

The Bliss Classification Bulletin

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F O R E W O R D

As was the case with the last Bulletin, this one consists mainly of substantial additions to the BC in a number of technical fields in which the detail up to now has been deficient.

As before, the new schedules are largely those produced by the British National Bibliography as Supplementary Schedules and we are indebted to the BNB for them.

A full explanation of the main features of the schedules was given in the last Bulletin and will not be repeated here. These features are as before; the schedules are all fully faceted, their order is 'inverted' (i.e., major facets file last), the notation is ordinal and retroactive, and the detail reflects the literary warrant provided by a thorough survey of the material indexed by the BNB over the past fifteen years.

On the subject of the notation, some concern has been expressed by Mr. C. B. Freeman, Librarian of the Institute of Education, University of Hull, and a member of the British Committee for the Bliss Classification; a Note by him follows this Foreword, together with the Hon. Editor's comments.

We are again indebted to Mr. A. J. Horne of the Commonwealth Institute who has provided the detailed amendments and additions in Class O, resulting from the continuing changes in the national boundaries and status of the territories concerned.

Since the last Bulletin was published the following libraries have been reported as adopting the BC, and we are pleased to welcome them to the growing body of BC users and to invite them (as we invite all users) to contribute suggestions for the improvement of the system:

Exeter College, Oxford
Extra-Mural Department, Bristol University
Merton College, Oxford
President Kennedy Library, Institute of Administration,
Zaria, Northern Nigeria
St. Edmund's College, Liverpool 8.

We are always pleased to hear from readers of the Bulletin of any other libraries whose adoption of the BC has not yet been recorded here.

Availability of copies of BC: The H. W. Wilson Company informs us that Volumes III and IV of the BC are now out of print and that the second edition of Volumes I and II will soon be so. Arrangements have been made with University Microfilms, Inc. to incorporate the BC in their O-P Book program. Xero-graphic reprints of the BC are now available (from University Microfilms, Inc., Ann Arbor, Michigan 48107, U.S.A.) at the following prices:

Vol. 1-2, Classes A-K (2nd ed.)	\$31.80
Vol. 3, Classes L-Z	\$28.20
Vol. 4, Index	\$17.60

School Edition of the BC: Last Autumn the Committee of the (British) School Library Association resolved to set aside money in its 1965-66 budget for the publication of the school abridgment on which work has been proceeding for a considerable time. The volume will be produced by conventional letter-press methods. It is not yet possible to say when publication will take place, but all the schedules are in an advanced state of preparation. Any inquiries should be addressed to the secretary of the Bliss Group: Mr. C. B. Freeman, Institute of Education, 173 Cottingham Road, Hull, Yorkshire.

Amongst correspondence arising from the last Bulletin we received a letter of appreciation regarding the schedule on oceanography. Unfortunately, in the course of moving office the letter was accidentally destroyed before a reply had been sent. We offer our apologies to the sender and should be grateful if he would kindly write again so that his letter can be answered.

J. Mills
Hon. Editor.

Aslib
3 Belgrave Square
London, S.W.1.

(N.B. For the period August 1965-July 1966 the Hon. Editor will be acting as Visiting Lecturer, The Library School, University of Maryland, College Park, Maryland 20742, U.S.A. and correspondence during this period should be addressed to him there.)

The new schedules

A note by C. B. Freeman, Librarian, Institute of Education, University of Hull

Those who have carefully perused the new schedules contained in the last Bulletin (Vol. 3, No. 1, September 1964) will have admired the skill with which highly technical subjects are analysed in great detail on fully faceted lines. They may, however, have wondered whether they could fully subscribe to the statement on page 6: 'It is emphasised here that all the features described above are perfectly consistent with the rest of the

schedules and with Bliss's view of the needs of a bibliographic classification.'

At first sight the whole of this material (especially the notation) looks very strange to anyone trained before faceting got into the examination syllabuses, but a good deal of it is not so much a departure from Bliss as an extension of Bliss. In particular, the idea that certain sub-sections may be subdivided by the notation of earlier sub-sections is familiar to us in the use of some of Bliss's special auxiliary schedules. For instance, under JN (Secondary Education), sub-sections JN,A to JN,R are followed in JNS to JNY by another 'facet' based on types of schools, and any type of school may be subdivided by the preceding notation, A to R. A fully faceted scheme is in effect an extension of this principle to a further stage of development.

Again, it must be conceded that equality in the subject hierarchy is not always expressed in Bliss by equal length of notation, and that subordination indicated by indentation of captions is not always matched by a lengthening of the notation.

