
Appendix I

Acronyms and Abbreviations

Acronym	Meaning	More Information
A2LA	The American Association for Laboratory Accreditation	www.a2la.org
A. M.	<i>ante meridian</i> (Latin) —between midnight and midday	
AC	Alternating current	
AF	Audio frequency	
AFC	Automatic frequency control	
AGC	Automatic gain control	
AIAG	Automotive Industry Action Group	www.aiag.org
ALC	Automatic level control	
AM	Amplitude modulation	
ANOVA	Analysis of variance	
ANSI	American National Standards Institute, Inc.	www.ansi.org
API	Application programming interface (software)	
APLAC	Asia-Pacific Laboratory Accreditation Cooperation	www.ianz.govt.nz/aplac
ARFTG	IEEE Automatic RF Techniques Group	www.arftg.org
ASCII	American Standard Code for Information Interchange (data processing)	
ASIC	Application-specific integrated circuit	
ASQ	American Society for Quality	www.asq.org
ASQ CCT	ASQ Certified Calibration Technician	www.asq.org
ASQ MQD	ASQ Measurement Quality Division	www.asq.org
ATE	Automated (or Automatic) test equipment	
ATM	Asynchronous transfer mode (data communications)	
ATM	Automatic teller machine (banking)	
AV	Alternating voltage	

Acronym	Meaning	More Information
AVC	Automatic volume control	
AWG	American wire gage	
BASIC	Beginner's All-purpose Symbolic Instruction Code (software)	
BCD	Binary-coded decimal	
BIOS	Basic input/output system (computers)	
BIPM	International Bureau of Weights and Measures	www.bipm.fr
BS	British standard	
BSI	British Standards Institution	www.bsi.org.uk
CAD	Computer-aided design	
CAM	Computer-aided manufacturing	
CASE	Coordinating Agency for Supplier Evaluation	www.caseinc.org
CCT	Certified Calibration Technician	www.asq.org/cert/types/cct
CD	Compact disk	
CDMA	Code division multiple access (cellular telephones)	
CENAM	National Center for Metrology (Mexico)	www.cenam.mx
cGLP	current Good Laboratory Practices	
cGMP	current Good Manufacturing Practices	
CGPM	General Conference on Weights and Measures	www.bipm.fr
CIPM	International Committee of Weights and Measures	www.bipm.fr
CMM	Component Maintenance Manual (aviation)	
CMM	Coordinate measuring machine	
CODATA	Committee on Data for Science and Technology	www.codata.org
CPR	Calibration Problem report	
CPR	Cardio-pulmonary resuscitation	
CRT	Cathode-ray tube	
DAC	Data acquisition and control	
DAC	Digital to analog converter	
DARPA	Defense Advanced Research Projects Agency (USA)	
dB	Decibel	
dBm	Decibels relative to 1 milliwatt in a specified impedance	
DC	Direct current	
DEW	Directed-energy weapon	
DEW	Distant early warning	
DIN	German Institute for Standardization	www.din.de
DKD	German Calibration Service (accreditation body)	www.dkd.info
DMAIC	Define, measure, analyze, improve, control	

Acronym	Meaning	More Information
DMM	Digital multimeter	
DOD	Department of Defense (USA)	www.dod.gov
DTMF	Dual tone, multiple frequency	
DUT	Device under test	
DV	Direct voltage	
DVD	Digital video disk or digital versatile disk	
DVM	Differential voltmeter	
DVM	Digital voltmeter	
EA	European Cooperation for Accreditation	www.european-accreditation.org
EDI	Electronic Data Interchange	
EIA	Electronic Industries Alliance	www.eia.org
EMF	Electromotive force, voltage	
EMI	Electromagnetic interference	
EMU	Electromagnetic units (obsolete)	
EN	European standard	
ESD	Electrostatic discharge	
ESU	Electrostatic units (obsolete)	
EUROMET	European Collaboration in Measurement Standards	www.euromet.org
EUT	Equipment under test	
FAA	Federal Aviation Administration (USA)	www.faa.gov
FAQ	Frequently-asked questions	
FAX	Facsimile (transmission of images by telephone)	
FDA	Food and Drug Administration (USA)	www.fda.gov
FFT	Fast fourier transform (mathematics)	
FM	Frequency modulation	
FO	Fiber optics	
FS	Federal standard (USA)	
FTP	File transfer protocol (Internet)	
GIDEP	Government-Industry Data Exchange Program (USA)	http://www.gidep.org
GLONASS	Global navigation satellite system (Russia)	
GMT	Greenwich mean time—obsolete, see UTC	
GPETE	General purpose electronic test equipment	
GPIB	General purpose interface bus (Tektronix term for IEEE-488)	
GPS	Global positioning system (satellites) (short form of NAVSTAR GPS)	gps.losangeles.af.mil
GSM	Global system for mobile (telecommunications)	
GUM	<i>Guide to the Expression of Uncertainty in Measurement</i>	

