TGM

Units of the TGM system

scanned from the original booklet published
by the
Dozenal Society of Great Britain

website http://www.dozenalsociety.org.uk
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Errata
There may be others, but this is the only one reported so far, on 21/2/2010:

Volm = 0·033811935989 cubic yard
and not
3·3811935989 cubic yard

U N I T S of the T G M System

of Dozenal Weights & Measures

T i m, G r a f u t, M a z. The serial numbers are permanent identifiers for their respective units. Auxiliary units use the main number for the kind followed by a comma and further digits. The long conversion factors are to ensure accuracy and consistency in translation between systems for all applications now and in future. There is no implication that units themselves are established to such accuracy. Tailor to suit each application.

T G M			SI and other equivalents		Conversion				
Ser. No.	Unit	Abbrev.			Decimal units	Dozenal		Dublog	
Time (symbol t)									1,1 Hour Hr = 1 ^{4}Tm
1.	Tim	Tm Day / ≠20 0000	0·17361	second	second	5;9153 4371	Tm	2;6390	1,2 Day Dy = 2 ^{5}Tm
					5 min	1	^{3}Tm	3,0;0000	Thirty days = 5 ^{6}Tm
	triniTim	$_{3}$Tm	0·1004693929	ms	ms	9;ℰ533 26ℰ4	$_{3}$Tm	$\bar{3}$,3;3947	1,5 Year = ≠265 Dy = 5;0ℰ ^{7}Tm
									1,5a Leapyear = 5;1 ^{7}Tm
Acceleration (symbol f)									
2.	Gee	G Earth's gravity	9·8100494007	m/s^2	m/s^2	0;1281 9015	G	$\bar{1}$,0;35ℰ4	System requirements produced a G slightly different to the SI g = 9·80665
			32·18520142	ft/s^2	ft/s^2	0;0458 3309	G	$\bar{2}$,2;1ℰ33	Accel.due to gravity = 1 Gf/Tm^2
Length (symbol L or 1)									
3.	Grafut	Gf GTm^2	0·2956829126	m	m	3;4701 219ℰ	Gf	1;9117	Gf a small foot
			0·9700882959	ft	ft	1;0453 45ℰ0	Gf	0;0638	
			11·6410595508	in	in	0;1045 345ℰ	Gf	$\bar{1}$,0;0638	$_{1}$Gf a small inch
	duniGrafut	$_{2}$Gf	2·0533535596	mm	mm	0;5ℰ16 727ℰ	$_{2}$Gf	$\bar{1}$,2;6692	$_{2}$Gf close to 2 mm
	hesiGrafut	$_{6}$Gf	0·9902360916 x 10^{-7}	m	micron	ℰ;1224 7357	$_{6}$Gf	$\bar{6}$,3;4049	$_{6}$Gf close to ·1 micron or 1000 Å
	quedraGrafut	^{4}Gf	6·1312808754	km	km	1ℰ5ℰ;0023 3ℰ8	Gf	3,0;ℰ760	
			3·8098013075	stat.mile	mi	3;1969 786	^{3}Gf	3,1;7ℰ43	
Velocity (symbol v)									
4.	Vlos	Vl vel.light / 42ℰ4 9923	1·7031335765	m/2	m/s	0;7067 255ℰ	Vl	$\bar{1}$,2;9974	Precision root of system
			5·5877085843	ft/s	ft/s	2;1930 041ℰ	$_{1}$Vl	$\bar{1}$,1;1295	A comfortable walking pace.
	For mph and km/h see quedraGrafut, e.g. 1 Vl = 6·131..km/h 1 km/h = 0;1ℰ5ℰ Vl								
Area (symbol A or a)									
5.	Surf	Sf Gf^2	8·7428384796 x 10^{-2}	m^2	m^2	ℰ;5308 ℰ881	Sf	3;6233	Sf a small sq ft
			0·9410713018	ft^2	ft^2	1;0902 5668	Sf	0;1075	$_{1}$Sf a large sq metre
	quedraSurf	^{4}Sf	0·4479810495	acre	acre	2;2953 8098	^{4}Sf	4,1;12ℰ2	
			0·1812914987	hectare	ha	5;6237 3ℰ49	^{4}Sf	4,2;5692	
	hesaSurf	^{6}Sf	0·2610597581	km^2	km^2	3;9ℰ72 10ℰ2	^{6}Sf	6,1;ℰ301	
			0·1007957361	mile^2	mile^2	9;ℰ076 ℰ230	^{6}Sf	6,3;3886	ten ^{6}Sf to 1 sq mile
	quedriSurf	$_{4}$Sf	4·2162608409	mm^2	mm^2	2;121 1279	$_{5}$Sf	$\bar{5}$,1;6136	