Nevertheless, I must say that I should very much dislike to use a classification which departed as far from the principle of expressiveness in notation as the new schedules in the last bulletin. To say that indentation is used to indicate subordination, and that the notation is purely ordinal, is all very well, but neither the librarian nor the reader spends his life with a volume of the schedules open before him. The place where a rough idea of the hierarchy is needed is at the shelves or at the classified catalogue. Unfortunately, one cannot indent the books on the shelves or the cards in the drawer! What I particularly object to is the device mentioned on page 6 of the last Bulletin (section 5), where the notation BNZSZ, which anywhere in Bliss's own schedules would be clearly recognized as the last subdivision of the BNZS sub-section, turns out to be the containing head for the BNZT sub-section. Similar examples are to be found elsewhere-- e.g., at DRSJZ and URAPW. Imagination boggles at the thought of providing guide cards for a classified catalogue with a notation like that. And on the shelves one can only tell where a new topic begins by knowing the schedules by heart, and not by any rational principle of notation.

It seems to me that such a use of notation may be legitimate in a new classification scheme (preferably for use in closed-access libraries where only fully qualified librarians would approach the catalogue or the shelves), but that in connection with an existing classification scheme it is too much like putting new cloth on an old garment, and can only result in confusion. It would be interesting to hear the opinions of other Bliss users. Would a new edition prepared on such lines meet the needs of users?

Comment on Mr. Freeman's note by the Hon. Editor

We are grateful to Mr. Freeman for raising the above points, some at least of which must have occurred to other users of the Bulletin.

On the important general point, as to whether the new schedules are consistent with the rest of the BC, Mr. Freeman answers his own query and agrees that they are. But he has one strong reservation on how far the

'ordinal' quality of the notation should be allowed to submerge the 'hierarchical' quality (whilst agreeing that the BC notation is frequently ordinal-- i.e., shows the order clearly enough, but without showing the inclusion relations between subjects at the same time).

I sympathise with Mr. Freeman since I agree that expressive notation is helpful and would like to see as much of it as is feasible. The point of issue is the degree to which we should favour brevity at the expense of expressiveness. Mr. Freeman's general criticism of ordinal notation is that in the catalogue and on the shelves we are not assisted by the symbolism of indentation and typography to show us relations between classes and therefore are in particular need of expressive notation and should use it as far as possible.

But since notation is only expressive for part of the time, how can it be regarded as a reliable shelf and catalogue guide? It is like saying a rope is strong in parts. The truth is that all users of the library should be made aware of the simple fact that they cannot rely on class-numbers to express relations and once this is clear, we can allow the notation to perform its fundamental job-- i.e., to allow a user to locate a given subject accurately and quickly. From that point on we must depend on the helpfulness of the order and collocation (which is, on the whole, very good in BC) and the clues afforded on the shelf by shelf guides and the titles of books and in the card catalogue by guide-cards and by titles and descriptions.

Incidentally, symbolization of class relations by indentation is not impossible in the card catalogue, as Mr. Freeman implies. It can be done by the use of different widths ('cuts') of projecting tabs and different positions and colours. For example, the following represents the position of guide-tabs (looking down on the card catalogue, reading up the page):

	BNZT Amplifiers	(third or quarter cut, on right)
	BNZG Circuits by function	(half cut, in middle)
BNZG	CIRCUITS	(half cut, on left)
BNZ	E L E C T R O N I C S	(a full cut)

Mr. Freeman states (paragraph 4): 'On the shelves one can only tell where a new topic begins by knowing the schedules by heart and not by any rational principle of notation.' This implies that the normal situation in the BC is that we can tell by some notational principle. This is not so. Bliss's view of notation was that it should be as short as is feasible and that 'expressiveness' or hierarchical quality should be sacrificed if necessary in order to achieve this. Almost any page of the BC schedules will show this; for example, MF Italy, MG/MI Germany, MJ Switzerland, MKA Austria, MKK Czechoslovakia.... How can a user at the shelves know, when looking at, say MH, that Germany begins at MG and continues through MI, whereas looking at MF Italy begins and ends in MF? As stated above, we must rely on shelf guides and the titles of the books themselves to supplement the inherent helpfulness of the order in BC.

