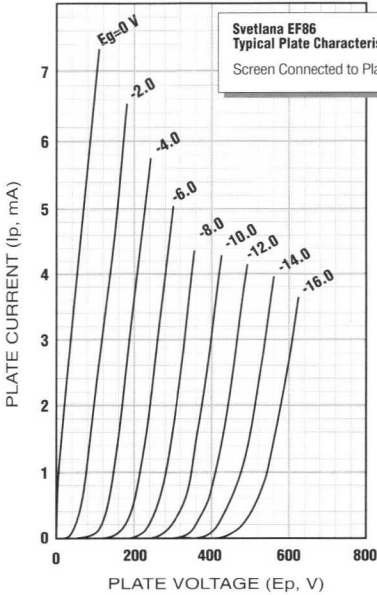
	Pentode	Triode	
DC plate voltage	250	250	V
Screen grid voltage	140	—	V
Cathode bias resistor	1k	3.9k	Ω
Zero-signal plate current	3	0.65	mA
Zero-signal screen grid current	0.6	—	mA
Plate resistance (approx.)	2.5 M	65k	Ω
Effective load resistance	220k	220k	Ω
Total harmonic distortion	5	3.5	%
Maximum voltage output	50	39	v _{rms}



Svetlana EF86
Typical Plate Characteristics
Screen Voltage = 140V



Svetlana EF86
Typical Plate Characteristics
Screen Connected to Plate





SVETLANA EL34/6CA7

HIGH PERFORMANCE AUDIO POWER PENTODE

Power pentode, octal base. Reliable version of classic British-made Mullard EL34. Graphite coated screen grid and gold-plated control grid for ruggedness, hard glass envelope for high temperature operation—suitable for all vintage or modern EL34 amplifiers.

Electrical

Heater	Min	Nom	Max	
Voltage (AC or DC)	5.7	6.3	6.9	V
Current	1.6			A
Cathode	Oxide-coated, unipotential			
Cathode-to-heater potential, max.	100			V
Direct interelectrode capacitances, max.*				
Grid 1 to cathode and grid 3, grid 2 and heater	<16			pF
Plate to cathode and grid 3, grid 2 and heater	<0.6			pF
Grid 1 to plate	<1.1			pF

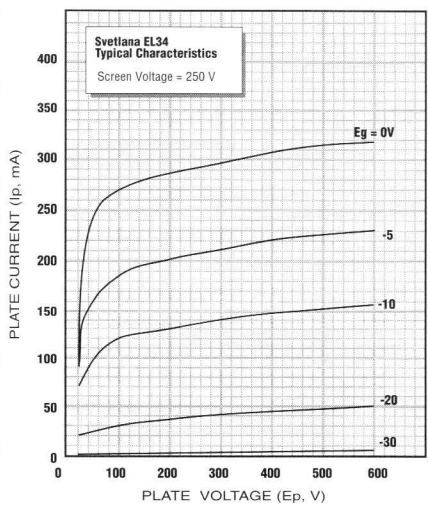
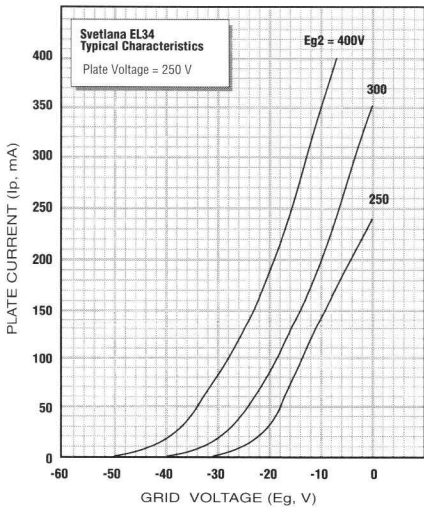
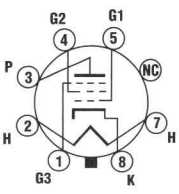
AF Power Amplifier, Maximum Ratings

DC plate voltage	800	V
Grid 2 DC (screen) voltage	500	V
Grid 1 (control) voltage	-100	V
DC cathode current	150	mA
Plate dissipation	25	W
Grid 2 DC screen dissipation	8	W
Bulb temperature (surface hottest point)	250°	C

Typical Operation, AF Power Amplifier, Class A (single tube)

DC plate voltage	250	V
Grid 2 (screen) voltage	250	V
Grid 1 (control) voltage*	-14	V
Peak AF grid 1 (control) voltage	14	V
Zero signal plate current	100	mA
Maximum signal plate current	105	mA
Zero signal grid 2 (screen) current (average)	15	mA
Transconductance (nominal)	12,000	μS
Effective load resistance	2000	Ω
Power output at 5% distortion	10	W

*Approximate Value (set to zero signal plate current)





SVETLANA EL509 HIGH PERFORMANCE BEAM POWER TETRODE

Large TV-type sweep tube, magnoval base with plate cap. Very rugged and conservative, suitable for retrofit or new design in RF linear amplifiers or in audio amplifiers.

