BUREAU OF INDIAN STANDARDS

Program of Work

LITD 4 : Electronic Display Devices and systems

Scope: To prepare Indian Standards relating to: a) Electronic tubes including X-ray and microwave tubes. b) Electronic display devices and specific relevant components.

Liaison: **IEC TC-110 (P):** *Electronic Displays*

Published Standards

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 10071 : 1981 Reviewed In : 2016 IEC 151-17: 1969	Methods of measurement for hot cathode gas - Filled tube	June, 2016	-	Modified/Technically Equivalent
2	IS 10503 : 1983 Reviewed In : 2016 IEC 151-28: 1978	Methods of measurement of colour television picture tubes	June, 2016	-	Modified/Technically Equivalent
3	IS 10961 (Part 1) : 1988 Reviewed In : 2021	Diagnostic X-ray Tube With Rotating Anode: Part 1 Type Dra 1	April, 2021	-	Indigenous
4	IS 10961 (Part 2) : 1984 Reviewed In : 2020	Diagnostic X-ray Tube With Rotating Anode: Part 2 Type Dra 2	September, 2020	-	Indigenous
5	IS 10961 (Part 3) : 1984 Reviewed In : 2020	Diagnostic X-ray Tube With Rotating Anode: Part 3 Type Dra 3	September, 2020	-	Indigenous
6	IS 10961 (Part 4) : 1984 Reviewed In : 2020	Diagnostic X-ray Tube With Rotating Anode: Part 4 Type Dra 4	September, 2020	-	Indigenous
7	IS 10961 (Part 5) : 1984 Reviewed In : 2020	Diagnostic X-ray Tube With Rotating Anode: Part 5 Type Dra 5	September, 2020	-	Indigenous
8	IS 13384 (Part 1) : 1992 Reviewed In : 2019	Cathode ray tube based data display monitor - Specificaiton: Part 1 colour	May, 2019	-	Indigenous
9	IS 13384 (Part 2) : 1997 Reviewed In : 2019	Cathode ray tube based data display monitor - Specificaiton: Part 2 monochrome	May, 2019	-	Indigenous
10	IS 13900 : 1993 Reviewed In : 2023	Generic specification for colour picture tube with electrostatic focussing and electromagnetic deflection for colour television receivers	March, 2023	-	Indigenous
11	IS 15934 (Part 1/Sec 1) : 2021 IEC 61747-1-1 : 2014 IEC 61747-1-1 : 2014	Liquid Crystal Display Devices Part 1-1: Generic Specification		-	Identical under dual numbering

12	IS 15934 (Part 2) : 2022 61747-2 : 2015 61747-2 : 2015	Liquid Crystal And Solid-State Display Devices Part 2 Liquid Crystal Display Modules Sectional Specification		-	Identical under dual numbering
13	IS 15934 (Part 3) : 2022 61747-3 : 2015 61747-3 : 2015	LIQUID CRYSTAL DISPLAY DEVICES PART 3: LIQUID CRYSTAL DISPLAY LCD CELLS SECTIONAL SPECIFICATION		-	Identical under dual numbering
14	IS 15934 (Part 3/Sec 1) : 2021 IEC 61747-3-1 : 2015 61747-3-1 : 2015	Liquid Crystal Display Devices Part 3 Liquid Crystal Display LCD Cells Section 1 Blank Detail Specification		-	Identical under dual numbering
15	IS 15934 (Part 4) : 2021 IEC 61747-4 : 2012 61747-4 : 2012	Liquid Crystal and Solid State Display Devices Part 4 Liquid Crystal Display Modules and Cells Essential Ratings and Characteristics		-	Identical under dual numbering
16	IS 15934 (Part 4/Sec 1) : 2021 IEC 61747-4-1 : 2014 61747-4-1 : 2014	Liquid Crystal Display Devices Part 4 Matrix Colour LCD Modules Section 1 Essential ratings and characteristics		-	Identical under dual numbering
17	IS 15934 (Part 5) : 2011 IEC 61747-5:1998 Reviewed In : 2020 IEC 61747-5:1998	Liquid crystal and solid - State display devices: Part 5 environmental, endurance and mechanical test methods	August, 2020	-	Identical under dual numbering
18	IS 15934 (Part 5/Sec 3) : 2017 IEC 61747-5-3 : 2009 Reviewed In : 2020 IEC 61747-5-3 : 2009	Liquid crystal display devices: Part 5 environmental, endurance and mechanical test methods: Sec 3 glass strength and reliability	September, 2020	-	Identical under dual numbering
19	IS 15934 (Part 6) : 2014 IEC 61747-6 : 2004 Reviewed In : 2020 IEC 61747-6 : 2004	Liquid Crystal and Solid State Display Devices Part 6 Measuring Methods for Liquid Crystal Modules — Transmissive Type	December, 2020	-	Identical under dual numbering
20	IS 15934 (Part 10/Sec 1) : 2016 IEC 61747-10-1 : 2013 Reviewed In : 2023 IEC 61747-10-1 : 2013	Liquid crystal display devices: Part 10 environmental, endurance and mechanical test methods: Sec 1 mechanical	March, 2023	-	Identical under dual numbering
21	IS 16178 : 2014 IEC/TR 62728 : 2011 Reviewed In : 2024 IEC/TR 62728 : 2011	Display technologies LCD, PDP and OLED - Overview and explanation of differences in terminology	July, 2024	-	Identical under dual numbering
22	IS 16306 (Part 1) : 2016 IEC 62341-1-1 : 2009 Reviewed In : 2024	Organic light emitting diode (OLED) displays: Part 1 generic specifications	May, 2024	-	Indigenous