Volume or Capacity (symbol V)											
6.	Volm	Vm	Gf^3	$2{\cdot}5851079459 \times 10^{-2}$	m^3	*	m^3	3;2824 4222	$_1$Vm	1,1;8320	
				25·8503556494	litre	*	litre	5;6212 4457	$_2$Vm	2,2;5898	Vm approx 25 litre
				0·9129222555	ft^3		ft^3	1;1189 2583	Vm	1;16E1	Vm a small cubic foot
				3·3811935389	yd^3		yd^3	2;5622 2696	$_1$Vm	1,1;3749	2 cu yd is about ≠50 Vm
				5·6864459111	Imp.gal.		Imp.gal.	2;1326 9515	$_1$Vm	1,1;0E12	
	duniVolm	$_2$Vm		6·8290818133	US.gal.		US.gal.	1;9105 1389	$_1$Vm	1,0;9914	2 $_1$Vm about mean Imp.US.gals
				0·3159136617	Imp.pint		Imp.pint	3;1E92 22E1	$_2$Vm	2,1;7E47	
				0·3793934341	US.pint		US.pint	2;7767 7E72	$_2$Vm	2,1;4942	3 $_2$Vm about av. Imp.US.pints
	quedriVolm	$_4$Vm		1·2466413797	ml	*	ml	9;7615 2322	$_5$Vm	5,3;3253	5 ml = 4;017 quedrVolm
Mass (symbol m)											
7.	Maz	Mz	VmDz	25·8503556494	kg	*	kg	5;6212 4457	$_2$Mz	2,2;5898	4 Mz is a little over 100 kg.
				56·9902828681	lb		lb	2;6322 7482	$_2$Mz	2,1;4062	1 lb over half cwt
	dunaMaz	$_2$Mz		3·7224512135	tonne		tonne	3;2826 3384	$_1$Mz	1,1;8321	100 000 lb = 1;02 $_3$Mz
	triniMaz	$_3$Mz		0·5276878043	oz		oz	1;2827 E668	$_3$Mz	3,0;E098	$_3$Mz just over half ounce
	quedriMaz	$_4$Mz		1·2466413797	gm	*	gm	9;7615 2322	$_5$Mz	5,3;3253	5 gm is virtually 4 $_4$Mz
Density (symbol)											
8.	Denz = Mz/Vm	Dz	Max.density of water at 2E Prem	999·9720008	kg/m^3	*	kg/dm^3	1;0000 6E73	Dz	0;0000	
Velocity squared (symbol v^2)											
9.	Vlov	Vv	Vl^2	2·9006639794	m^2/s^2		m^2/s^2	0;4178 85E7	Vv	1,2;06EE	
Momentum (symbol mv)											
7.	Mav	Mv	MzVl	44·0266086711	kg m/s		kg m/s	3;32E7 3114	$_2$Mv	2,1;8623	
				318·4450928058	lb ft/s		lb ft/s	5;5149 196E	$_3$Mv	3,2;5344	
Force (symbol F)											
E.	Mag	Mg	MzG	253·5932659458	newton		N	6;9928 4537	$_3$Mg	3,2;9280	4 Mag is 1·0144 kilonewton.
				25·8593164787	kgf		kgf	5;6926 4071	$_2$Mg	2,2;5887	Figures differ from those
				57·0100381234	lbf		lbf	2;6388 5635	$_2$Mg	2,1;405E	for mass due to variance in standards of g.
Tension (symbol)											
10.	Tenz	Tz	Mg/Gf	857·652759595	N/m		N/m	2;0216 E099	$_3$Tz	3,1;0165	
	quedriTenz	$_4$Tz		41·360569039	dyn/cm		dyn/cm	3;5941 1896	$_6$Tz	6,1;971E	

*In October 1983 the General Conference on Weights and Measures redefined the metre to derive from the velocity of light. c is now = 299 792 458 m/s exactly. This is a matter of precision only and does not affect the general value. For the same reasons TGM is now precisionised on the velocity of light, see Vlos.

Present standards also allow the word "litre" to be used as a general synonym of "cubic decimetre", but the kilogramme has remained unaltered. 1 kg of pure water at maximun density still occupies 1·000028 dm^3. This discrepancy is precluded from the TGM Denz and related units, and accounts for apparent discrepancies between mass and non-litre volume figures. The Maz is defined as the mass of 1 Volm of pure water at maximum density.

T G M		SI and other equivalents		Decimal units	Conversion Dozenal		Dublog	
Ser. No.	Unit Abbrev.							
Pressure, Stress (symbol p)								
11.	Prem Pm Mg/Sf	2900·582763	N/m^2	N/m^2	7;1953 9173	$_4$Pm	$\bar{4}$,2;2077	
		0·4206939918	lb/in^2	lb/in^2	2;4635 6972	Pm	1;2727	
		21·76	mmHg	mmHg	6;75	$_2$Pm	$\bar{2}$,2;8871	Based on density Hg = 11;71 (13·59)
		0·85669	inHg	inHg	1;2011	Pm	0;2817	
quedraPrem	^{4}Pm	60·1464841756 x 10^6	N/m^2	MN/m^2	2;4891 2427	^{2}Pm	2,1;3145	
		3·8944243812	ton/in^2	ton/in^2	3;0E86 50E6	^{3}Pm	3,1;7596	
11,1 Atmoz	Atz 2E Pm	$1·015204 \times 10^5$	N/m^2	Atm.	0;EE88	Atz	3;6E20	Standard atmospheres: Atz TGM. Atm SI = $1·01325 \times 10^5$ N/m^2
Work or Energy, Heat, etc. (symbol W) (H, e or E not recommended)								
12.	Werg Wg MgGf	74·9831954874	J	J	1;E066 0616	$_2$Wg	$\bar{2}$,0;E369	Wg is 75 J. J is 2 $_2$Wg
		55·3047707318	ft-lbf	ft-lbf	2;72E3 5222	$_2$Wg	$\bar{2}$,1;4698	
		17·9149911570	cal 15°	cal 15°	8;0557 1222	$_2$Wg	$\bar{2}$,3;00E2	
		0·0711051221	BTU	BTU	12;0920 6882	Wg	1,0;2817	
quenaWerg	^{5}Wg	5·1828384721	kWh	kWh	2;3942 9107	^{4}Wg	4,1;2650	
12,1 electron	Pel ePl	$1·3959244694 \times 10^{-16}$	J	J x 10^{-15}	7;1E62 8767	ePl	2;2109	See also page .
Power (symbol P)								7 Pov is 3 kilowatts
13.	Pov Pv Wg/Tm	431·9032060077	J/s or W	W	4;0016 7091	$_3$Pv	$\bar{3}$,2;0007	The dúniPov is 3 watts
		318·5554794154	ft-lbf/s	ft-lbf/s	5;5116 1223	$_3$Pv	$\bar{3}$,2;5335	
		0·5789587212	HP	HP	1;8888 0371	Pv	0;9566	
Viscosity (symbols, dynamic η, kinematic ν)								
14.	Viscod Vsd MgTm/Sf	503·5733963715	N s/m^2	N s/m^2	3;5217 1036	$_3$Vsd	$\bar{3}$,1;9412	
15.	Viskin Vsn Sf/Tm	0·50358749643	m^2/s	m^2/s	1;E9E4 6851	Vsd	0;E272	
Note: MgTm/Sf = (Gf^3DzGf/Tm^2) x Tm/Gf^2 = SfDz/Tm, so 1 Viscod = 1 Viskin x 1 Denz								
Plane Angle (symbol θ)								
16.a Radian	rad) Arc =	57°.2957795131		degree	2;6127 3032	$_2$rGf	$\bar{2}$,1;3E56	
or radiFut	rGf) radius							
16.b Pi	Pi π radians	180° or semicircle		15°	1 zeniPi			
duniPi	$_2$Pi	1°15′		1°	0;9724 9725	$_2$Pi	$\bar{3}$,3;3126	4 $_2$Pi = 5°
triniPi	$_3$Pi	6′15″		1′	1;E059 1534	$_4$Pi	$\bar{4}$,0;E363	4 $_3$Pi = 25′
quedriPi	$_4$Pi	31″.25		1″	4;7367 5233	$_6$Pi	$\bar{6}$,2;2549	4 $_4$Pi = 125″
queniPi	$_5$Pi	2″.60416̇						
Solid Angle								
17.Steradian	Sr) $\frac{\text{Surf}}{(\text{Gf radius})^2}$	1 $\frac{m^2}{(m \text{ radius})^2}$						Total solid angle of sphere is 4π qSf
quariSurf	qSf)							