Electrical

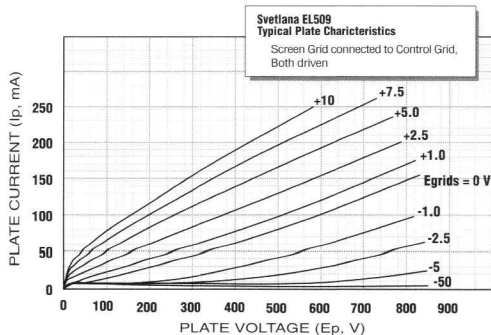
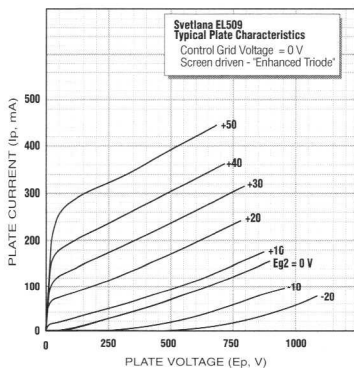
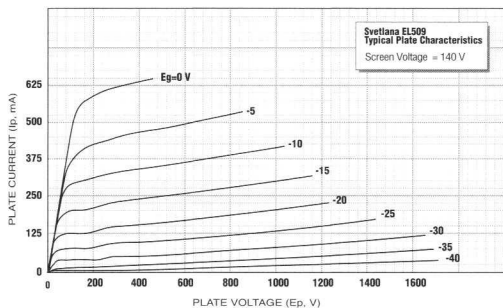
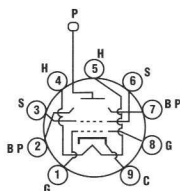
Heater	Min	Nom	Max	
Voltage (AC or DC)	5.7	6.3	6.9	V
Current	2.5			A
Transconductance (nominal)	18,000			μ S
Plate resistance (nominal)	8000			Ω
Interelectrode capacitances (typical):				
Grid to plate	2.5			pF
Grid to cathode	25			pF

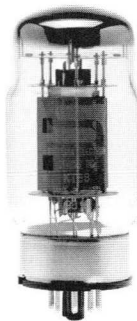
Maximum Ratings

DC plate voltage	900	V
DC plate voltage, pulsed	8000	V
DC cathode current	500	mA
Grid 2 DC (screen) voltage	300	V
Screen dissipation	7	W
Plate dissipation	35	W

Typical Operation, Class A1, Audio Amplifier (single tube)

DC plate voltage	500	V
Grid 2 DC (screen) voltage	280	V
Grid 1 (control) voltage	-82	V
Peak grid 1 (control) voltage	50	V P-P
Plate current, no signal	70	mA
Plate current, max. signal	100	mA
Effective load resistance	1650	Ω
Distortion at 1 watt into 8 ohms	0.9	%
Power output at 5% distortion	14	W





SVETLANA KT88 HIGH PERFORMANCE BEAM POWER TRODE

Glass envelope beam power tetrode. High plate dissipation rating. Enhanced sonic performance, including: increased peak cathode emission from new cathode materials; stable operation from extended processing and aging; gold-plated grid; new tri-plate anode; single-piece beam forming electrolyde; precise grid/screen alignment; improved vacuum processing. Designed to be a direct replacement for any KT88, KT90, KT99 or 6550.

Electrical

Heater:	Min.	Nom.	Max.	
Voltage (AC or DC)	5.7	6.3	6.9	V
Current			1.6	A
Cathode:	Oxide-coated, unipotential			
Cathode-to-heater potential, max.	-250*/250**			V
Direct interelectrode capacitances***				
Grid 1 to cathode and grid 3, grid 2, base sleeve and heater	16.0			pF
Plate to cathode and grid 3, grid 2, base sleeve and heater	12.0			pF
Grid 1 to plate	1.2			pF

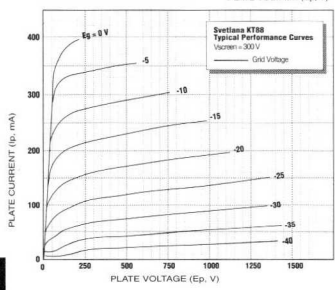
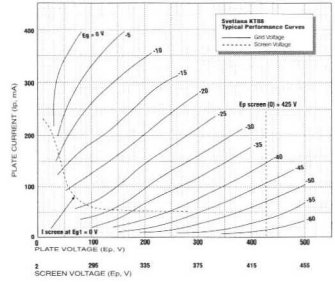
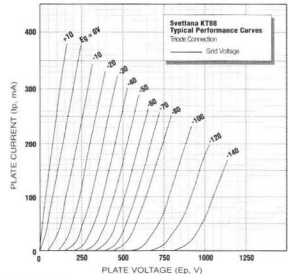
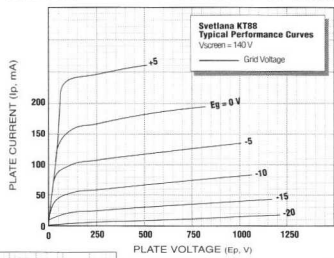
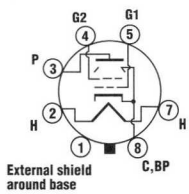
Maximum ratings, AF Power Amplifier

DC plate voltage	800	V
Grid 2 DC (screen) voltage	600	V
Grid 1 DC (control) voltage	-300	V
DC cathode current	230	mA
Plate dissipation	42	W
Grid 2 (screen) dissipation	8	W

Typical Operation Class A₁ (single tube)

DC plate voltage	400	V
Grid 2 DC (screen) voltage	225	V
Grid 1 DC (control) voltage	-16.5	V
Peak AF grid 1 (control) voltage	16.5	V
Zero-signal plate current	87	mA
Max signal plate current	105	mA
Zero signal grid 2 (screen) current, DC	4	mA
Max signal grid 2 (screen) current	18	mA
Transconductance	11,500	μS
Signal output	19	W

*Max with heater negative to cathode **Max with heater positive to cathode ***Without external shielding