23	IS 18123 : 2023 IEC 60050-531 : 1974 IEC 60050-531 : 1974	Electro technical Vocabulary : Electronic tubes		-	Identical under dual numbering
24	IS 1885 (Part 4/Sec 2) : 1973 Reviewed In : 2016	Electrotechnical vocabulary: Part 4 electron tubes: Sec 2 X - Ray tubes (First Revision)	June, 2016	-	Indigenous
25	IS 19019 (Part 1) : 2023 IEC 60235-1 : 1972 IEC 60235-1 : 1972	Measurement of the electrical properties of microwave tubes Part 1: Terminology		-	Identical under dual numbering
26	IS 2032 (Part 9) : 1969 Reviewed In : 2024 IEC 60117-6	Graphical symbols used in electrotechnology: Part 9 electron tubes (Other Than Microwave Tubes)	June, 2024	1	Modified/Technically Equivalent
27	IS 2032 (Part 13) : 1971 Reviewed In : 2024 IEC 60117-11	Graphical symbols used in electrotechnology: Part 13 microwave tubes	June, 2024	-	Modified/Technically Equivalent
28	IS 2032 (Part 14) : 1971 Reviewed In : 2016 IEC 60117-11	Graphical symbols used in electrotechnology: Part 14 microwave technology	June, 2016	-	Modified/Technically Equivalent
29	IS 2597 (Part 1) : 1964 Reviewed In : 2022	Code of practice for the use of electronic valves: Part 1 commercial rece4ing valves	October, 2022	2	Indigenous
30	IS 2597 (Part 2) : 1967 Reviewed In : 2022	Code of practice for the use of electron tubes: Part 2 special quality rece4ing tubes	October, 2022	1	Indigenous
31	IS 2597 (Part 4) : 1970 Reviewed In : 2022	Code of practice for the use of electronic valves: Part 4 cathode - Ray tubes	October, 2022	1	Indigenous
32	IS 4147 : 1981 Reviewed In : 2016	Methods of measurements for electron tubes - Rece4ing and transmitting tubes (First Revision)	June, 2016	-	Indigenous
33	IS 4579 : 1968 Reviewed In : 2016	Methods of measurements on television picture tubes	June, 2016	-	Indigenous
34	IS 4697 : 1968 Reviewed In : 2015	Methods of measurements on geiger - Muller counter tubes	December, 2015	2	Indigenous
35	IS 5323 : 1969 IEC 151-14 Reviewed In : 2016	LETTER SYMBOLS AND ABBREVIATIONS FOR ELECTRON TUBES	June, 2016	1	Indigenous
36	IS 5627 : 1987 Reviewed In : 2024 IEC Pub 151-14 : 1975	Methods of measurement of radar and oscilloscope cathode - Ray tubes (First Revision)	July, 2024	-	Modified/Technically Equivalent
37	IS 5840 (Part 1) : 1970 Reviewed In : 2016	Dimensions of cathode - Ray tubes: Part 1 tube outlines	June, 2016	2	Indigenous
38	IS 5840 (Part 2) : 1970 Reviewed In : 2016	Dimensions of cathode - Ray tubes: Part 2 bases	June, 2016	1	Indigenous
39	IS 5840 (Part 3) : 1970 Reviewed In : 2016	Dimensions of cathode - Ray tubes: Part 3 EHT terminals	June, 2016	-	Indigenous
40	IS/IEC 60139 : 2000 Reviewed In : 2022 IEC 60139 : 2000	Preparation of outline drawings for cathode - Ray tubes, their components, connections and	January, 2022	-	Identical under single numbering