Angular Velocity (symbol ω)									
18. radiVlos	rVl	rGf/Tm	5·76	rad/s	rad/s	2;1	$_1$rVl	$\bar{1}$,1;0859	zeniradiVlos = Vl(circumf.)/Gf(rad.)/zen
Angular Acceleration (symbol α)									
19. radiGee	rG	rGf/Tm^2	33·1776	rad/s^2	rad/s^2	4;41	$_2$rG	$\bar{2}$,2;14Ɛ6	Accel.of frictionless windlass (rad 1Gf) loaded then released
Frequency or Revolution (symbol f)									
1Z. *Freq	Fq	2Pi/Tm	5·76	c/s or Hz	Hz	2;1	$_1$Fq	$\bar{1}$,1;0859	50 Hz = 8;82Fq | 144Hz= 21 Fq
(*Cim in earlier edition)			345·6	RPM	RPM	5	$_3$Fq	$\bar{3}$,2;3Z44	60 Hz = Z;5 Fq | 300Hz= 44;1 Fq
trinaFreq	^{3}Fq		9·95328	kHz	10 kHz	1;0081 4	$_3$Fq	3,0;00Ɛ8	100Hz=15;44Fq | 1 kHz=125;74Fq
									1 curie = 1;3 $_3$Fq
Angular Momentum, Moment of Momentum (symbol L)									
1Ɛ. radaMav	RMv	Mv x Gf (rad)	13·0179158832	kg m^2/s	kg m^2/s	Ɛ;0826 9Ɛ96	$_2$RMv	$\bar{2}$,3;573Z	
Torque, Turning Moment, Moment of Force (symbol T)									
20. radaMag	RMg	Mg x Gf (rad)	74·9831954874	N m	N m	1;Ɛ066 0616	$_2$RMg	$\bar{2}$,0;Ɛ369	
Moment of Inertia, Mass in rotation (symbol I)									
21. quaraMaz	QMz	RMg/rG	2·2600548408	kg m^2	kg m^2	5;386Ɛ Ɛ970	$_1$QMz	$\bar{1}$,2;4ZZ1	

Work or Energy in rotation (symbol W):- RMg x rGf = MgGf = Werg (see unit 12)

Centripetal Acceleration = v^2/r, i.e. radiVlov, = G x rGf, = G for radian (rGf) = 1. (see unit 2)

Centripetal or Centrifugal Force:- Mag (x radian). (see unit Ɛ)

Electric Current (symbol I, or i for instantaneous value)									
22. Kur	Kr	$\sqrt{Mg/Mb}$	0·4957220687	amp	A	2;0259 Z834	Kr	1;0195	Two to the amp.
queniKur	$_5$Kr		1·9921958137	μA	μA	6;0347 4748	$_6$Kr	$\bar{6}$,2;7107	queniKur is two microamps
quedraKur	^{4}Kr		10·2792928167	kA	kA	1;2013 142Z	^{3}Kr	3,0;281Z	Ten and a bit kA to the ^{4}Kr
Magneto-Motive Force (symbol NI, N = No. of turns. If electron path is straight magnetic flux is circular, and vice versa)									
23. Kurn	Kn	KrN	0·4957220687	AT	AT	2;0259 Z834	Kn	1;0195	
Electro-Motive Force, Potential (symbol E, or e for instantaneous value)									Kr x Pl = Pv
24. Pel	Pl	Vl$\sqrt{MgMb}$	871·2607996978	volt	kV	1;1933 Ɛ2Z1	Pl	0;2477	7 kV is 8 Pl
zenaPel	$_1$Pl		10·4551295964	kV	10 kV	0;Ɛ589 3Ɛ05	$_1$Pl	3;62Ɛ2	zenaPel is just over ten kV
dunaPel	$_2$Pl		125·4615551565	kV	MV	7;Ɛ791 87Ɛ2	$_2$Pl	$\bar{2}$,2;ƐƐ2Z	dunaPels 8 to the megavolt
zeniPel	$_1$Pl		72·6050666415	V	100V	1;463Ɛ Ɛ273	$_1$Pl	$\bar{1}$,0;5661	240Vis virtually ≠340 $_3$Pl
duniPel	$_2$Pl		6·0504222201	V	10V	1;79ƐƐ Ɛ23Ɛ	$_2$Pl	$\bar{2}$,0;8847	110V is ,, ≠160 $_3$Pl
triniPel	$_3$Pl		0·5042018517	V	V	1;Ɛ972 4771	$_3$Pl	$\bar{3}$,0;Ɛ232	Two to the volt
hesiPel	$_6$Pl		0·2917834790	mV	mV	3;5162 48Z9	$_6$Pl	$\bar{6}$,1;93Z8	
akiPel	$_8$Pl		2·0262741596	μV	μV	0;5Ɛ09 6893	$_8$Pl	$\bar{9}$,2;6963	Microvolts two to the akiPel

