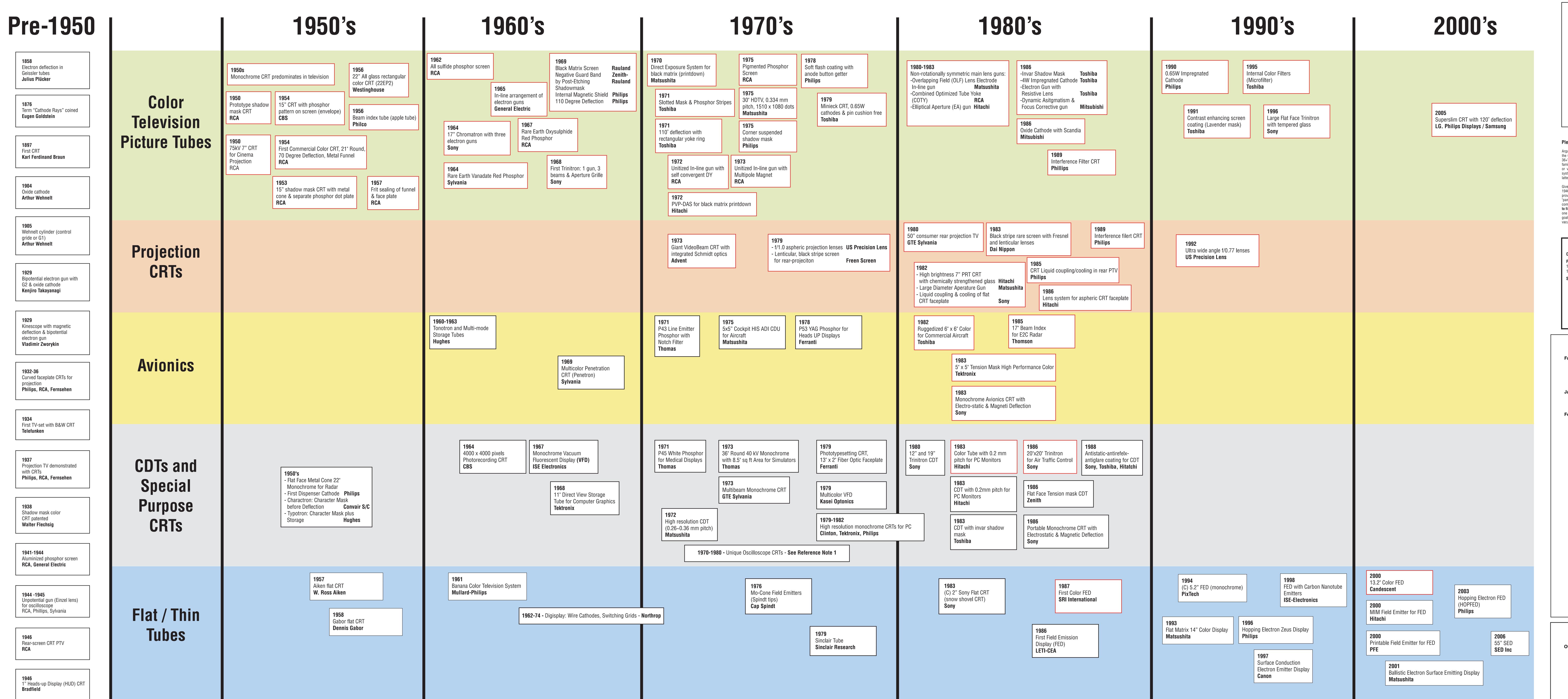
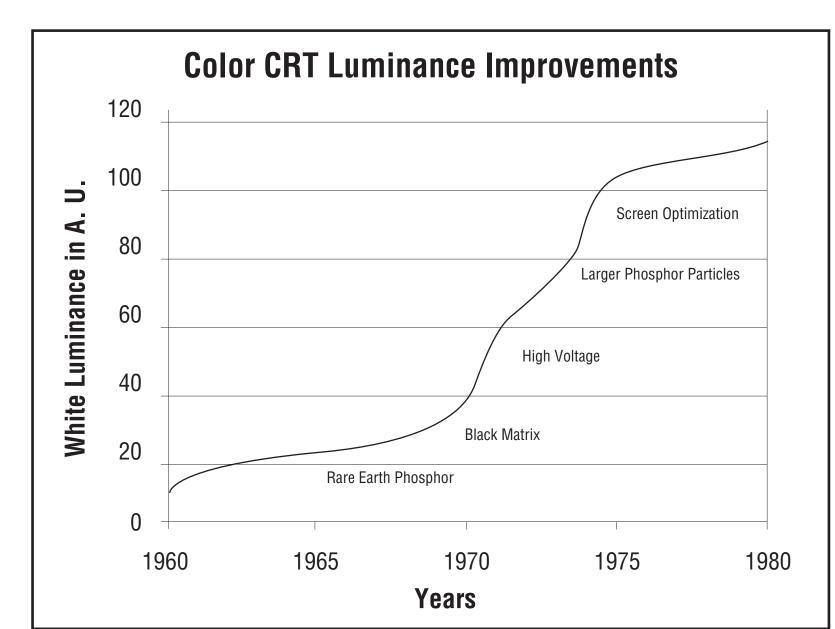
Milestone Chart for CRT Technology, Including Pre-SID Era





Please Note .