SVETLANA SV83 AUDIO POWER PENTODE

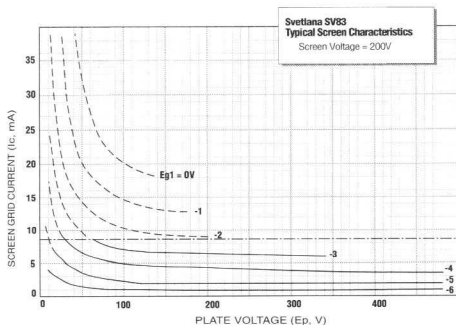
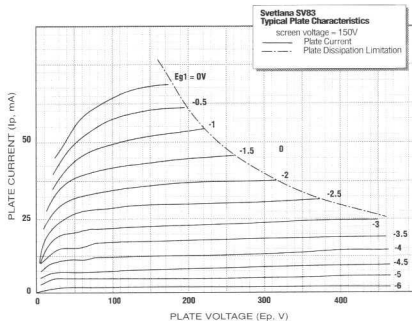
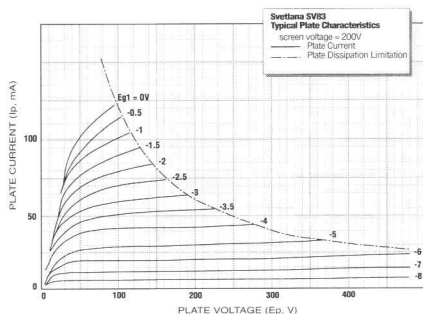
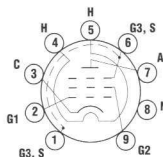
Miniature glass-envelope pentode intended for use as a driver or output device in high-quality audio amplifiers. Features include plate dissipation 12 watts; low distortion; high transconductance; internally shielded for low hum pickup; and pinout compatibility—EL84 can be used in an SV83 circuit without modification. The highly linear SV83 is similar to the EL84 with the exception of basing connections and screen-grid ratings.

Electrical

Cathode	Oxide-coated, unipotential	
Heater voltage (AC or DC)	6.3 ± 0.6	V
Heater current	760 ± 60	mA
Heater-cathode voltage	±100	V _{peak}
Amplification factor (nominal)	25	
Transconductance (nominal)	15,000	μS
Interelectrode capacitances (typical), with cathode grounded:		
Grid to cathode	13.5	pF
Plate to cathode	7.0	pF
Grid to plate	0.07	pF

Maximum Ratings

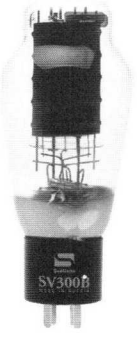
DC plate voltage	300	V
Plate dissipation	12	W
Grid 2 DC (screen) voltage	200	V
Grid 2 (screen) dissipation	1.5	W
Cathode current, continuous90	mA
Grid 1 DC (control) voltage	-450	V
Maximum grid-circuit resistance (self-bias)	1M	Ω
Envelope temperature	200°	C



SVETLANA SV300B

LOW-MU AUDIO POWER TRIODE

Power triode, medium 4-pin base. Exact duplicate of original version, with same sound quality. Directly heated, oxide-coated filament with center tap. Excellent for single-ended or push-pull applications in high-end amplifiers.



Electrical

Filament	Oxide-coated tungsten	
Voltage (AC or DC)	5.0 ± 0.3	V
Current	1.2	A
Amplification factor (nominal)	3.85	
Transconductance (nominal)	5500	μS
Plate resistance (nominal)	700	Ω
Interelectrode capacitances (typical), with filament grounded:		
Grid to plate	15	pF
Grid to filament	9	pF

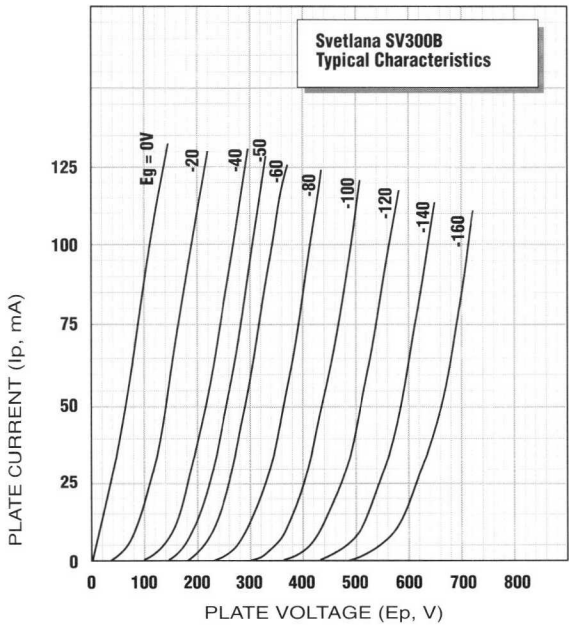
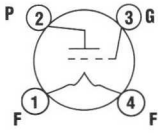
Maximum Ratings

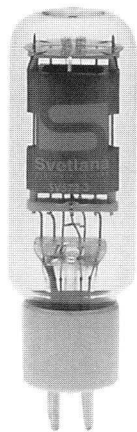
DC plate voltage	450	V
Maximum-signal DC plate current	100	mA
Plate dissipation	40	W

Typical Operation, Audio Amplifier, Class A

DC plate voltage	450	V
Grid voltage	-100	V
Peak grid drive	200	V P-P
Plate current, no signal	60	mA
Plate current, max. signal	65	mA
Effective load resistance	5500	Ω
Distortion at 1 watt into 8 ohms	0.10	%
Power output at 5% distortion	10	W

*Notes: The internal structure is aligned with respect to the base pins to avoid internal shorting problems in equipment designed for horizontal mounting.





SVETLANA SV572-3 LOW-MU AUDIO POWER TRIODE

Power triode, medium 4-pin base. Thoriated-tungsten filament, hard glass envelope for high temperature operation and massive graphite anode. Low-mu, very low distortion, suitable for single-ended or push-pull amplifiers in Class A1 or AB1 service.