As to the feature to which Mr. Freeman particularly objects (the provision of a shorter number for a subclass than for its containing class--the very opposite of what an expressive notation is supposed to do) two points may be noted:

(i) It is certainly used already in the BC; e.g.,

AK	Science in general
AZ	Physical sciences in general
B	Physics

CTM	Chemical industries in general
CV	Organic chemical industries

(ii) In the new schedules it is usually used where the containing class is more a statement of the principle of division used (what Ranganathan calls a 'pseudo-entity') than a documentary class proper, and such a pseudo-class usually has very little literature on it. It is akin to the aggregating device used in UDC (e.g., 629.132/8 Kinds of aircraft). So BNZSZ is Circuits by function and BNZT Amplifier a particular kind of circuit. Similarly, BEFGZ (in the present issue) is Functional parts of rockets and BEPJ Propulsion systems is a particular part. This means that the occasions when a user will find two such class numbers juxtaposed is likely to be very few.

However, many users of library classification tend to expect expressive notation and it is certainly nice to have it as far as possible. But to allow it to produce unnecessarily long numbers would be wrong, I think, and quite contrary to Bliss's principle. But in the case of the device to which Mr. Freeman particularly objects, if his views are shared by BC users in general the practice will be discontinued.

ADDITIONS AND CORRECTIONS

- BEP F Insert new schedule for Nuclear reactors
 N.B. (1) For clarity, only the symbols following BEP are given;
 (2) A fuller schedule is available for those wishing to use it.
 Please apply to Hon. Editor.

Outline

BEP F	Reactors
FGR/FGY	Problems
FH/FHS	Equipment
FHT/FHY	Operations
FK	Reactor theory
FQ/FTY	Materials
FTZ	Parts of reactors
FW	Types of reactor
FWQ/FWT Y	By coolant
FXQ/FXT Y	By moderator
FXU/FXV Z	By fuel
FY	Heterogeneous, homogeneous reactors
G	Thermal reactors
GM	Thermal heterogeneous reactors
GP	Thermal heterogeneous uranium reactors
XZ	Intermediate reactors
Y	Fast reactors
YY	Special purpose reactors (for Research, Breeding, etc.)

Schedule

BEP F	Nuclear reactors
	Problems
FGR	Safety
FGS	Poisoning of reaction
FGT	Inert gases
FGW	Irradiation damage to components
FGX	Corrosion
FGY	Overheating
FH	Equipment
FHK	Power supply
FHM	Electrical equipment
FHN	Computer
FHP	Optical equipment
FHQ	Mechanical equipment
FHR	Pumps
FHR N	Bearings
FHS	Electromagnetic
FHT	Operations
FHT P	Siting
FHT U	Calculations
FHT V	Detection

	(Detection)
BEP FHT W	Measurement
FHT Y	Testing
FHV	Chemical operations
FHV H	Process plants
FHV HS	Shielding
FHW	Preparation
FHW V	Recycling, recovery
FHW W	Separation
FHW WX	Solvent extraction
FHW X	Purification
FHX	Analysis
FHY	Storage
FK	Reactor theory
FKK M	Stability
FKM	Critical dimensions
FKN	Neutron properties
FKW	Fast neutrons
FKX	Alpha particles
FKX N	Beta particles
FKX P	Gamma radiation
FMM	Special reactions
FMN	Absorption
FMN P	Resonance
FMN Q	Fission product formation
FMN S	Other physical processes in reactor
FMN Y	Heating
FMN YY	Heat transfer
FMN Z	Temperature
FMP	Reactor shapes
FQ	Reactor materials
FQQ	Physics
FQR	Chemistry
FQS	Gas
FQT	Liquid
FQU	Solid
FQX	Hydrogen
FQY	Water
FR	Heavy water
FRT	Metals
FRV	Salts
FRV T	Molten
FRW	Sodium
FRZ	Beryllium
FS	Uranium
FSV	Plutonium
FSY	Zirconium
FTV	Carbon dioxide
FTW Y	Organic compounds

	(Organic compounds)
BEP FTX	Graphite
FTY	Other materials, A/Z
FTZ	Reactor parts
FU	Structure
FUV	Shielding
FUV W	Control system
FUV X	Automatic control
FUW	Cooling system
FUY	Moderator
FV	Fuel
FVU	Fuel element
FVU T	Spent fuel
FW	Types of reactor
FWQ/FWT Y	By coolant <u>Divide like</u> FQ/FTY e.g. Gas cooled reactor BEP FWQ S Organic compound cooled reactor BEP FWT WY *See note at end regarding addition of Parts & Materials of Parts
FXQ/FXT Y	By moderator
FXQ	Graphite Others <u>Divide like</u> FQ/FTY e.g. Water moderated reactor BEP FXQ Y *See note at end regarding addition of Parts & Materials of Parts
	By fuel
FXU	Uranium
FXV	Plutonium
FXV Y	Plutonium-Uranium
FXV Z	Other materials
FY	Heterogeneous reactors (irrespective of energy or purpose)
FYY	Semi-heterogeneous reactors (" " " " ")
FZ	Homogeneous reactors (" " " " ")