The same figures apply for conversion of the energy units electron-Pel and electron-volt

Ser. No.	Unit	Abbrev.	Origin	SI and other equivalents		Decimal units	Conversion Dozenal		Dublog	
Resistance (R), Reactance (X), Impedance (Z)										Og x Kp = Tm
25.	Og	Og	Pl/Kr	1757·55903297	Ohm	kilohm	6;9Ɛ22 2121	$_1$Og	$\bar{1}$,2;9310	4 Og is 7 kilohm
	trinaOg	$_3$Og		3·0370620090	Megohm	Megohm	3;Ɛ4Ɛ7 992Ƶ	$_2$Og	2,1;Ɛ955	Megohm is 4 dunaOg
	triniOg	$_3$Og		1·0171059219	Ohm	Ohm	0;Ɛ96Ɛ 3105	$_3$Og	$\bar{4}$,3;6886	The ohm is a triniOg
Conductance (G), Susceptance (B), Admittance (Y)										
26.	Go	Go	Kr/Pl	568·9709314098	µMho	mMho	1;9110 8Ɛ1Ƶ	Go	0;991Ƶ	
	trinaGo	$_3$Go		0·9831817695	Mho	Mho	1;0256 8601	$_3$Go	3,0;0363	The mho is a trinaGo
Quantity or Charge (symbol Q)										
27.	Quel	Ql	KrTm	86·0628591502	mCoulomb	mC	1;80Ɛ3 4748	$_2$Ql	$\bar{2}$,0;8ƵƐ3	
	zenaQuel	$_1$Ql		1·0327543098	Coulomb	C	0;Ɛ752 4207	$_1$Ql	3;6566	The coulomb is a zenaQuel
Capacity (symbol C)										Kp x Og = Tm
28.	Kap	Kp	Ql/Pl	98·7796755920	µFarad	Farad	5;Ƶ376 5921	^{3}Kp	3,2;6734	The Kap is virtually 100 µF
	zeniKap	$_1$Kp		8·2316396327	µF	µF	1;55Ɛ0 88ƵƐ	$_2$Kp	$\bar{2}$,0;6638	
	queniKap	$_5$Kp		0·3969733619	nF	nF	2;628Ɛ 2ƵƵ2	$_5$Kp	$\bar{5}$,1;3ƐƐ3	The queniKap is 400 picofarad
	akiKap	$_8$Kp		0·2297299548	pF	pF	4;429Ƶ 5ƐƐ8	$_8$Kp	$\bar{8}$,2;156Ƶ	
Permittivity (symbol ϵ)										
29.	Mit	Mt	1/MbVv	334·0729930165	µF/m	µF/m	5;20Ƶ1 5093	$_3$Mt	$\bar{3}$,2;454Ƶ	
Magnetic Flux (symbol Φ, or φ for instantaneous value)										
2Ƶ.	Flum	Fm	MbKrGf	151·2605555031	weber	Wb	0;Ɛ510 7Ɛ98	$_2$Fm	$\bar{3}$,3;6202	Weber just under the duniFlum
	hesiFlum	$_6$Fm		50·6568539895	µWb	100µWb	1;Ɛ832 2Ƶ0Ɛ	$_6$Fm	$\bar{6}$,0;Ɛ936	
Magnetic Flux Density (symbol B)										
2Ɛ	Flenz	Fz	Fm/Sf	1730·1080862416	Tesla	T(=Wb/m^2)	0;ƐƵ2 8980	$_3$Fz	$\bar{4}$,3;6ƐƐ9	The tesla is a triniFlenz
	triniFlenz	$_3$Fz		1·0012199573	T	mT	1;8864 1939	$_6$Fz	$\bar{6}$,0;9546	
	akiFlenz	$_8$Fz		4·0236784550	µT	µT	2;Ɛ955 Ɛ053	$_9$Fz	$\bar{9}$,1;6Ɛ01	$_8$Fz is 4 µT. µFz is 3 $_9$Fz
Inductance, Self- (L) and Mutual- (M), generation of emf										
30.	Gen	Gn	MbGf	305·1317765583	henry	H	5;7ƐƵ2 7271	$_3$Gn	$\bar{3}$,2;6029	
	hesiGen	$_6$Gn		0·1021880146	mH	mH	9;9520 0Ɛ47	$_6$Gn	$\bar{6}$,3;35Ƶ4	hesiGens ten to the millihenry
Reluctance (symbol S)										
31.	Lukt	Lk	Kn/Fm	0·0032772725649	AT/Wb	AT/Wb	2;1516 Ɛ863	^{2}Lk	2,1;1001	
Permeability (symbol µ)										Basis of electrical units.
32.	Meab	Mb	Neen($\mu_o/2\pi$)	1031·9560704exact H/m = $2 \times 10^{-7}/\not{\varepsilon}10^{-9}$		H/m	1;8116 28exact = $\not{\varepsilon}10^{-9}/2 \times 10^{-7}$	$_3$Mb	$\bar{3}$,0;8Ɛ12	