Electrical

Filament	Thoriated-tungsten	
Voltage (AC or DC)	6.3 ± 0.3	V
Current	4	A
Amplification factor (nominal)	3.5	
Transconductance (nominal)	1800	μS
Plate resistance (nominal)	1900	Ω
Interelectrode capacitances (typical), with filament grounded:		
Grid to plate	8	pF
Grid to filament	7	pF

Maximum Ratings

DC plate voltage	1000	V
Maximum-signal DC plate current	210	mA
Plate dissipation	125	W
Grid current	50	mA

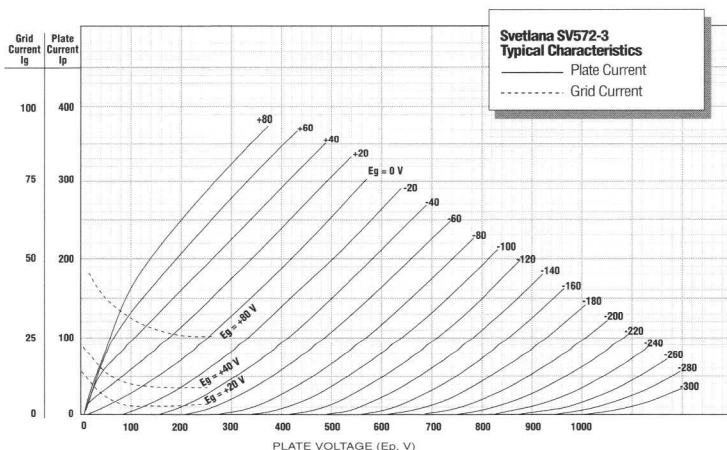
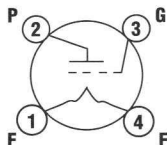
Typical Operation, Single Tube, Class A

Class of Operation	A1	A1	A2	
DC plate voltage	500	900	900	V
Grid voltage	-78	-180	-180	V
Peak grid drive	150	340	470	V P-P
DC plate current, zero signal	80	100	100	mA
DC plate current, max. signal	85	120	140	mA
Plate load resistance	5000	5000	5000	Ω
Distortion at max. output	0.3	0.35	1.0	%
Power output at distortion above	3.6	20	41.6	W

Typical Operation, Push-Pull, Two Tubes

Class of Operation	AB1	AB1	AB2	
DC plate voltage	450	900	900	V
Grid voltage	-87	-178	-178	V
Peak grid drive, grid-to-grid	348	640	1080	V P-P
DC plate current, zero signal	150	220	220	mA
DC plate current, max. signal	175	260	380	mA
Plate load resistance	9600	9600	9600	Ω
Distortion at max. output	0.14	1.0	3.0	%
Power output at distortion above	12	39	128	W

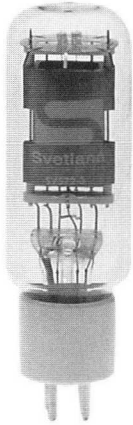
(Note: allow for contact potential and secondary emission in grid biasing.)



SVETLANA SV572-10

HIGH PERFORMANCE AUDIO POWER TRIODE

Power triode, medium 4-pin base. Thoriated-tungsten filament, hard glass envelope for high temperature operation and massive graphite anode. Very low distortion, suitable for single-ended or push-pull amplifiers in Class A1 or AB1 service.



Electrical

Filament	Thoriated-tungsten	
Voltage (AC or DC)	6.3 ± 0.3	V
Current	4	A
Amplification factor (nominal)	9.5	
Transconductance (nominal)	4500	μS
Plate resistance (nominal)	2100	Ω
Interelectrode capacitances (typical), with filament grounded:		
Grid to plate	5	pF
Grid to filament	6.4	pF

Maximum Ratings

DC plate voltage	1000	V
Maximum-signal DC plate current	210	mA
Plate dissipation	125	W
Grid current	50	mA

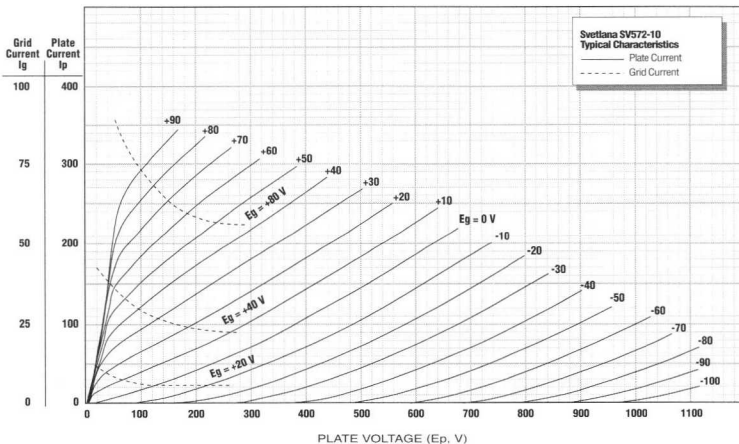
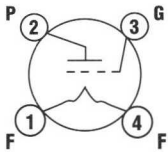
Typical Operation, Single Tube, Class A

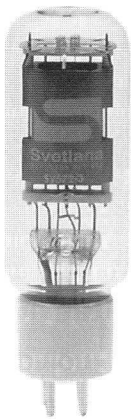
Class of Operation	A2	A2	
DC plate voltage	500	1000	V
Grid voltage	-18	-61	V
Peak grid drive	120	325	V P-P
DC plate current, zero signal	80	100	mA
DC plate current, max. signal	110	150	mA
Plate load resistance	5000	5000	Ω
Distortion at max. output	1.0	5.0	%
Power output at distortion above	9.5	46.0	W

Typical Operation, Push-Pull, Two Tubes

Class of Operation	AB2	AB2	
DC plate voltage	450	1000	V
Grid voltage	-22	-70	V
Peak grid drive, grid-to-grid	320	440	V P-P
DC plate current, zero signal	150	200	mA
DC plate current, max. signal	240	280	mA
Plate load resistance	9600	9600	Ω
Distortion at max. output	3.0	5.0	%
Power output at distortion above	30	88	W

(Note: allow for contact potential and secondary emission in grid biasing.)