Combinations are formed by joining symbols in reverse schedule order, omitting F except in the first component: e.g.
Uranium fueled heterogeneous reactor BEP FYX U

G	Thermal reactors <u>Divide like</u> FGR/FXV Z Power reactors <u>see</u> BMD
GM	Thermal heterogeneous reactors <u>Divide like</u> FGR/FXT Y e.g. Critical dimensions for T.h.r. BEP GMK M
GP	Thermal heterogeneous uranium reactors
GR/VX	Problems, Materials, Parts, etc. <u>Divide like</u> FGR/FVU T e.g. Critical dimensions for uranium-thermal heterogeneous reactors KM Cooling system for u.-t.h.r. UW

BEP VZ	(Cooling system for u.-t.h.r. UW
WQ/WTY	Types of thermal heterogeneous uranium reactor
	By coolant <u>Divide like</u> FWQ/FWT Y e.g.
	Gas cooled u.-t.h.r. BEP WQS
	By moderator
XQ	Graphite
XQQ/XTY	Other materials <u>Divide like</u> FXQ/FXT Y e.g.
	Water moderated u.-t.h.r. BEP XQY
	By type of fuel
XUY	Natural
XUY Z	Enriched
XUZ	Pure
	Thermal heterogeneous reactors with fuels other than uranium
XV	Plutonium
XW	Plutonium-uranium
XWX	Other materials
XY	Thermal homogeneous reactors
XYX Q/XYX TY	By moderator <u>Divide like</u> FXQ/FXT Y e.g.
	Water moderated t.h.r. BEP XYQ Y
XZ	Intermediate reactors
Y	Fast reactors
	Reactors by purpose
YY	Research reactors
Z	Breeder reactors

* Combinations involving Parts and Materials of Parts

When a reactor is specified by Coolant (FWQ/FWT Y) or by Moderator (FXQ/FXT Y) qualification by Parts is preceded by a 'P' - e.g.

BEP XQY Water moderated uranium thermal heterogeneous reactor

BEP XQY P Parts

BEP XQY PUW Cooling system (from BEP FUW)

If Materials of these Parts need to be added, precede their symbols (from BEP FQ/TY) by 'N' - e.g.

BEP XQY PUW Water moderated u.-t.h.r. cooling system

BEP XQY PUW NRT Metals

But if the Material has already been stated in designating the reactor, use 'N' alone; e.g.

BEP XQY PUW N Water of Water moderated u.-t.h.r. cooling system

Examples of retroactive number building (by joining symbols in reverse schedule order):

Heterogeneous reactor - Plutonium fueled - Graphite moderated -
Moderator - Critical dimensions BEP FYXV XQPUY KM

Fast reactor - Plutonium fueled - Graphite moderated -
Moderator - Critical dimensions BEP YXV XQPUY KM

Thermal heterogeneous uranium reactor - Spent fuel elements - Recycling -
Separation - Solvent extraction BEP VUT HWX

Heterogeneous reactor - Uranium fueled - Deuterium moderated BEP FYXU XR

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- BMO Add: Nuclear energy
- BNY Delete: Electric bells, Buzzers, etc.
Add reference: See also BPT W Electrical signalling systems
- BOT Add note: for Audio devices, See BPT
- BPS/BPT Delete existing subclasses and references and replace by:
- BPS Acoustic devices, Reproduction and recording of sounds. See also
BOP Recording telephone etc. See also BOB
- BPS FK/BPS VX Properties, Quantities, Electronic components and circuits.
Divide like BNZ FK/BNZ WY as far as applicable (see September
1964 Bulletin)
- e.g.
- | | |
|---------|-------------------------------|
| BPS FK | Measurement |
| BPS FXY | Wave form |
| BPS FXZ | Frequency |
| BPS FY | Noise |
| BPS FZN | Non linear distortion |
| BPS G | Circuits |
| BPS GK | Apparatus |
| BPS GP | Testing |
| BPS H | Faults |
| BPS HB | Physical dimensions |
| BPS J | Shape |
| BPS K | Construction, Manufacture |
| BPS KZ | Materials |
| BPS M | Particular materials |
| BPS N | Components |
| BPS P | Tubes |
| BPS PRX | Tubes by number of electrodes |
| BPS PS | Tubes by type |
| BPS R | Solid state devices |
| BPS RW | Conductors |
| BPS RX | Insulation |
| BPS RY | Capacitors |
| BPS S | Resistors |
| BPS SQV | Inductors |
| BPS SR | Transformers |
| BPS SS | Switches |
| BPS ST | Power supply units |
| BPS SU | Printed circuits |
| BPS SV | Microminiature circuits |
| BPS SZ | Circuits by function |
| BPS T | Amplifiers |
| BPS TV | Attenuators |
| BPS TX | Converters |
| BPS TY | Waveform generators |
| BPS TZ | Oscillators |
| BPS V | Rectifiers |
| BPS VX | Time bases |
| BPS VY | Pulse techniques |
| BPS VZ | Very high frequency |