Power Density, Intensity (symbol I)								
33. Penz Pz Pv/Sf	4·9400798953	kW/m²	kW/m²	2;5196 0515	$_1$Pz	$\bar{1}$,1;2447	The Penz is 5kW/m²	
Radiant Power (point source)								
34.QuaraPenz QPz Pv/qSf	431·9032060077	W/Sr	W/Sr	4;0016 7091	$_3$Pr	$\bar{3}$,2;0007	For other factors see Unit 13 Called "Prad" in early edit'n	
Light Power, Luminous Flux (symbol F)								
35. Lypov Lp See page 34	1·1795967512	lumen	lm	2;2022 7ℰ81	$_1$Lp	$\bar{1}$,3;41ℰ1	1 queniPov for vis.factor 1	
Illumination (E), **Luminance or Brightness** (L or B)								
36. Lyde Ld Lp/Sf	13·4921485051	lm/m²	lm/m²	2;8028 8694	$_2$Ld	$\bar{2}$,3;4ℰ28	Ld = 1·25 lum/ft² $_1$Ld = 1·124 lum/m²	See p 34
Light Sensitivity								
37. Senz Sz 1/LdTm	0·4269149571	m²/lm s	m²/lm s	2;4137 8995	Sz	1;289ℰ	Supersedes the logarithmic unit in earlier issue.	
Luminous Intensity (symbol I)								
38.QuaraLyde QLd Lp/qSf	1·1795967512	candela or lm/Sr	cd, lm/Sr	2;2022 7ℰ81	$_1$Lr	$\bar{1}$,3;41ℰ1	Called "Luprad" in earlier edition.	
Temperature (symbol T, θ)								
39. Calg Cg								
dunaCalg	0·1 exactly	kelvin	K	2	^{2}Cg			

The following are supplementary to the earlier edition. Gaps in serial nos. are to allow for classified expansion.

Heat Capacity (symbol C), **Entropy** (symbol S)								
3Z. Calkap Ck Wg/Cg	107·9758015019	kJ/K	kJ/K	1;4006 2430	$_2$Ck	$\bar{2}$,0;4ℰ99	kJ/K are 9 to the zeniCalkap	
queniCalkap $_5$Ck	0·4339305294	J/K	J/K	2;37Z2 54ℰ5	$_5$Ck	$\bar{5}$,1;2554		
Specific Heat Capacity (symbols C_p, C_v), **Specific Entropy**								
3ℰ. Calsp Csp Wg/CgMz	4·1769561304	kJ/K kg	kJ/K kg	2;Z584 6983	$_1$Csp	$\bar{1}$,1;632Z	Min Sp.H.water = 4·1779·kJ/K kg	
quedriCalsp $_4$Csp	0·2014349986	J/K kg	J/K kg	4;ℰ2ℰ5 4908	$_4$Csp	$\bar{4}$,2;38Z6	5 to the quedriCalsp	
Thermal Conductivity (symbol k)								
42. Caldu Cdu WgGf/SfCg	2·1034039851	MW/m K	kW/m K	9;Z371 9ℰ98	$_4$Cdu	$\bar{4}$,3;3749		
quedriCaldu $_4$Cdu	101·4373063783	W/m K	W/m K	1;5050 8ℰ14	$_2$Cdu	$\bar{2}$,0;6096		
Temperature Gradient (symbol dθ/dx)								
49. Temgra Tgr Cg/Gf	2·3486120262	mK/m	K/m	2;ℰ594 9856	^{2}Tgr	2,1;6928		
dunaTemgra ^{2}Tgr	0·3382001318	K/m	K/cm	2;0782 40Z6	^{4}Tgr	4,1;0558		
quedraTemgra ^{4}Tgr	48·7008189752	K/m	K/mm	1;8649 ℰ489	^{5}Tgr	5,0;9371		
Specific Energy, Specific Latent Heat (symbol L)								
4ℰ. Wesp Wsp Wg/Mz	2·9006639794	J/kg	J/kg	4;1788 5166	$_1$Wsp	$\bar{1}$,2;06ℰℰ	1 Rœntgen=4;ℰ22 $_3$Wsp	
quedraWesp ^{4}Wsp	60·1481682772	kJ/kg	kJ/kg	2;488ℰ 98Z0	^{2}Wsp	2,1;3144		
hesaWesp ^{6}Wsp	8·6613362319	kJ/g	kJ/g	1;4761 07Z1	^{5}Wsp	5,0;578Z		

Ser. No.	Unit	Abbrev.		SI and other equivalents		Decimal units	Conversion Dozenal		Dublog	
Flow										
53.	Flo	Fl	Vm/Tm	0·1489022177	m^3/s	m^3/s	6;870Ɛ 2126	Flo	2;8Ɛ79	
				148·89804854	litre/s	li/s	Ɛ;731Ƶ 7139	$_3$Flo	$\bar{3}$,3;6535	duniFlo is a litre per sec.
				5·2584321917	ft^3/s	ft^3/s	0;2347 469Ƶ	Flo	$\bar{1}$,1;234Ƶ	
	duniFlo	$_2$Fl		8·9341330612	m^3/min	m^3/min	1;414Ɛ Ƶ02Ɛ	$_1$Flo	$\bar{1}$,0;5136	
				2·1910134132	ft^3/min	ft^3/min	5;5881 4451	$_3$Flo	$\bar{3}$,2;5535	
				13·6474701869	Impg./min	Impg./min	Ƶ;6749 Ɛ590	$_4$Flo	$\bar{4}$,3;4970	
				16·3897963520	USgal/min	USgal/min	8;9521 6679	$_4$Flo	$\bar{4}$,3;1757	
Sound Intensity, Loudness										
56.	Zond	Zd	*	$4·095558148 \times 10^{-10}$	$(N/m^2)^2$	$(N/m^2 \times 10^{-5})^2$	2;Ɛ1Ɛ0 6795	$_1$Zd	$\bar{1}$,1;6740	

*=The loudness of a sound of frequency ≠100 Freq (829·4 Hz) and root mean square pressure of 3 akiPrem (2×10^{-5} N/m^2). Called the Threshold of Hearing, it is the softest sound just audible to those of average hearing. Vibration intensity is proportional to the square of the pressure. Sound intensity or loudness varies also with frequency, but hardly at all from about 800 Hz to 1400 Hz which spans both TGM reference (=829·44 Hz) and the SI reference 1000 Hz.