SVETLANA SV572-30 MEDIUM-MU AUDIO POWER TRIODE

Power triode, medium 4-pin base. Thoriated-tungsten filament, hard glass envelope for high temperature operation and massive graphite anode. Medium mu, excellent for high-power push-pull amplifiers in Class AB2 or B service.

Electrical

Filament	Thoriated-tungsten	
Voltage (AC or DC)	6.3 ± 0.3	V
Current	4	A
Amplification factor (nominal)	29.5	
Transconductance (nominal)	6500	μS
Plate resistance (nominal)	4600	Ω
Interelectrode capacitances (typical), with filament grounded:		
Grid to plate	8	pF
Grid to filament	7	pF

Maximum Ratings

DC plate voltage	1000	V
Maximum-signal DC plate current	210	mA
Plate dissipation	125	W
Grid current	50	mA

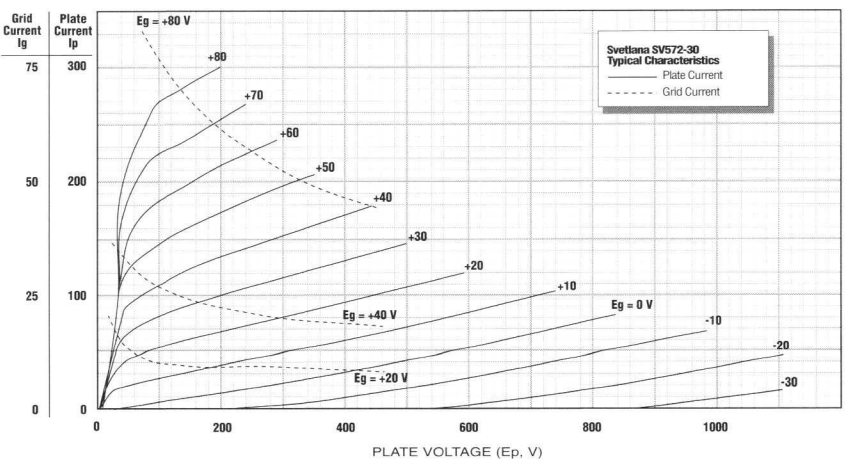
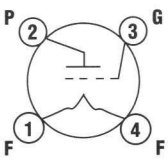
Typical Operation, Single Tube, Class A

Class of Operation	A2	A2	
DC plate voltage	500	1000	V
Grid voltage	+5	0	V
Peak grid drive	110	175	V P-P
DC plate current, zero signal	60	100	mA
DC plate current, max. signal	80	150	mA
Plate load resistance	10,000	10,000	Ω
Distortion at max. output	5.0	10.0	%
Power output at distortion above	9	29	W

Typical Operation, Push-Pull, Two Tubes

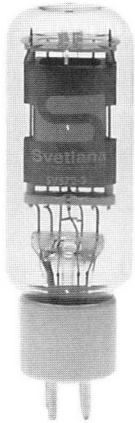
Class of Operation	AB2	
DC plate voltage	1000	V
Grid voltage	-10	V
Peak grid drive, grid-to-grid	320	V P-P
DC plate current, zero signal	150	mA
DC plate current, max. signal	230	mA
Plate load resistance	9600	Ω
Distortion at max. output	5.0	%
Power output at distortion above	78	W

(Note: allow for contact potential and secondary emission in grid biasing.)



SVETLANA SV572-160 HIGH PERFORMANCE AUDIO POWER TRIODE

Power triode, medium 4-pin base. Thoriated-tungsten filament, hard glass envelope for high temperature operation and massive graphite anode. High μ , excellent for high-power push-pull amplifiers in Class B service.



Electrical

Filament	Thoriated-tungsten	
Voltage (AC or DC)	6.3 \pm 0.3	V
Current	4	A
Amplification factor (nominal)	160	
Transconductance (nominal)	9000	μ S
Plate resistance (nominal)	17,000	Ω
Interelectrode capacitances (typical), with filament grounded:		
Grid to plate	8	pF
Grid to filament	7	pF

Maximum Ratings

DC plate voltage	1000	V
Maximum-signal DC plate current	210	mA
Plate dissipation	125	W
Grid current	50	mA

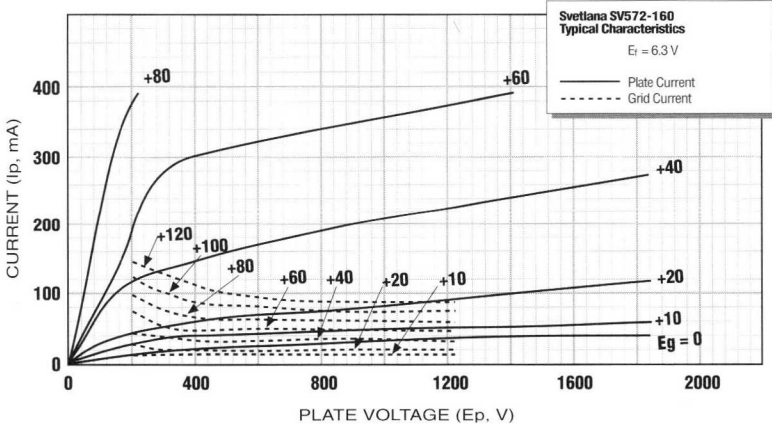
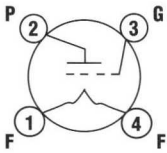
Typical Operation, Single Tube, Class A