		gauges			
41	IS 6134 (Part 1) : 1978 Reviewed In : 2016 IEC Pub 235-2 (1972)	Methods of measurements of electrical characteristics of microwave tubes: Part 1 common to all microwave tubes (First Revision)	June, 2016	-	Modified/Technically Equivalent
42	IS 6134 (Part 2) : 1973 Reviewed In : 2016 IEC Pub 235-2 (1972)	Methods of measurements on microwave tubes: Part 2 oscillator tubes	June, 2016	-	Modified/Technically Equivalent
43	IS 6134 (Part 3) : 1973 Reviewed In : 2016 IEC Pub 235-2 (1972)	Methods of measurements on microwave tubes: Part 3 amplifier tubes	June, 2016	-	Modified/Technically Equivalent
44	IS 6134 (Part 4) : 1977 Reviewed In : 2016 IEC Pub 235-2 (1972)	Methods of measurement of electrical characteristics of microwave tubes: Part 4 magnetrons	June, 2016	-	Modified/Technically Equivalent
45	IS 6134 (Part 5) : 1980 Reviewed In : 2016 IEC Pub 235-2 (1972)	Methods of measurement on microwave tubes: Part 5 parasitic noise	June, 2016	-	Modified/Technically Equivalent
46	IS 6134 (Part 6) : 1981 Reviewed In : 2016 IEC 60235-5 : 1972	Methods of measurement of electrical characteristics of microwave tubes: Part 6 low - Power oscillator klystrons	June, 2016	-	Modified/Technically Equivalent
47	IS 6134 (Part 7) : 1981 Reviewed In : 2016 IEC 60235-6 : 1972	Methods of measurement of electrical characteristics of microwave tubes: Part 7 high - Power klystrons	June, 2016	-	Modified/Technically Equivalent
48	IS 6134 (Part 8) : 1981 Reviewed In : 2016 IEC 60235-7 : 1972	Methods of measurembnt of electrical chara - Cteristics of microwave tubes: Part 8 gas - Filled microwave switching devices	June, 2016	-	Modified/Technically Equivalent
49	IS 6134 (Part 9) : 1981 Reviewed In : 2016 IEC 60235-8 : 1972	Methods of measurement of electrical characteristics of microwave tubes: Part 9 Backward-wave oscillator tube '0' type	June, 2016	-	Modified/Technically Equivalent
50	IS 6134 (Part 10) : 1981 Reviewed In : 2016 IEC 60235-9 : 1972	Methods of measurement of electrical characteristics of microwave tubes: Part 10 crossed - Field amplifier tubes	June, 2016	-	Modified/Technically Equivalent
51	IS 6136 : 2023	BASIC REQUIREMENTS FOR CATHODE RAY TUBES first Revision		-	Indigenous
52	IS/IEC 61965 : 2003 IEC 61965:2003 Reviewed In : 2024 IEC 61965: 2003	Mechanical safety of cathode ray tubes	July, 2024	-	Identical under single numbering
53	IS 6214 : 1971 Reviewed In : 2015	Specification for phosphors for cathode ray tubes	December, 2015	-	Indigenous
54	IS/IEC 62341-1-2) : 2014 62341-1-2 : 2014 62341-1-2 : 2014	Organic Light Emitting Diode OLED displays- Part 1-2: Terminology and letter symbols		-	Identical under dual numbering