Specific Volume										
58.	Vosp	Vsp	Vm/Mz	$1·000028 \times 10^{-3}$	m^3/kg	m^3/kg	6;Ɛ3Ɛ7 Ɛ74Ɛ	^{2}Vsp	2,2;9672	Conversion figures are simply the SI litre/m^3 discrepancy
Activity										
5Ƶ.	Ag	Ag	MvGf	13·0179158832	$kg\,m^2/s$	$kg\,m^2/s$	Ɛ;08Ƶ6 Ɛ6Ɛ6	$_2$Ag	$\bar{2}$,3;573Ƶ	Ag=MvGf=WgTm=MzSf/Tm
Electric Dipole Moment (symbol p_e)										
60.	radaQuel	RQl	Ql x Gf(rad)	$2·5447316859 \times 10^{-2}$	C m	C m	3;3368 ƐƐ86	^{1}RQl	1,1;8653	
Resistivity (symbol ρ)										
61.	Rezy	Ry	OgSf/Gf	519·6801739150	$\Omega m^2/m$	$\Omega m^2/m$	3;3Ƶ99 8926	$_3$Ry	$\bar{3}$,1;8974	Though arithmetically Sf/Gf=Gf
	quedriRezy	$_4$Ry		2·5061736782	$\Omega cm^2/cm$	$\Omega cm^2/cm$	4;955Ɛ 7418	$_5$Ry	$\bar{5}$,2;3144	here it means cross sect/length
Conductivity (symbol σ)										
62.	Eldu	Edu	GoGf/Sf	0·00192426044	mho m/m^2	mho m/m^2	3;7381 Ɛ410	^{2}Edu	2,1;1276	
	quedraEldu	^{4}Edu		0·3990146448	mho cm/cm^2	mho cm/cm^2	2;6018 0261	^{4}Edu	4,1;3ƵƵ5	
Ionic Mobility (symbol u_i)										
64.	Imo	Im	Vl/Egr	0·000577998570	$m^2/V\,s$	$m^2/V\,s$	1;0021 3693	^{3}Im	3,0;0030	trinaImo is sq m per volt-sec
				5·7799857012	$cm^2/V\,s$	$cm^2/V\,s$	2;0ƵƐ6 760Ɛ	$_1$Im	$\bar{1}$,1;0792	
Electric Flux Density (symbol D)										
66.	Quenz	Qz	Ql/Sf	0·9843812093	C/m^2	C/m^2	1;0235 0153	Qz	0;0333	Quenz is a coulomb per sq m

Electrochemical Equivalence (symbol z)								
68. Depoz Dp Mz/Ql	300·365987195	kg/C	kg/C	5;9051 9ℰ05	$_3$Dp	$\bar{3}$,2;6360		
hesiDepoz $_6$Dp	1·0059196138	g/C	g/C	0;ℰℰ19 ℰ819	$_6$Dp	$\bar{7}$,3;6ℰ01	hesiDepoz is a gram/coulomb	
Potential Gradient (symbol dE/dx)								
69. Elgra Egr Pl/Gf	2·9466051727	kV/m	kV/m	4;0ℨ53 0174	$_1$Egr	$\bar{1}$,2;0389		
quedriElgra $_4$Egr	0·1421009489	V/m	V/m	7;0544 5283	$_4$Egr	$\bar{4}$,2;9944		
Magnetic Moment (symbol T)								
70. radaFlum RFm Fm x Gf(rad)	44·7251616108	Wb m	Wb m	3;2776 ℰ581	$_2$RFm	$\bar{2}$,1;82ℰ0		
Magnetic Field Strength or Gradient (symbol H)								
79. Magra Mgr Kn/Gf	1·6765326896	AT/m	AT/m	7;1ℨ84 7356	$_1$Mgr	$\bar{1}$,2;ℨ027		
Light Quantity								
81. Lyqua Lq LpTm	0·2047911026	lum s	lum s	4;ℨ71ℨ 4954	Lq	2;3553		
Wave Number (symbol ν), **Lens Power** (f^{-1})								
83. Perfut PGf 1/Gf	3·3820013177	dioptre or m^{-1}	diopt., m^{-1}	3;66ℰ3 4543	$_1$PGf	$\bar{1}$,1;9ℰ12		
Light Efficiency								
85. Lytef Lf Lp/Pv	2·7311599794 x 10^{-3}	lum/W	lum/W	2;6618 ℨ247	^{2}Lf	2,1;41ℨ6		
quenaLytef ^{5}Lf	679·6	lum/W					See page 34	
Specific Optical Rotation (symbol α)								
8ℰ. Crosp Osp rGf/GfDz	0·0033820960138	rad m^2/kg	rad m^2/kg	2;0781 1925	^{2}Osp	2,1;0557	Metric $m^2/kg = /m(kg/m^3)$	
	0·33820960138	rad dm^2kg	rad dm^2/kg	2;ℰ593 1131	Osp	1;6927	$dm^2/kg = /dm(g/cm^3)$	
Amount of Substance								
90. Molz Mlz M items	25·8503556494	kilomoles	kmol	5;6ℨ12 4457	$_2$Mlz	$\bar{2}$,2;5898		
quedriMolz $_4$Mlz	1·2466413797	mol	mol	9;7615 ℨℨℰ2	$_5$Mlz	$\bar{5}$,3;3253		
Molzar Extinction or Absorption (symbol ϵ)								
91. Surfolz Slz Vlz/Gf	3·3820960138	mm^2/mol	mm^2/mol	3;66ℰ1 3886	$_1$Slz	$\bar{1}$,1;9ℰ12		
dunaSurfolz ^{2}Slz	4·8702182598	cm^2/mol	cm^2/mol	2;5698 6ℰ07	^{1}Slz	1,1;3741		
quedraSurfolz ^{4}Slz	0·7013114294	dm^3/mol cm	dm^3/mol cm	1;513ℰ 5688	^{4}Slz	4,0;6186		
hesaSurfolz ^{6}Slz	10·0988845836	m^2/mol	m^2/mol	1;2313 6773	^{5}Slz	5,0;2ℰ20		
Molzar Volume, Molzar Refraction (symbols V_m, R_m)								
92. Volmolz Vlz Vm/Mlz	1·000028	cm^3/mol	cm^3/mol	0;ℰℰℰ 5049	Vlz	$\bar{1}$,3;7029		
hesaVolmolz ^{6}Vlz	2·9860676076	m^3/mol	m^3/mol	4;0283	^{5}Vlz	5,2;0017		
Molvity (Molarity) (Recommended symbol M_v)								
93. Molv Mlv Mlz/Vm	999·9720007840	mol/dm^3	mol/dm^3	1;88ℨ0 989ℰ	$_3$Mlv	$\bar{3}$,0;9578		