Class of Operation	A2	
DC plate voltage	1000	V
Grid voltage	+5	V
Peak grid drive	80	V P-P
DC plate current, zero signal	50	mA
DC plate current, max. signal	70	mA
Plate load resistance	10,000	Ω
Distortion at max. output	5.0	%
Power output at distortion above	15.3	W

Typical Operation, Push-Pull, Two Tubes

Class of Operation	AB2	
DC plate voltage	1000	V
Grid voltage	+5	V
Peak grid drive, grid-to-grid	300	V P-P
DC plate current, zero signal	50	mA
DC plate current, max. signal	85	mA
Plate load resistance	9600	Ω
Distortion at max. output	10.0	%
Power output at distortion above	32	W

(Note: allow for contact potential and secondary emission in grid biasing.)





SVETLANA SV6550C HIGH PERFORMANCE AUDIO BEAM POWER TETRODE

Beam power tube, large octal base. Tough and reliable version of classic 6550 power tube, widely used in high-end audio and music amplification. Carbonized screen grid and gold-plated control grid for stable operation, hard glass envelope for high temperature operation. Replaces any 6550 version.

Electrical

Heater	Min	Nom	Max	
Voltage (AC or DC)	5.7	6.3	6.9	V
Current		1.6		A
Cathode	oxide-coated, unipotential			
Cathode-to-heater potential, max.	-300*/200**			V
Direct interelectrode capacitances :				
Grid 1 to cathode and grid 3, grid 2, base sleeve and heater.....	18.5			pF
Plate to cathode and grid 3, grid 2, base sleeve and heater.....	12.5			pF
Grid 1 to plate (max.)	1.1			pF

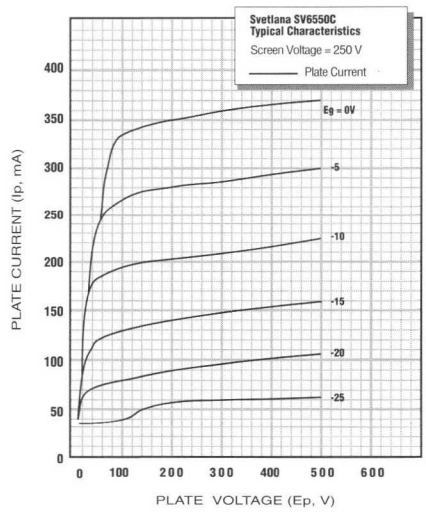
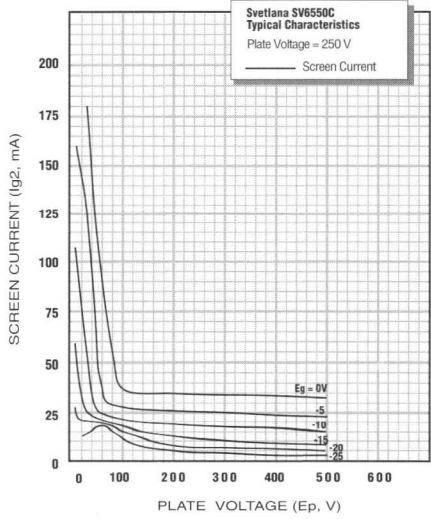
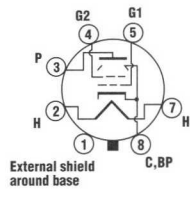
AF Power Amplifier, Maximum Ratings

DC plate voltage	680	V
Grid 2 DC (screen) voltage	400	V
Grid 1 (control) voltage	-300	V
DC cathode current	175	mA
Plate dissipation	35	W
Grid 2 (screen) dissipation	6	W

Typical Operation Class A1 (single tube)

DC plate voltage	400	V
Grid 2 DC (screen) voltage	225	V
Grid 1 (control) voltage	-22	V
Peak AF grid 1 (control) voltage	22	V
Zero-signal plate current	87	mA
Maximum-signal plate current	105	mA
Zero-signal grid 2 (screen) current	4	mA _{dc}
Maximum-signal grid 2 (screen) current	18	mA
Transconductance (nominal)	9500	μ S
Effective load resistance	3000	Ω
Signal output at 5% distortion	12	W

*Max with heater negative to cathode **Max. with heater positive to cathode





SVETLANA SV6L6GC

HIGH PERFORMANCE AUDIO BEAM POWER TETRODE

Beam power tube, octal base. Rugged version of 6L6GC, 30-watt dissipation, suitable for use in guitar amps or high-end audio. Designed to be operated upside-down in guitar amps.