Acronym	Meaning	More Information
HIPOT	High potential (a type of electrical test)	
HPGL	Hewlett-Packard graphics language (plotters, printers)	
HPIB	Hewlett-Packard interface bus (Hewlett-Packard term for IEEE-488)	
HPML	Hewlett-Packard multimeter language	
HTML	Hypertext markup language	www.w3.org
HTTP	Hypertext transfer protocol (what makes the www work!)	www.w3.org
HV	High voltage	
HVAC	Heating, ventilation, and air conditioning	
IAF	International Accreditation Forum Inc.	www.accreditationforum.com
IAQG	International Aerospace Quality Group	www.iaqg.sae.org
IATF	International Automotive Task Force	
IC	Integrated circuit	
ICC	International Code Council	www.iccsafe.org
IEC	International Electrotechnical Commission	www.iec.ch
IEEE	Institute of Electrical and Electronics Engineers	www.ieee.org
IFCC	International Federation of Clinical Chemistry and Laboratory Medicine	www.ifcc.org
ILAC	International Laboratory Accreditation Cooperation	www.ilac.org
ILC	Inter-laboratory comparison	
IM&TE	Inspection, measuring, and test equipment	
IMEKO	International Measurement Confederation	
IR	Infrared	
ISA	Instrumentation, Systems & Automation Society	www.isa.org
ISO	Insurance Services Office (insurance risk ratings)	www.iso.com
ISO	Is <i>not</i> an acronym for International Organization for Standardization	www.iso.org
IST	International Steam Table	
IT	Information technology	
ITU	International Telecommunications Union	www.itu.int
IUPAC	International Union of Pure and Applied Chemistry	www.iupac.org
IUPAP	International Union of Pure and Applied Physics	www.iupap.org
JAN	Joint Army-Navy (USA)	
JIT	Just-in-time	
JUSE	Union of Japanese Scientists and Engineers	
KCDB	Key comparison database	kcdb.bipm.org
LAN	Local area network	
LASER	Light amplification by stimulated emission of radiation	

Acronym	Meaning	More Information
LCR	Inductance-capacitance-resistance (meter) from the circuit symbols	
LED	Light-emitting diode	
LORAN	Long-range aid to navigation	
LSD	Least significant digit	
MAP	Measurement Assurance Program	
MASER	Microwave amplification by stimulated emission of radiation	
MIL-HDBK	Military handbook (USA)	
MIL-PRF	Military performance-based standard (USA)	
MIL-STD	Military standard (USA)	
MOD	Ministry of Defence (UK)	
MRA	Mutual recognition arrangement	www.bipm.org/en/convention/mra
MSA	Measurement system analysis	
NACC	North American Calibration Committee	
NACLA	National Cooperation for Laboratory Accreditation	www.nacla.net
NAFTA	North American Free Trade Agreement	
NAPT	National Association for Proficiency Testing	www.proficiency.org
NASA	National Aeronautics and Space Administration (USA)	www.nasa.gov
NATO	North Atlantic Treaty Organization	www.nato.int
NAVSTAR GPS	Navigation system with time and ranging global positioning system	gps.losangeles.af.mil
NBS	National Bureau of Standards - see NIST	www.nist.gov
NCO	Non-Commissioned Officer (military rank)	
NCSL	National Conference of Standards Laboratories (see NCSLI)	www.ncsli.org
NCSLI	NCSL International	www.ncsli.org
NDE	Nondestructive evaluation	www.ndt-ed.org
NDT	Nondestructive testing	www.ndt-ed.org
NIST	National Institute of Standards and Technology (USA)	www.nist.gov
NMI	National Metrology Institute	
NORAMET	North American Cooperation in Metrology	
NPL	National Physical Laboratory (UK)	www.npl.co.uk
NRC	Nuclear Regulatory Commission (USA)	www.nrc.gov
NTSC	National Television System Committee (TV format in USA, Canada, Japan)	
NVLAP	National Voluntary Laboratory Accreditation Program	www.ts.nist.gov/ts/htdocs/210/214/214.htm
OEM	Original equipment manufacturer	