	(Very high frequency)
BPS W	Microwaves
BPS WX	U.H.F.
BPS WY	S.H.F.
BPT	Audio devices
BPT C	Transducers
BPT D	Microphones
BPT E	Loudspeakers
BPT EX	Cabinets
BPT F	Earphones
BPT H	Auxiliary devices
	Systems
BPT M	Stereo
BPT MX	Cross talk
BPT NP	Sound distribution systems
BPT P	Recording and reproducing
BPT Q	Recording
BPT R	Reproducing
BPT S	Discs
BPT SU	Fine groove
BPT T	Magnetic tape and wire recording
BPT U	Tape
BPT UX	Wire
BPT V	Sound film
BPT VV	Electronic
BPT VW	Magnetic
BPT W	Electrically actuated signalling systems
BPT WX	Bells

Example of retroactive number-building: BPT PM Stereophonic recording & reproduction

N.B. If divisions from BPS are added to divisions of BPT, they should be preceded by 'A' - e.g., BPT MAG Stereo circuits

BTB Insert following schedule for Experimental Aeronautics:

BTB	Experimental studies
B	Model tests
C	Calculations
CJ	Punched cards
CM	Computers
D	Physical Phenomena
E	Instrumentation
EE	Electronic
EO	Optical. Visualization methods
EP	Interferometers
EQ	Schlieren
F	Pressure
FG	Manometers
FJ	Probes

	(Probes)
BTB FL	Strain gauges
FN	Shock waves
FO	Shock recorders
G	Heat
GH	Thermometry
GJ	Heat transfer
J	Wind tunnels
JH	Design
	Parts
K	Working section. Test section
L	Working fluid. Test fluid
LK	Humidity
LM	Argon
LO	Water
LP	Hygrometers
M	Model supports
MS	Stings
N	Liners
O	Nozzles
P	Fans, Pumps
PK	Filters
Q	Diffusers
R	Interchange collectors
S	Shock tubes
T	Gun tunnels
U	Water tunnels
V	Tanks
W	Sleds, tracks
Y	Flight tests
YT	Telemetry

Example of retroactive combination: Shock tube nozzle BTB SO
Gun tunnel heat transfer BTB TGJ

BTX	Insert new schedules for Astronautics:
BTX	Astronautics
C	Problems and Operations
CD	Dynamics
D	Trajectories, Orbits
DL	Aerodynamic problems
DJ	Forces & effects
DL	Drag
F	Reentry into atmosphere
G	Vehicles (rockets)
GM	Materials
GMH	Physical and chemical phenomena
GMJ	Surface effects
GML	Heat
GMM	Thermodynamics

	(Thermodynamics)
BTX GMN	Combustion
GMQ	Cryogenics
GMS	Impact
GP	Parts
GR	Structural parts
GT	Noses
GW	Fins
GZ	Functional parts & ancillaries
J	Propulsion systems
JK	Power supply
JL	Fuel <u>Divide like</u> GM
JLN	Combustion
JN	Solid
JP	Liquid
JPQ	Cryogenics
JQ	Special fuels
JR	Injectors
JS	Thrust chambers
JT	Nozzles
JZ	Non-conducting gas systems
L	Thermochemical systems
M	Nuclear powered systems
MQ	Electrical propulsion systems
MR	Ion beam (electrostatic)
MS	Plasma
MU	Photon: Solar sail
O	Temperature control
OM	Coating
ON	Heat shield
OP	Accommodation
OR	Instrumentation
OT	Electronics
OV	Launching system
OW	Landing system
P	Communication system
PR/PT	Radio <u>Divide like</u> BOR/BOT in main schedules
Q	Control & guidance system
QQ	Attitude control
QR	External
QS	Inertial
QV	Tracking system
QW	Optical
QX	Electronic
QY	Radio
QZ	Telemetry
R	Kinds of vehicle
RJ/RM	By propulsion system <u>Divide like</u> BTX J/BTX M e.g., Ion rocket BTX RMR
RU	Named vehicle A/Z e.g., BTX RU (Sputnik I) <u>N.B.</u> Do not classify individually named vehicles by preceding charac- teristics, but prefer this place.
RZ	Kinds of flight