T G M		SI and other equivalents		Conversion			
Ser. No.	Unit Abbrev.			Decimal units	Dozenal		Dublog
Molmity (Molality) (Recommended symbol M_m)							
94.	Molm Mlm Mlz/Mz	1000·0	mol/kg	mol/kg	1;889Ɛ 9843	$_3$Mlm	$\bar{3}$,0;9577
Molzar Enthalpy (symbol H)							
95.	Wergolz Wlz Wg/Mlz	2·9006639794	J/kmol	J/kmol	4;1788 5167	$_1$Wlz	$\bar{1}$,2;06ƐƐ
quedra	Wergolz ^{4}Wlz	60·1481682772	J/mol	J/mol	2;488Ɛ 980Ƨ	^{2}Wlz	2,1;3144
hesa	Wergolz ^{6}Wlz	8·6613362319	kJ/mol	kJ/mol	1;4761 07Ƨ1	^{5}Wlz	5,0;578Ƨ
Molzar Conductivity (symbol Λ)							
96.	Eldulz Eul GoSf/Mlz	0·01924314319	cm^2/k mol	cm^2/k mol	4;3Ɛ72 2778	^{1}Eul	1,2;145Ɛ
quedra	Eldulz ^{4}Eul	0·3990258172	cm^2/ mol	cm^2/ mol	2;60Ƨ6 68Ɛ8	^{4}Eul	4,1;3ƧƧ4
aka	Eldulz ^{8}Eul	0·8274199345	m^2/ mol	m^2/ mol	1;2605 0507	^{8}Eul	8,0;3343
Molzar Entropy (symbol S_m)							
97.	Calgolz Clz Wg/CgMlz	4·1769561304	J/K mol	J/K mol	2;Ƨ584 6983	$_1$Clz	$\bar{1}$,1;632Ɛ
Molzar Optical Rotation (symbol α_m)							
9Ɛ.	Orolz Olz rGfVlz/Gf	3·3820960138	rad mm^2/mol	rad mm^2/mol	13;66Ɛ1 3886	$_1$Olz	$\bar{1}$,1;9Ɛ12
hesa	Orolz ^{6}Olz	10·0988845836	rad m^2/mol	rad m^2/mol	1;2313 6773	^{5}Olz	5,0;2Ɛ20

Auxiliary Units

These are of kinds already covered by the main system but deviate by factors to make them "handy" or suitable for special applications. They are given on a take or leave basis. A serial number implies the unit is deemed essential (usually due to some inescapable natural reality).

1,1 Day (Dy) = ⊄20 hours = 2 quenaTim. Hour (Hr) = 1 quedraTim
Week = 7 Dy = 1;2 hesaTim
Lunar month = ⊄24 Dy = 4;8 hesaTim
Minor month = ⊄26 Dy = 5 hesaTim
Major month = ⊄27 Dy = 5;2 hesaTim
zeniYear ($_1$Yr) = 26;52ᘔᘔ 629 Dy = 5;0ᘔ59 9057 hesaTim
1,2 Astronomical Year (Yr) 265;2ᘔᘔ6 29 Dy = 5;0ᘔ59 9057 456 sevaTim
(= 365·242 199 Dy = 31 556 925·9747 seconds)
(Minor) year = ⊄265 Dy = 5;0ᘔ sevaTim
Leap year = ⊄266 Dy = 5;1 sevaTim
Quadrennium = 3 years + 1 leapyear = ⊄ᘔ19 Dy = 1;836 akaTim
Zenade = 3 quadrennium = 2;653 trinaDay = 5;0ᘔ6 akaTim

Note: The zenade is always the same length no matter at what point of time the counting starts, unlike the decade which contains sometimes two, sometimes three leapyears. Exception: when it spans a dropped leapday at the turn of the century.

zenaYear (^{1}Yr) = 2;65ᘔᘔ ᘔ629 trinaDay = 5;0ᘔ59 9057 akaTim
(Major) century (i.e. spanning the year 2000 or 2400, etc.)
= 8;4 zenade = ⊄21 quadrennium = 1;9179 quedraDay = 3;6336 neenaTim
(Minor) century (spanning 1800, 1900, 2100, 2200, etc)
= ditto minus 1 day = 1;9178 quedraDay = 3;6335 ᘔ3 neenaTim

