## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 3 February 2000 (03.02.2000)

PCT

# (10) International Publication Number WO 00/05813 A3

(51) International Patent Classification7: H03K 3/57, 17/80

(21) International Application Number: PCT/IL99/00382

(22) International Filing Date: 12 July 1999 (12.07.1999)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

125490 23 July 1998 (23.07.1998) I

(71) Applicant (for all designated States except US): ROTEM INDUSTRIES LTD. [IL/IL]; P.O. Box 9046, 84190 Beer-Sheva (IL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): SMILANSKI, Israel [IL/IL]; Mivtza Asaf Street 18/8, 84496 Beer-Sheva (IL).

(74) Agents: LUZZATTO, Kfir et al.; Luzzatto & Luzzatto, P.O. Box 5352, 84152 Beer-Sheva (IL).

(81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

#### Published:

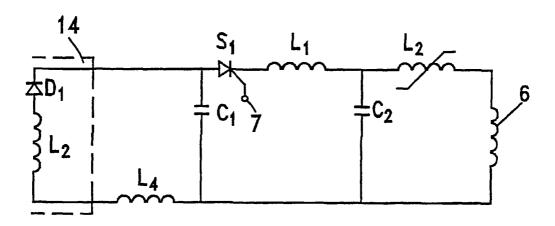
with international search report

(88) Date of publication of the international search report:

23 August 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTRICAL HIGH POWER PULSE GENERATOR



(57) Abstract: A system for providing high power pulses into a load, the system comprising: a load (6); a Capacitor Charging Power Supply (CCPS) (14) for providing a plurality of low power pulses; a pulsed power circuit receiving the low power pulses, and providing high power pulses to the load, said pulsed power circuit comprising: a) a first storage capacitor (C1); b) controlled switching means (S1), for allowing the first storage capacitor to discharge; and c) pulse compression means (C2, LS), said pulse compression means receiving a current pulse resulting from the first storage capacitor discharge, and providing to the load a pulse of higher current and shorter duration than the current pulse it received. The system comprises an inductor (L4) of high inductance in the branch linking the CCPS and the pulsed power circuit, said inductor enabling recovery of the energy reflected, from the load, and protecting components of the CCPS from damage that may be caused by said reflected energy.



70 00/05813

#### INTERNATIONAL SEARCH REPORT

Internal | Application No PCT/IL 99/00382

A. CLASSII IPC 7	FICATION OF SUBJECT MATTER H03K3/57 H03K17/80									
	According to international Patent Classification (IPC) or to both national classification and IPC									
	SEARCHED currentation searched (classification system followed by classific	ation symbols)								
IPC 7	НОЗК									
Documental	tion searched other than minimum documentation to the extent that	at such documents are included. In the fields se	arched							
Electronic d	ata base consulted during the International search (name of data	base and, where practical, search terms used	)							
C. DOCUMENTS CONSIDERED TO BE RELEVANT										
Category *	Citation of document, with indication, where appropriate, of the	relevani passages	Relevant to claim No.							
Х	US 5 313 481 A (COOK EDWARD G 1 17 May 1994 (1994-05-17) column 3, line 26 -column 7, lin figure 1	į	1 <b>-12</b>							
X	US 5 448 580 A (BIRX DANIEL L ) 5 September 1995 (1995-09-05) column 5, line 8 -column 7, line figure 1	1-6,9, 11,12								
X	US 4 274 134 A (JOHANNESSEN PAUL 16 June 1981 (1981-06-16) column 2, line 27 -column 4, lin figures 1,3A,4	1,2,5,6, 13								
X Furt	ther documents are listed in the continuation of box C.	X Patent family members are fisted	in annex.							
"A" docum	ategories of cited documents: ent defining the general state of the art which is not dered to be of particular relevance	"I later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention								
filing of "L" docume	ent which may throw doubts on priority claim(s) or	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone								
which citatio	is cited to establish the publication date of another on or other special reason (as specified) nent referring to an oral disclosure, use, exhibition or	"Y" document of particular relevance; the considered to involve an involve an involve and	entive step when the							
o(her	means means means tent published prior to the international filing date but than the priority date dalmed	ments, such combination being obvious in the art. "2" document member of the same patent in the same patent								
	actual completion of the international search	Date of mailing of the international sea	arch report							
5	October 1999	25/10/1999								
Name and	malling address of the ISA  European Patent Office, P.B. 5818 Patentiaan 2	Authorized officer								
	NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 851 epo ni. Fax: (+31–70) 340–3016	Mo11, P								

1

#### INTERNATIONAL SEARCH REPORT

Internr al Application No PCT/IL 99/00382

	C.(Cortinuation) DOCUMENTS CONSIDERED TO BE RELEVANT						
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.					
A	EP 0 814 563 A (COMMISSARIAT ENERGIE ATOMIQUE ;COGEMA (FR)) 29 December 1997 (1997-12-29) figure 6	1,2					
		Í					

1

### INTERNATIONAL SEARCH REPORT

ormation on patent tamily members

Patent document cited in search report		Publication date	Patent family member(s)			Publication date
US 5313481	A	17-05-1994	NONE		L	
US 5448580	A	05-09-1995	NONE			
US 4274134	Α	16-06-1981	FR GB HK	2454225 2047494 84785	A,B	07-11-1980 26-11-1980 08-11-1985
EP 0814563	A	29-12-1997	FR	2749989	A	19-12-1997