	(Kinds of flight)
BTX S	Near space
T	Terrestrial orbit
TG	Earth satellite
U	Moon
V	Planets
VT	Particular planets <u>Divide like</u> DF in main schedules, e.g., Mars BTX VTM
VU	By purpose By nature of load
VW	None
W	Instruments
WW	Organisms
WWD	Biological requirements
WWF	Mechanical hazards
WWG	Non-gravity
WWH	Acceleration
WWL	Radiation hazards
WX	Animals
WXD/L	<u>Divide like</u> WWD/L
WY	Individual animals <u>Divide like</u> G in main schedules
X	Human beings
XD/XL	<u>Divide like</u> WWD/L
Z	Flying saucers

Example of retroactive number-building: BTX TGD Earth satellite orbits

CGF Add: Semi-microanalysis
 CGG Delete existing heading and references and replace by:
 CGG Microanalysis, Microchemical analysis
see also Chemical microscopy CAV

CGG G Gravimetric analysis
 CGG J Vaporimetry
 CGG L Electrolytic
 CGG N Titrimetry
 CGG P Spot tests

CGP Delete existing subclasses and replace by:

CGP Spectrum analysis
 CGP E Emission
 CGP F Source Units
 CGP G Arc
 CGP H Spark
 CGP J Flame
 CGP L Absorption
 CGP LJ Absorption flame photometry
 CGP M Infra-red
 CGP N Raman
 CGP O Optical
 CGP P Ultra-violet

	(Ultra-violet)
CGP Q	X-ray analysis
CGP R	Fluorescent analysis
CGP RQ	X-ray fluorescence
CGP S	Nuclear magnetic resonance analysis
CGP T	Electron spin resonance
CGP U	Radioactivation
CGP V	Gamma spectroscopy
CGP W	Coincidence spectrometry
CGP X	Photoneutron spectrometry
CGY	Add subclasses:
CGY	Chromatography
CGY G	Partition
CGY I	Ion exchange
CGY K	Gas
CGY N	Thin layer
DSB/D	Delete existing subclasses and references and replace by:
DSB	Physics of the atmosphere
DSB F	Mathematical physics
DSB J	Aerodynamics
DSB K	Particle dispersion
DSB N	Wave motion
DSB NS	Power spectra
DSB X	Radioactivity
DSC	Chemistry of the atmosphere
DSC P	Photochemistry
DSC R	Radiochemistry
DSC V	Special substances: Dust, suspensions, impurities
DSC W	<u>Add chemical symbol</u>
DSD	Observation
DSD C	Reports
DSD D	Equipment
DSD E	Maps
DSD F	Tables
DSD H	Computers
DSD J	Radar
DSD K	Telecommunications
DSD M	Stations
DSD O	Vehicles
DSD P	Weather ships
DSD Q	Air vehicles
DSD R	Balloons
DSD RR	Radiosondes
DSD S	Heavier-than-air aircraft
DSD T	Parachutes
DSD U	Rockets
DSD V	Space vehicles