Acronym	Meaning	More Information
OIML	International Organization of Legal Metrology	www.oiml.org
OOT	Out of tolerance	
P. M.	<i>post meridian</i> (Latin)— between midday and midnight	
PAL	Phase alternation by line (TV format in Europe, China)	
PARD	Periodic and random deviation	
PAVM	Phase angle voltmeter	
PC	Personal computer	
PC	Printed circuit (wiring board)	
PCS	Personal communications services (telecommunications, USA)	
PDCA	Plan, do, check, act (the Deming or Shewhart cycle)	
PDF	Portable document format (documents; trademark of Adobe Corp.)	
PDSA	Plan, do, study, act (the Deming or Shewhart cycle, another version)	
PM	Phase modulation	
PM	Preventive maintenance	
PME	Precision measuring equipment	
PME	Professional military education (U.S. Armed Forces)	
PMEL	Precision measurement equipment laboratory	
PMET	Precision measuring equipment and tooling	
PO	Petty Officer (Naval rank)	
PO	Purchase order	
POTS	Plain old telephone service (a basic subscriber line with no extra features)	
PPE	Personal protective equipment	
PPM	Parts per million (preferred usage is “parts in 10 ⁶ ”)	
PT	Proficiency test	
PTB	Physikalisch-Technische Bundesanstalt (German NMI)	www.ptb.de
PXI	Compact PCI extensions for Instruments	www.pxisa.org
QA	Quality assurance	
QC	Quality control	
QHE	Quantum Hall effect	
QMS	Quality management system	
QS	Quality system (as in QS-9000)	
R&R	Repeatability and reproducibility	
RADAR	Radio detection and ranging	

Acronym	Meaning	More Information
RAM	Random-access memory	
RF	Radio frequency	
RFID	Radio frequency identification (tags)	
RMS	Root-mean-square	
ROM	Read-only memory (computers)	
RP	Recommended practice (as in NCSL RP-1)	
RS	Recommended standard (as in EIA RS-232)	
RTD	Resistor temperature device	
RTF	Rich text format (documents)	
SAE	Society of Automotive Engineers	www.sae.org
SAW	Surface acoustic wave	
SCPI	Standard commands for programmable instrumentation	scpiconsortium.org
SI	International system of weights and measures	www.bipm.fr
SONAR	Sound navigation and ranging	
SOP	Standard operating procedure	
SPC	Statistical process control	
SPETE	Special purpose electronic test equipment	
SQC	Statistical quality control	
SQL	Structured query language	
SQUID	Superconducting quantum interference device	
SRM	Standard reference material	ts.nist.gov/ts/htdocs/230/232/232.htm
Sr. NCO	Senior NCO (military rank)	
SWR	Standing wave ratio	
TAG	Technical Advisory Group (ISO)	
TAG	Truck Advisory Group (AIAG)	
TAI	International atomic time	www.bipm.org/en/committees/cc/cctf
TAR	Test accuracy ratio	
TCP/IP	Transfer control protocol / Internet protocol	
TDMA	Time division multiple access (cellular telephones)	
TDR	Time-domain reflectometer	
TELCO	Telephone company	
THD	Total harmonic distortion	
TI	Test item	
TMDE	Test, measurement, and diagnostic equipment	
TQL	Total quality leadership	
TQLS	Total quality lip service (humor)	
TQM	Total quality management	
TRMS	True RMS	

Acronym	Meaning	More Information
TUR	Test uncertainty ratio	
TVC	Thermal voltage converter	
UMTS	Universal mobile telecommunications system	
USB	Universal serial bus	www.usb.org
USNO	U.S. Naval Observatory	www.usno.navy.mil
UT1	Universal time scale 1	www.bipm.org/en/committees/cc/cctf
UTC	Universal coordinated time (formerly GMT): time of day at 0 deg. Longitude	www.bipm.org/en/committees/cc/cctf
UUC	Unit under calibration	
UUT	Unit under test	
VIM	ISO International Vocabulary of Basic and General Terms in Metrology	
VME	(No particular meaning)	www.ee.ualberta.ca/archive/vmefaq.html
VNA	Vector network analyzer	
VOM	Volt-Ohm meter	
VTVM	Vacuum tube voltmeter	
VXI	VME extensions for instrumentation	www.vxibus.org
WAN	Wide area network	
W-CDMA	Wideband code division multiple access (cellular telephones)	
WPAN	Wireless personal area network (range approx. 10 m)	
WWV	NIST time and frequency radio transmitter in Ft. Collins, Colorado	
WWVB	NIST 60 kHz digital time code radio transmitter in Ft. Collins, Colorado	
WWVH	NIST time and frequency radio transmitter in Kauai, Hawaii	
WWW	World-wide web (Internet)	www.w3.org
Z	Symbol for impedance	
ZULU	(U.S. military) indicates reference to UTC time	
ZULU	Phonetic for the last letter of the alphabet	