Electrical

Heater	Min	Nom	Max	
Voltage (AC or DC)	5.7	6.3	6.9	V
Current	0.9			A
Cathode	oxide-coated, unipotential			
Cathode-to-heater potential	±200			V
Direct interelectrode capacitances :				
Grid 1 to plate	0.6			pF
Grid 1 to cathode, heater, grid 2, and beam forming plates	10			pF
Plate to cathode, heater, grid 2, and beam forming plates	6.5			pF

Maximum Ratings

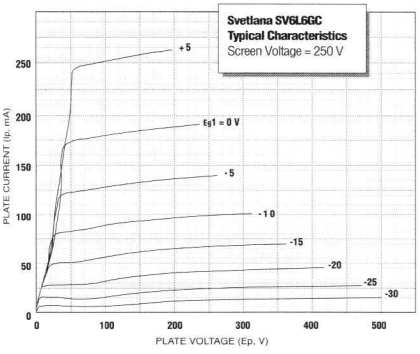
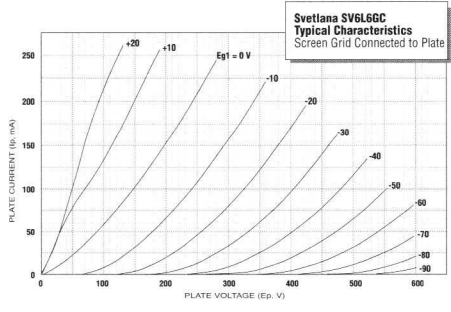
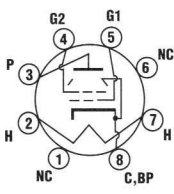
DC plate voltage	500	V
Grid 2 DC (screen) voltage	500	V
Plate dissipation.....	30	W
Grid 2 (screen) dissipation.....	5	W

Typical Operation, Class A, Audio Power Amplifier, Single Tube

.....	Tetrode . Triode		
DC plate voltage	350	250	V
Grid 2 DC (screen) voltage	250	—	V
Grid 1 DC (control) voltage	-18	-20	V
Peak AF grid 1 (control) voltage	18	20	V
Zero-signal plate current	54	40	mA
Maximum-signal plate current	66	44	mA
Zero-signal grid 2 (screen) current	2.5	—	mA
Maximum-signal grid 2 (screen) current	7	—	mA
Plate resistance (nominal)	33000	1700	Ω
Transconductance (nominal)	5200	4700	μS
Effective load resistance	4200	5000	Ω
Total harmonic distortion	15	5	%
Maximum signal power output	10.8	1.4	W

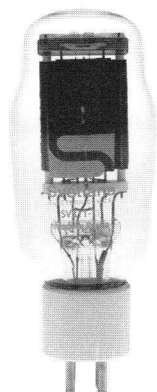
Typical Operation, Class AB1, Audio Power Amplifier (Values for two tubes)

DC plate voltage	450	V
Grid 2 DC (screen) voltage	400	V
Grid 1 (control) bias voltage	-37	V
Peak AF grid-to-grid voltage	70	V
Zero-signal plate current	116	mA
Maximum-signal plate current	210	mA
Zero-signal grid 2 (screen) current	5.6	mA
Maximum-signal grid 2 (screen) current	22	mA
Effective load resistance, plate-to-plate	5600	Ω
Total harmonic distortion	1.8	%
Maximum signal power output	55	W

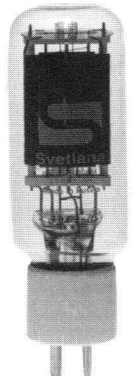


SVETLANA SV811-3 & SV811-3A Low-Mu Power Triode

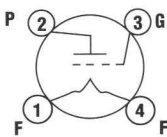
Power triode, medium 4-pin base. Thoriated-tungsten filament, hard glass envelope for high temperature operation and rugged metal anode. Low mu, very low distortion, suitable for single-ended or push-pull amplifiers in Class A1, AB1 or AB2 operation.



SV811-3



SV811-3A



Electrical

Filament	Thoriated-tungsten	
Voltage (AC or DC)	6.3 ± 0.3	V
Current	4	A
Amplification factor (nominal)	3.5	
Transconductance (nominal)	1700	μS
Plate resistance (nominal)	2000	Ω
Interelectrode capacitances (typical), with filament grounded:		
Grid to plate	8	pF
Grid to filament	7	pF

Maximum Ratings

DC plate voltage	800	V
Maximum-signal DC plate current	160	mA
Plate dissipation	65	W
Grid current	50	mA

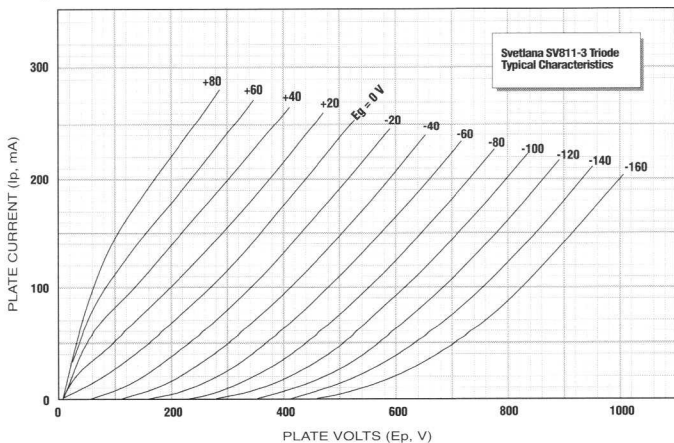
Typical Operation, Single Tube, Class A

Class of Operation	A1	A1	A2	
DC plate voltage	450	800	450	V
Grid voltage	-65	-165	-65	V
Peak grid drive	130	300	280	V P-P
DC plate current, zero signal	80	80	80	mA
DC plate current, max. signal	83	90	105	mA
Plate load resistance	5000	5000	5000	Ω
Distortion at max. output	0.2	1.0	1.0	%
Power output at distortion above	3.2	15.4	12.4	W

Typical Operation, Push-Pull, Two Tubes

Class of Operation	AB1	AB1	AB2	
DC plate voltage	450	750	750	V
Grid voltage	-80	-178	-178	V
Peak grid drive, grid-to-grid	328	720	880	V P-P
DC plate current, zero signal	150	150	150	mA
DC plate current, max. signal	155	215	238	mA
Plate load resistance	9600	9600	9600	Ω
Distortion at max. output	0.12	3.0	5.0	%
Power output at distortion above	10	49	66	W

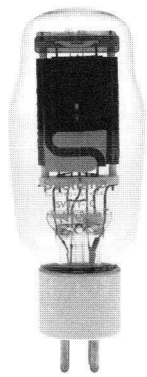
(Note: allow for contact potential and secondary emission in grid biasing.)