		(Space vehicles)
DSD W		Tracer techniques
DSD X		Special materials
		<u>Add chemical symbol to DSD X</u>
DSD Y		Instruments
MFZ	Change to:	Malta, <u>former</u> British colony
ONS B	Change to:	Karachi (i.e., delete 'capital')
ONS F	Insert:	Islamabad, capital. <u>Alternative</u> is ONT X
ONT X	Insert:	Islamabad <u>Alternative</u> is ONS F
ORW	Change to:	Aden, British colony, and the Protectorate of S. Arabia
ORW X	Insert:	Federation of S. Arabia, <u>formerly</u> Federation of Arab Emirates of the South
OUK	Change to:	Kenya, <u>former</u> British colony and protectorate
OUM	Change to:	Uganda, <u>former</u> British protectorate
OUN	Change to:	Kampala, capital; Entebbe, Masindi
OUN B	Insert:	Buganda
OUN T	Insert:	Tanzania
OUO	Change to:	Tanganyika, <u>former</u> British trust territory
OUP	Change to:	Zanzibar, <u>former</u> British protectorate
OUU	Change to:	Rhodesia, Zambia and Malawi, <u>formerly</u> British Central Africa, <u>then</u> Federation of Rhodesia and Nyasaland. Includes North and South Rhodesia together.
OUV	Change to:	Malawi, <u>formerly</u> Nyasaland
OUY	Change to:	Zambia, <u>formerly</u> Northern Rhodesia
OVH	Delete existing	heading and move Basutoland to OVO
OVM	Delete existing	heading and move Swaziland to OVP
OVN W	Insert:	Witwatersrand... (heading moved from OVO)
OVN X	Insert:	Pretoria ... (heading moved from OVP)
OVO	Change to:	Basutoland
OVP	Change to:	Swaziland
OVQ	Change to:	Bechuanaland Protectorate
OVQ W	Insert:	Vryburg ... (heading moved from OVR)
OVR	Change to:	Basutoland, Bechuanaland Protectorate and Swaziland (together), <u>former</u> British High Commission Territories in South Africa
OXS	Change to:	Gambia, <u>formerly</u> British colony

A/Z INDEX

N.B. For convenience in ascertaining quickly whether a particular term has been included, all entries in the A/Z index are now given in one sequence. But no A/Z entries are given for amendments and additions to classes M/O, since these are self-evident from the schedule instructions under those classes.

Absorption (Nuclear reactors)	BEP FMN
Absorption (Spectrum analysis)	CGP L
Acoustic devices	BPS
Aerodynamic heating (Astronautics)	BTX GML
Aerodynamics (Atmosphere physics)	DSB J
Aircraft (Atmosphere observation)	DSD Q
Alpha particles (Nuclear reactors)	BEP FKX
Amplifiers (Circuits, Acoustic devices)	BPS T
Arc emission (Spectrum analysis)	CGP G
Argon (Test fluids, Wind tunnels)	BTB LM
Astronautics	BTX
Atmosphere entry (Astronautics)	BTX F
Atmosphere observation	DSD
Attenuators (Circuits, Acoustic devices)	BPS TV
Audio devices	BPT
Automatic control (Nuclear reactors)	BEP FUV X
Balloons (Atmosphere observation)	DSD R
Bearings (Pumps, Nuclear reactors)	BEP FHR N
Bells, Electric (<u>formerly</u> BNY)	BPT WX
Beryllium (Nuclear reactor materials)	BEP FRZ
Beta particles (Nuclear reactors)	BEP FKX N
Breeder reactors	BEP Z
Cabinets, Loudspeakers (Audio devices)	BPT EX
Capacitors (Acoustic devices)	BPS RY
Carbon dioxide (Nuclear reactor materials)	BEP FTV
Chemical operations (Nuclear reactors)	BEP FHV
Chemistry (Nuclear reactor materials)	BEP FQR
Circuits (Acoustic devices)	BPS G
Coincidence spectrometry	CGP W
Combustion (Space vehicles)	BTX GMN
Computers (Aeronautical research)	BTB CM
Computers (Atmosphere observation)	DSD H
Computers (Nuclear reactors)	BEP FHN
Conductors (Acoustic devices)	BPS RW
Control systems (Nuclear reactors)	BEP FUV W
Converters (Circuits, Acoustic devices)	BPS TX
Cooling systems (Nuclear reactors)	BEP FUW
Corrosion (Nuclear reactors)	BEP FGX
Critical dimensions (Nuclear reactors)	BEP FKM
Cross talk (Stereo, Audio devices)	BPT MX
Cryogenics (Astronautics)	BTX GMQ