Arguably there is no single device that has had a greater impact on our daily lives during the past 47 years than the CRT (with due respect to the transistor). As it evolved from monochrome to color, grew in size from 14" to 36+", and was used to generate projected images of up to 70", it transformed the life of the average American family. As the only medium capable of presenting a wide variety of information and entertainment to the viewer or viewers, it was also a vital and indispensable component of avionics and command & control military systems. Further, its versatile embodiments in photorecording and oscilloscope applications (particularly the latter) made it the key instrument for enabling the great science advances of the latter half of the 20th century.

Given its versatility in the hands of talented practitioners to meet almost any display requirement that arose in the 1940's through the 1980's (such as, character generating tubes for displaying computer data, storage tubes to provide a bright stored radar displays in the cockpit, spherical image surface to interface with a polarizing "pancake window" to create a tiled virtual image display for wide field of view straining simulators), a comprehensive view of its history would require a wall-sized presentation. **The historical chart on the left refers to first-in-kind technology milestones that resulted in notable commercial, industrial or military products.** The one exception to this is the bottom panel, which documents a half a century of ingenious attempts to meet the goal of a viable flat panel CRT, even with aid of field emission technology — the one grand failure, so far, of vacuum tube display devices.

Reference Note 1						
Oscillosco	pe CRTs					
Pre-SID 1950's 1960-62	Post Deflection Acceleration (PDA) using Wound Helix Scan Expansion using Wire-Wound Frame Grid	Tektronix Sylvania/ETL Ltd.				
1963 8 1966 8 1969 8 1977 8 1977 9 1979 8	Developments for Oscilloscope CRTs Scan Expansion using Domed Mesh General Graveling Wave Deflector Four Pole Scan Expansion General Graveling Microchannel Plate General Graveling Scan Expansion, Microchannel Plate General Graveling Inverted Domed Mesh Scan Expansion, (MCP)	Hewlett Packard LEP/Hyperelec Brive Philips Philips Tektronix Tektronix Tektronix Tektronix				

CRT Technology SID Award Winners						
Francis Rice Darne Memoria	al Award	Karl Ferdinand Braun Prize				
		Norman Fyler	1989			
Norman Lehrer	1974	Harold Law	1989			
Sam H. Kaplan	1975					
Harold B. Law	1979	Edward Ramberg	1989			
		Alfred Schroeder	1989			
Jan Rajchman Prize						
Robert Meyer	1996					
Capp Spindt	1996	Kentaro Kiyozumi	1991			
		Tadashi Nakamura	1991			
Fellow of the SID		Akio Ohkoshi	1995			
William Aiken	1967	Eiichi Yamazaki	1995			
Sol Sherr	1967					
Leo Beiser	1970					
Nobuo John Koda	1970	Special Recognition				
Benjamin Kazan	1971	Sol Sherr	1972			
Harold Law	1971	Ivan Sutherland	1974			
Irv Reingold	1973	Joe Bryden	1975			
John A. Van Raalte	1977	Peter Seats	1975			
Gentaro Miyazaki	1978	Otto H. Schade, Sr.	1975			
John Constantine, Sr.	1982	Leo Beiser	1978			
Thomas Credelle	1984	Benjamin Kazan	1978			
Walter Goede	1992	Tadashi Nakamura	1979			
Peter Barten	1993	Philip M. Heyman	1980			
Makoto Ikegaki	1993	Henry Marcy	1983			
Masakazu Fukushima	1994	Koichiro Kurahashi	1984			
Hsing-Yao Chen	1995	Eiichi Yamazaki	1986			
Alan Knapp	1996	Masakazu Fukushima	1986			
Carlo Infante	1996	Robert B. Meyer	1989			
Eiichi Yamazaki	1996	Harold Ketchum	1992			
P. Niel Yocom	1997	Masanori Watanabe	1992			
Makoto Maeda	1999	Kinzo Nonomura	1992			
Seyno Sluyterman	2000	Guy Hill	1994			
Shoji Shirai	2001	Hiroshi Suzuki	1994			
Daniel den Engelsen	2002	Zu-Kai Wu	1995			
Tsunehiko Sugawara	2006	Makoto Maeda	1996			
Sashiro Uemura	2009	Shuji Iwata	1997			
		Shoji Shirai	1997			
		Tokuhide Shimojo	1998			
		Tsunehiko Sugawara	2000			
		Yukinobu Iguchi	2001			
		Soichiro Okuda	2002			
		Sashiro Uemura	2002			
		Soichiro Okuda	2002			
		Sashiro Uemura	2002			

Post-200	3 Applied	Vision Award Winner		
Otto Schade Prize		Fellow		
Curtis Carlson	2006	TsunehikoSugawara	2006	
Roger Cohen	2006	Yoshifumi Shimodoira	2007	
Andrew Watson	2007	Ingrid Heyndericks	2008	
Louis Silverstein	2008	Sashiro Uemura	2009	
Eli Peli	2010			
Special Recognition Award				
		James Larimer	2010	
		Joyce Farrell	2010	