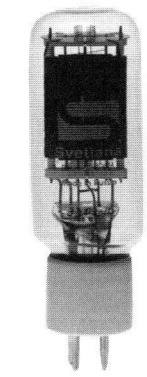
SVETLANA SV811-10 & SV811-10A

Low-Mu Power Triode

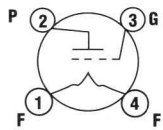
Power triode, medium 4-pin base. Thoriated-tungsten filament, hard glass envelope for high temperature operation and rugged metal anode. Very low distortion, suitable for single-ended or push-pull amplifiers in Class A2 or AB2 operation.



SV811-10



SV811-10A



Electrical

Filament	Thoriated-tungsten	
Voltage (AC or DC)	6.3 ± 0.3	V
Current	4	A
Amplification factor (nominal)	10	
Transconductance (nominal)	3800	μS
Plate resistance (nominal)	2500	Ω
Interelectrode capacitances (typical), with filament grounded:		
Grid to plate	8	pF
Grid to filament	7	pF

Maximum Ratings

DC plate voltage	800	V
Maximum-signal DC plate current	160	mA
Plate dissipation	65	W
Grid current	50	mA

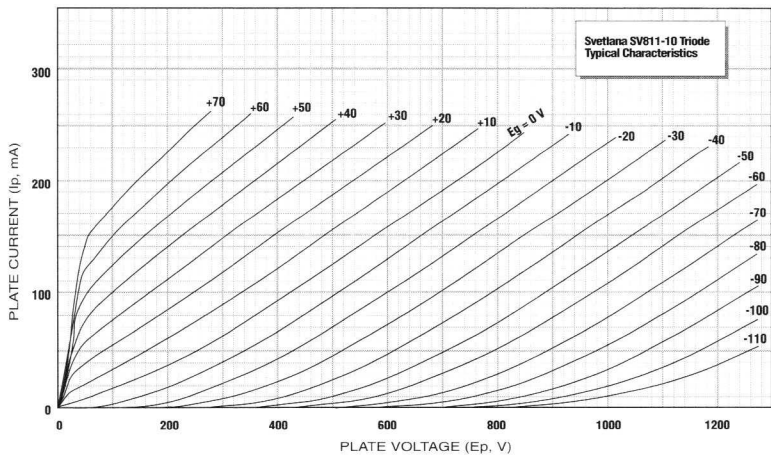
Typical Operation, Single Tube, Class A

Class of Operation	A2	A2	
DC plate voltage	450	800	V
Grid voltage	-9	-45	V
Peak grid drive	110	127	V P-P
DC plate current, zero signal	80	80	mA
DC plate current, max. signal	100	91	mA
Plate load resistance	5000	5000	Ω
Distortion at max. output	1.0	1.0	%
Power output at distortion above	8.3	13.4	W

Typical Operation, Push-Pull, Two Tubes

Class of Operation	AB2	AB2	
DC plate voltage	450	800	V
Grid voltage	-16.5	-51	V
Peak grid drive, grid-to-grid	360	420	V P-P
DC plate current, zero signal	150	150	mA
DC plate current, max. signal	250	260	mA
Plate load resistance	9600	9600	Ω
Distortion at max. output	3.0	3.0	%
Power output at distortion above	41	91	W

(Note: allow for contact potential and secondary emission in grid biasing.)

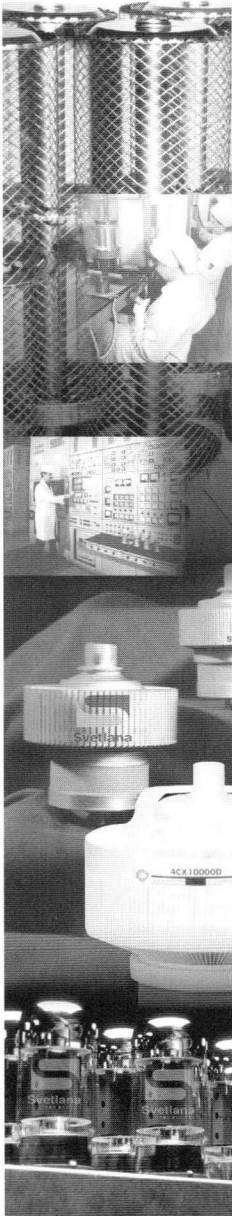




www.svetlana.com

- Downloadable Data Sheets of Svetlana Products
- Online Help and Technical Support
- Application Notes on Svetlana Products
- Tube Dictionary- A Listing and Description of the Industry's Most Popular Tubes
- Hot Links to Other Great Web Sites in the Industry

TECHNICAL BULLETIN



Articles,
Service Tips &
Modification Notes
for Using
Svetlana Tubes

Contact us for a complete list of
Svetlana Technical Bulletins
OR
visit our website at
www.svetlana.com
to print them out yourself.

Headquarters:
8200 S. Memorial Parkway
Huntsville, AL 35802
Phone: 256-882-1344
Fax: 256-880-8077

Engineering:
3000 Alpine Road
Portola Valley, CA 94028
Phone: 650-233-0429
Fax: 650-233-0439

www.svetlana.com