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Deuterium (Nuclear reactor materials)	BEP FR
Diffusers (Wind tunnels)	BTB Q
Discs (Audio devices)	BPT S
Drag (Astronautics)	BTX DL
Dust (Chemistry of atmosphere)	DSC V
Dynamics (Astronautics)	BTX CD
Earphones (Audio devices)	BPT F
Electric bells (<u>formerly</u> BNY)	BPT WX
Electrical propulsion (space vehicles)	BTX MQ
Electrical signalling (Audio devices)	BPT W
Electrolytic analysis	CGG L
Electromagnetic pumps (Nuclear reactors)	BEP FHS
Electron spin resonance (Spectrum analysis)	CGP T
Electronic sound film	BPT VV
Emission (Spectrum analysis)	CGP E
Enriched fuel nuclear reactors	BEP XUY Z
Entry, Atmospheric (Astronautics)	BTX F
Fans (Wind tunnels)	BTB P
Fast reactors	BEP Y
Filters (Wind tunnels)	BTB PK
Fine groove discs (Audio devices)	BPT SU
Fins (Space vehicles)	BTX GW
Fission product formation (Nuclear reactors)	BEP FMN Q
Flame emission (Spectrum analysis)	CGP J
Flame photometry (Absorption, Spectrum analysis)	CGP LJ
Flight tests (Aeronautics)	BTB Y
Fluorescent analysis (Spectrum analysis)	CGP R
Frequency (Acoustic devices)	BPS FXZ
Fuels (Nuclear reactors)	BEP FV
Fuels (Space vehicles)	BTX JL
Gamma radiation (Nuclear reactors)	BEP FKX P
Gamma spectroscopy	CGP V
Gas chromatography	CGY K
Gas cooled reactors	BEP FWQ S
Gases (Nuclear reactor materials)	BEP FQS
Graphite (Nuclear reactor materials)	BEP FTX
Graphite moderated reactors	BEP FXQ
Gravimetric analysis (Microanalysis)	CGG G
Gun tunnels (Aeronautics)	BTB T
Heat, Aerodynamic (Astronautics)	BTX GML
Heat measurement (Aeronautical experiments)	BTB GH
Heat transfer (Aeronautical experiments)	BTB GJ
Heat transfer (Nuclear reactors)	BEP FMN YY
Heating (Nuclear reactors)	BEP FMN Y
Heavy water (Reactor materials)	BEP FR
Heterogeneous reactors	BEP FY
Homogeneous reactors	BEP FZ
Humidity (Test fluids, Wind tunnels)	BTB LK
Hydrogen (Nuclear reactor materials)	BEP FOX
Hygrometers (Test fluids, Wind tunnels)	BTB LP

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Impact (Space vehicles, Astronautics)	BTX GMS
Impurities (Chemistry of atmosphere)	DSC V
Inductors (Acoustic devices)	BPS SQV
Inert gases (Nuclear reactors)	BEP FGT
Infra-red absorption (Spectrum analysis)	CGP M
Injectors (Space vehicles, Propulsion systems)	BTX JR
Instrumentation (Aeronautical experiments)	BTB E
Insulation (Acoustic devices)	BPS RX
Interchange collectors (Wind tunnels)	BTB R
Interferometry (Aeronautical experiments)	BTB EP
Intermediate reactors	BEP XZ
Ion exchange (Chromatography)	CGY I
Ion propulsion (Space vehicles)	BTX MR
Irradiation damage (Nuclear reactors)	BEP FGW
Liners (Wind tunnels)	BTB N
Liquid fuels (Space vehicles)	BTX JP
Liquids (Reactor materials)	BEP FQT
Loudspeakers (Audio devices)	BPT E
Magnetic sound film	BPT VW
Magnetic tape and wire recording	BPT T
Mathematical physics of atmosphere	DSB F
Metals (Reactor materials)	BEP FRT
Microanalysis (Chemistry)	CGG
Microminiature circuits (Acoustic devices)	BPS SV
Microphones (Audio devices)	BPT D
Microwaves (Acoustic devices)	EPS W
Models (Aeronautical research)	BTB B
Moderators (Nuclear reactors)	BEP FUY
Natural fuel (Nuclear reactors)	BEP XUY
Neutrons (Nuclear reactors)	BEP FKN/W
Noise (Acoustic devices)	BPS FY
Non-conducting gas propulsion (Space vehicles)	BTX JZ
Non-linear distortion (Acoustic devices)	BPS FZN
Noses (Space vehicles)	BTX GT
Nozzles (Propulsion systems, Space vehicles)	BTX JT
Nozzles (Wind tunnels)	BTB O
Nuclear magnetic resonance analysis	CGP S
Nuclear propulsion (Space vehicles)	BTX M
Nuclear reactors	BEP F
Optical absorption (Spectrum analysis)	CGP O
Optical equipment (Nuclear reactors)	BEP FHP
Optical instrumentation (Aeronautical experiments)	BTB EO
Orbits (Astronautics)	BTX D
Organic compounds (Reactor materials)	BEP FTW Y
Oscillators (Circuits, Acoustic devices)	BPS TZ
Overheating (Nuclear reactors)	BEP FGY
Parachutes (Atmosphere observations)	DSD T
Particle dispersion (Atmosphere)	DSB K
Partition (Chromatography)	CGY G

