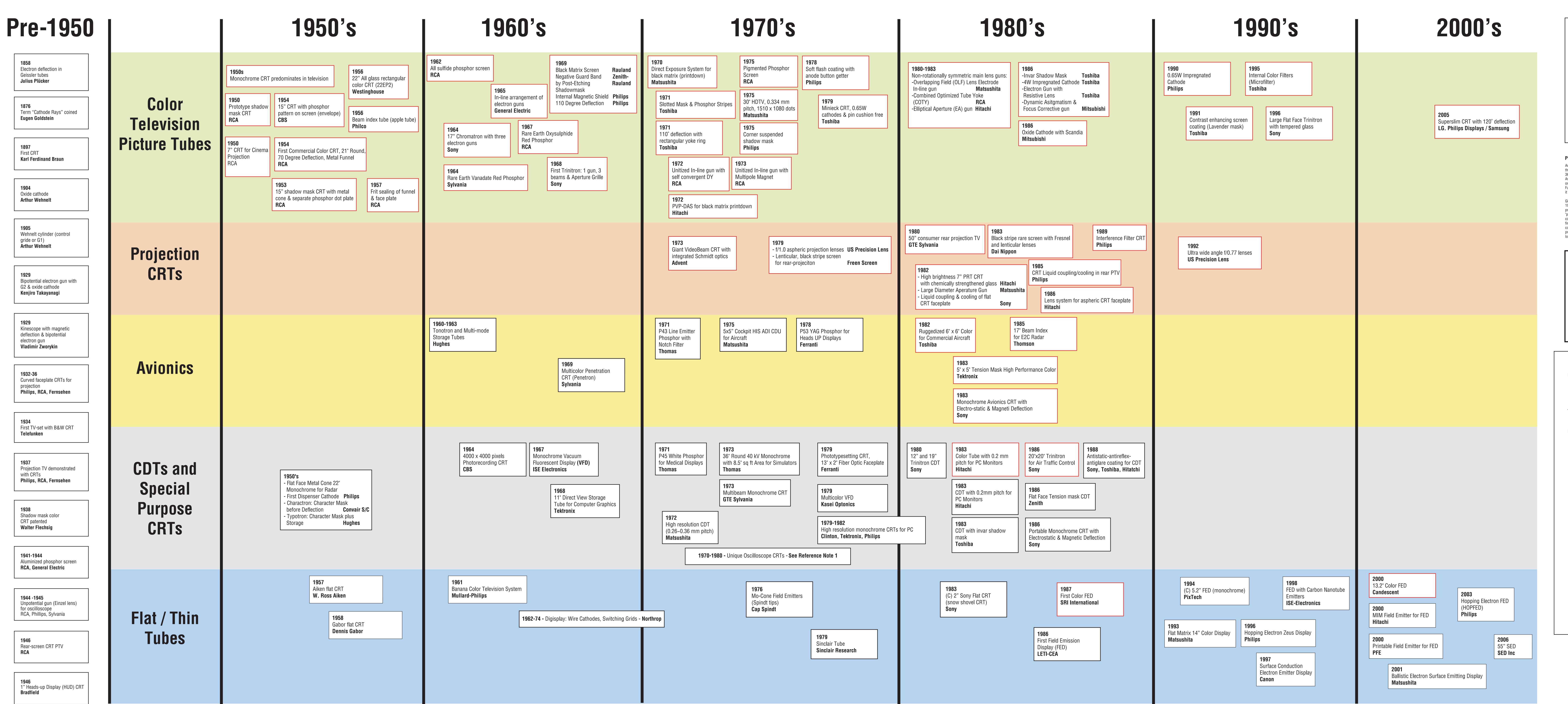
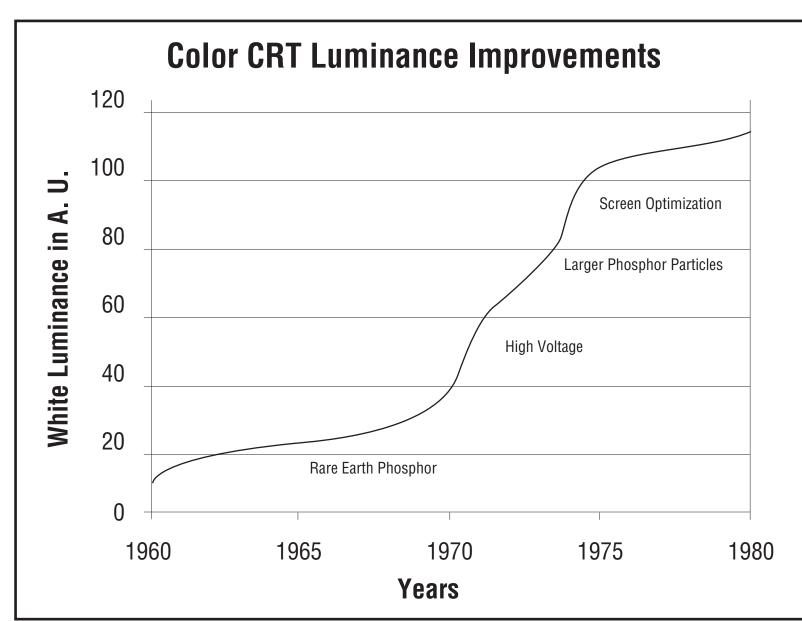
## Milestone Chart for CRT Technology, Including Pre-SID Era