55	IS/IEC 62341-2-1) : 2015 62341-2-1 62341-2-1	Organic Light Emitting Diode OLED displays- Part 2-1: Essential ratings and characteristics of OLED display modules		-	Identical under dual numbering
56	IS/IEC 62341-5 : 2009 62341-5 62341-5	Organic Light Emitting Diode OLED displays- Part 5: Environmental testing methods		-	Identical under dual numbering
57	IS/IEC 62341-5-2) : 2019 IEC 62341-5-2 : 2019 IEC 62341-5-2 : 2019	Organic light emitting diode OLED displays Part 5-2: Mechanical endurance test methods		-	Identical under single numbering
58	IS/IEC 62341-5-3) : 2019 62341-5-3 62341-5-3	Organic light emitting diode OLED displays Part 5-3: Measuring methods of image sticking and lifetime		-	Identical under single numbering
59	IS/IEC 62341-6-1) : 2017 IEC 62341-6-1 : 2017 IEC 62341-6-1 : 2017	Organic light emitting diode OLED displays Part 6-1: Measuring methods of optical and electro-optical parameters		-	Identical under single numbering
60	IS/IEC 62341-6-2) : 2015 62341-6-2 62341-6-2	Organic Light Emitting Diode OLED displays Part 6-2: Measuring methods of visual quality and ambient performance		-	Identical under dual numbering
61	IS/IEC 62341-6-3) : 2017 62341-6-3 : 2017 62341-6-3 : 2017	Organic light emitting diode OLED displays Part 6-3: Measuring methods of image quality		-	Identical under single numbering
62	IS/IEC 62341-6-4) : 2017 62341-6-4 62341-6-4	Organic light emitting diode OLED displays - Part 6-4: Measuring methods of transparent properties		-	Identical under dual numbering
63	IS 6757 : 1972 Reviewed In : 2016	Dimensions for high tension cable terminations for X - Ray tubes	June, 2016	-	Indigenous
64	IS 7144 : 1973 Reviewed In : 2024 IEC 151-26: 1971	Methods of measurements on camera tubes	June, 2024	-	Modified/Technically Equivalent
65	IS 7146 (Part 1) : 1973 Reviewed In : 2016 IEC 306-1: 1969	Methods of measurements on photosensitive devices: Part 1 basic considerations	June, 2016	1	Modified/Technically Equivalent
66	IS 7146 (Part 2) : 1974 Reviewed In : 2016 IEC 306-2	Methods of measurements on photosensitive devices: Part 2 phototubes	June, 2016	-	Modified/Technically Equivalent
67	IS 7146 (Part 3) : 1974 Reviewed In : 2016 IEC 306-3: 1970	Methods of measurements on photosensitive devices: Part 3 photo-conductive cells for use in the visible spectrum	June, 2016	-	Modified/Technically Equivalent
68	IS 7146 (Part 4) : 1974 Reviewed In : 2016 IEC 306-4: 1971	Methods of measurements on photosensitive devices: Part 4 photomultipliers	June, 2016	-	Modified/Technically Equivalent
69	IS 8441 : 1977 Reviewed In : 2019	Methods of measurements on incidental X - Radiation from	September, 2019	-	Indigenous

		electron tubes			
70	IS 9883 : 1981 Reviewed In : 2016 IEC 441: 1974	Photometric and colorimetric methods of measurement of the light emitted by a cathoderay tube screen	June, 2016	-	Modified/Technically Equivalent

Standards under Development

Projects Approved

SI. No.	Doc No.	Title
No Records Found		

Preliminary Draft Standards

SI. No.	Doc No.	Title
No Records Found		

Drafts Standards in WC Stage

SI. No.	Doc No.	Title
1	LITD 4 (21790) Revision of: IS 6134:1981	Measurement of the electrical properties of microwave tubes Part 7 High-power klystrons First Revision

Draft Standards Completed WC Stage

SI. No.	Doc No.	Title
1	LITD 4 (21787)	Measurement of the electrical properties of microwave tubes Part 11 General measurements
2	LITD 4 (21788) Revision of: IS 6134:1981	Measurement of the Electrical Properties of Microwave Tubes Part 4 Magnetrons First Revision
3	LITD 4 (21789) Revision of: IS 6134:1981	Measurement of the electrical properties of microwave tubes Part 6 Low-power oscillator klystrons First Revision
4	LITD 4 (21792) Revision of: IS 6134:1981	Measurement of the Electrical Properties of Microwave Tubes Part 8 Gas-Filled Microwave Switching Devices First Revision
5	LITD 4 (21794) Revision of: IS 6134:1981	Measurement of the Electrical Properties of Microwave Tubes Part 9 Backward-Wave Oscillator Tubes - 39 0 39 Type First Revision
6	LITD 4 (21795) Revision of: IS 6134:1981	Measurement of the Electrical Properties of Microwave Tubes Part 10 Crossed-Field Amplifier Tubes First Revision

Finalized Draft Indian Standard

SI. No.	Doc No.	Title
No Records Found		

Finalized Draft Indian Standards under Print

SI. No.	Doc No.	Title
No Records Found		

Total Published Standards:70 Total Standards Under development:7

Aspect Wise Report

Product : 14
Code of Practices : 5
Methods of Test : 33
Terminology : 9

Dimensions : 4
System Standard : 4
Safety Standard : 1
Others : 0
Service Specification : 0
Process Specification : 0
Unclassified : 0

Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	Title
1	IS 13616 (Part 3) : 1992	Fibre Optic Branching Devices Part 3 Sectional Specification - One-to-n Wavelength Multiplexer demultiplexer
2	IS 13899 : 1993 Reviewed In : 2016	Colour picture tube with electrostatic focussing and electromagnetic deflection for colour television receivers - Blank detail - Specificaiton
3	IS 1885 (Part 4/Sec 1) : 1973 Reviewed In : 2016	Electrotechnical vocabulary Part 4 electron tubes Sec 1 common terms First Revision
4	IS 1885 (Part 4/Sec 3) : 1970 Reviewed In : 2016	Electrotechnical vocabulary Part 4 electron tubes and valves Sec 3 microwave tubes and valves
5	IS 1885 (Part 4/Sec 4) : 1970 Reviewed In : 2016	Electrotechnical vocabulary Part 4 electron tubes Sec 4 cathode - Ray tubes
6	IS 1885 (Part 4/Sec 5) : 1972 Reviewed In : 2015	Electrotechnical vocabulary Part 4 electron tubes Sec 5 pulse terms
7	IS 1885 (Part 4/Sec 6) : 1972 Reviewed In : 2016	Electrotechnical vocabulary Part 4 electron tubes Sec 6 noise in microwave tubes
8	IS 1885 (Part 4/Sec 7) : 1973 Reviewed In : 2016	Electrotechnical vocabulary Part 4 electron tubes Sec 7 camera tubes
9	IS 1885 (Part 4/Sec 8) : 1973 Reviewed In : 2015	Electrotechnical vocabulary Part 4 electron tubes Sec 8 photosensitive devices
10	IS 2597 (Part 3) : 1969 Reviewed In : 2015	Code of practice for use of electron valves Part 3 transmitting and industrial valves
11	IS 2597 (Part 5) : 1971 Reviewed In : 2015	Code of practice for the use of electronic valves Part 5 rectifiers and thyratrons
12	IS 6567 : 1972 Reviewed In : 2016	Radiation protection for an X - Ray tube in a protective tube housing operating between 10 kV and 400 kV
13	IS 6758 : 1972 Reviewed In : 2015	Dimensions for high tension receptacles for X - Ray tubes
14	IS 9492 : 1980 Reviewed In : 2016 IEC 235-2 & 2C: 1976	Methods of measurement of RF microwave leakage from integral circuit electron tubes

Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	Title
1	IS 10961 (Part 1) : 1988 Reviewed In : 2021	Diagnostic X-ray Tube With Rotating Anode Part 1 Type Dra 1
2	IS 10961 (Part 2) : 1984 Reviewed In : 2020	Diagnostic X-ray Tube With Rotating Anode Part 2 Type Dra 2
3	IS 10961 (Part 3) : 1984 Reviewed In : 2020	Diagnostic X-ray Tube With Rotating Anode Part 3 Type Dra 3
4	IS 10961 (Part 4) : 1984	Diagnostic X-ray Tube With Rotating Anode Part 4 Type Dra 4

	Reviewed In : 2020	
5	IS 10961 (Part 5) : 1984 Reviewed In : 2020	Diagnostic X-ray Tube With Rotating Anode Part 5 Type Dra 5
6	IS 13384 (Part 1) : 1992 Reviewed In : 2019	Cathode ray tube based data display monitor - Specificaiton Part 1 colour
7	IS 13384 (Part 2) : 1997 Reviewed In : 2019	Cathode ray tube based data display monitor - Specificaiton Part 2 monochrome
8	IS 13900 : 1993 Reviewed In : 2023	Generic specification for colour picture tube with electrostatic focussing and electromagnetic deflection for colour television receivers
9	IS 15934 (Part 2) : 2022 61747-2 : 2015	Liquid Crystal And Solid-State Display Devices Part 2 Liquid Crystal Display Modules Sectional Specification
10	IS 15934 (Part 4) : 2021 IEC 61747-4 : 2012 ISO 21915-1 : 2020	Liquid Crystal and Solid State Display Devices Part 4 Liquid Crystal Display Modules and Cells Essential Ratings and Characteristics
11	IS 15934 (Part 4/Sec 1) : 2021 IEC 61747-4-1 : 2014 ISO 21915-2 : 2020	Liquid Crystal Display Devices Part 4 Matrix Colour LCD Modules Section 1 Essential ratings and characteristics
12	IS 6136 : 2023	BASIC REQUIREMENTS FOR CATHODE RAY TUBES first Revision
13	IS 6214 : 1971 Reviewed In : 2015	Specification for phosphors for cathode ray tubes
14	IS/IEC 62341-2-1) : 2015 62341-2-1 IEC 61196-1-324: 200	Organic Light Emitting Diode OLED displays- Part 2-1 Essential ratings and characteristics of OLED display modules