We do have to live with centuries pro tem. The dropping of the leapday falls due astronomically every ᘔ8 (128) years, not at the century.

dunaYear (^{2}Yr) = 2;65ᘔᘔ ᘔ629 quedraDay = 5;0ᘔ59 9057 neenaTim

A handy way to express date and time as an absolute measure, is to follow the normal way of counting anything else, putting larger units first, and counting only completed units, e.g. 9-45 p.m. on June 25th 1984 is ⊄17c6ᘓy5m20d19;9h---- meaning onezen-seven centuries + sixzen-elv years + 5 months + twozen days + 19;9Hr

Trifut (TGM yard) = 3 Gf (0·97 yd). zenaTrifut = ⊄30 Gf = 10·6446 metres
trinaTrifut (TGM mile) = ⊄3000 Gf = 1676·2 yd = 1·53282 kilometres.
Chenz (TGM chain) = ⊄100 Links of 0;6 Gf (5·82 ins.not 7·92)
= ⊄60 Gf (23·282 yd not 22)
Nafut (Nf) (navigation) = Equator/⊄4000 0000 i.e. 3 akiEquators
= 0;ᘓ420 5939 Gf (0·279 615 204 m) = 0·917 34 ft

4 sevaNafut = 1 Equator. 2 hesaNafut = 1 zeniPi (15°) of longitude at Equator

3,1 Astru (Au) (Astronomical Unit, = mean distance sun-Earth)
= 8;207ᘔ 420 dexaGrafut (1·495 978 7 x 10^{11} m)
Parallax e.g. of 1 hesiRadian based on 1 Astru = 1 hesaAstru
(Traditional parsec = ⊄9 ᘓ449 Astru (206 265, i.e. no. of secs in a radian)
3,2 Lightyear (Ly) (distance travelled by light in 1 year)
= 2;0ᘓ06 1606 zentrinaGrafut (9·460 528 x 10^{15} m)
Lighttim (Ltm) = 4ᘔᘓ4 9923 Grafut exactly

Navlos = 1 Nf/Tm = 0;ᘓ420 5939 Vl (5·797 893 518 km/hr = 3·130 612 knot(int)
4,1 Lightvlos (c) (velocity of light) = 4ᘔᘓ4 9923 Vlos exactly
= 299 792 458 m/s exactly

Tumblol (Tgm pint) = 3 $_2$Vm = 0·94774 Imp.Pint = 1·13818 US Pint = ·538549 litre
Quartol (,, quart) = 6 $_2$Vm = 1·89548 ,, ,, = 2·27636 ,, ,, = 1·077098 ,,
Galvol (,, gallon) = 2 $_1$Vm = 7·58192 ,, ,, = 9·10544 ,, ,, = 4·308392 ,,
Teaspoonful: the 5 millilitre teaspoon is 4 quedriVolm

6,1 Avolz (Avz)(Avogadro volume for TGM) = Volume of one Molz of a perfect gas at Ice Point (0 d^o) and one Atmoz, = 1;0Ɛ41ƻ quedraVolm. See page 27.

7,1 emiMaz = Maz divided by Avogadro's (TGM) number = 8;9ƻ86 5 duntriniMaz
= gram ,, ,, ,, (gram) ,, = $1{\cdot}660\,57 \times 10^{-27}$ kg.
= unified atomic mass unit m_u

Oumz (TGM ounce) = 2 triniMaz = 1·055 375 6 oz(avoir).
ǂ14 oumz = ǂ28 ,, = 1·055 375 6 1b(,,)
ǂ30 oumz = 6 duniMaz = 1·077 098 kg
ǂ160 oumz = 3 zeniMaz = 1·017 68 stone
ǂ1000 oumz = 2Maz = 1·017 68 cwt

9,1 Lightvlov (c^2)(square of the velocity of light, = $1/\mu_o\epsilon_o$)
= 20;1714 5 zendunaVlov = $8{\cdot}987\,552 \times 10^{16}$ m^2/s^2

11,1 Atmoz (Atz)(TGM standard atmosphere) = 2Ɛ Prem = $1{\cdot}015\,204 \times 10^5$ Pa or N/m^2
= 1·001 928 411 decimal Standard Atmospheres
= 29·978 inches or 761·465 mm of mercury

12,1 electronPel (ePl) = electron's charge x Pel = 4;1691 50 zenqueniWerg
= 871·260 8 electron-volts = $1{\cdot}395\,924\,469\,4 \times 10^{-16}$ J
trina-lectronPel(^{3}ePl) = 1·505 538 662 MeV = $2{\cdot}412\,157\,483\,1 \times 10^{-13}$ J
1 MeV = 7;Ɛ791 87Ɛ2 ^{2}ePl = 1;4722 5897 lefiWerg

27,1 electron (e) = the charge of one electron = 4;1691 50 zenqueniWerg
= $1{\cdot}602\,189 \times 10^{-19}$ coulomb

27,2 Emelectron (Me) = the charge of 1 Molz of electrons = 25 850·36 faraday
= 5;7496 90 neenaQuel = $2{\cdot}493\,358 \times 10^9$ coulomb

36,1 Brite (Bt) = the brightness of the Sun at a distance of 2^6 i.e. ǂ54(64) lightyears.

38,1 Bril (Bl) = luminous intensity of the Sun = 1 Brite at ǂ54 Lightyears.

Note: Brils measure intensity of a source, Brites measure apparent brightness at point of observation, normally the Earth. A star emitting four times the light of the Sun is 4 Bril. If its distance happens to be ǂ54 Lightyear its apparent brightness is 4 Brite. If ǂƻ8 Ly, only 1 Bt (in accordance with the inverse square law).

39,1 decigree (d^o) = one tenth of a degree Celsius. See page 10.
18°C = 180 d^o = ǂ130 d^o