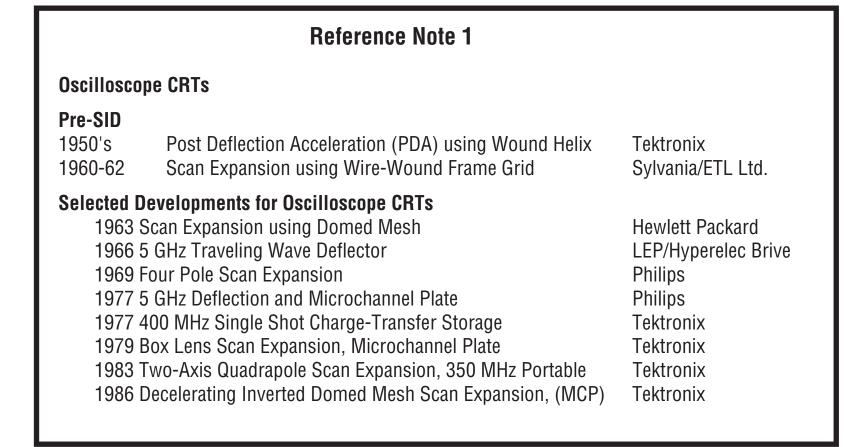




## Please Note .

Arguably there is no single device that has had a greater impact on our daily lives during the past 40 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 lives of millions around the globe. 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 photo-recording 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 ingenious and successful products to serve the needs of commercial, industrial or military displays. The only challenge that vacuum-tube technology was unable to meet prior to the arrival of the now-dominant LCD, despite a half-century of innovative approaches documented in the lowest panel, was the low-cost "hang-on-the-wall TV" flat panel display for consumer applications.



Francis Rice Darne Memoria	al Award	Karl Ferdinand Braun Prize	
		Norman Fyler	19
Norman Lehrer	1974	Harold Law	19
Sam H. Kaplan	1975		
Harold B. Law	1979	Edward Ramberg	19
		Alfred Schroeder	19
Jan Rajchman Prize	4000		
Robert Meyer	1996		4.0
Capp Spindt	1996	Kentaro Kiyozumi	19
Fallow of the CID		Tadashi Nakamura	19
Fellow of the SID	4007	Akio Ohkoshi	19
William Aiken	1967	Eiichi Yamazaki	19
Sol Sherr	1967 1070		
Leo Beiser	1970 1070	Special Decognition	
Nobuo John Koda	1970 1071	Special Recognition Sol Sherr	10
Benjamin Kazan Harold Law	1971 1971	Ivan Sutherland	19 <sup>°</sup> 19 <sup>°</sup>
Irv Reingold	1971		19
John A. Van Raalte	1973	Joe Bryden Peter Seats	19
Gentaro Miyazaki	1977	Otto H. Schade, Sr.	19
John Constantine, Sr.	1982	Leo Beiser	19
Thomas Credelle	1984	Benjamin Kazan	19
Walter Goede	1992	Tadashi Nakamura	19
Peter Barten	1993	Philip M. Heyman	19
Makoto Ikegaki	1993	Henry Marcy	19
Masakazu Fukushima	1994	Koichiro Kurahashi	19
Hsing-Yao Chen	1995	Eiichi Yamazaki	19
Carlo Infante	1996	Masakazu Fukushima	19
Eiichi Yamazaki	1996	Robert B. Meyer	19
P. Niel Yocom	1997	Harold Ketchum	199
Makoto Maeda	1999	Masanori Watanabe	19
Seyno Sluyterman	2000	Kinzo Nonomura	19
Shoji Shirai	2001	Guy Hill	19
Daniel den Engelsen	2002	Hiroshi Suzuki	19
Tsunehiko Sugawara	2006	Zu-Kai Wu	19
Sashiro Uemura	2009	Makoto Maeda	19
		Shuji Iwata	19
		Shoji Shirai	19
		Tokuhide Shimojo	19
		Tsunehiko Sugawara	20
		Yukinobu Iguchi	20
		Soichiro Okuda	20
		Sashiro Uemura	20
		Soichiro Okuda	20
		Sashiro Uemura	20

## Contributors to initially generating (2003) and in 2010/12 revising/updating this Milestone Technology Chart 2003 - Peter Seats & Chris Curtin (co-chairs) consulting with Shigeya (Shane) Ashizaki, Pete Baron, Bob Donofrio, Walt Goede, Ken Hawken, Koji Ichida, Peter Keller, Mike Maeda, Klaus Zeppenfeld

2010/12 Revision - Daniel den Engelson (chief architect) consulting with

Shigeya Ashizaki, Chris Curtin, Tsunenari Saito, Shoji Shirai, Shigeo Takenaka,