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HARMONICS TUTORIAL

Program & manual by

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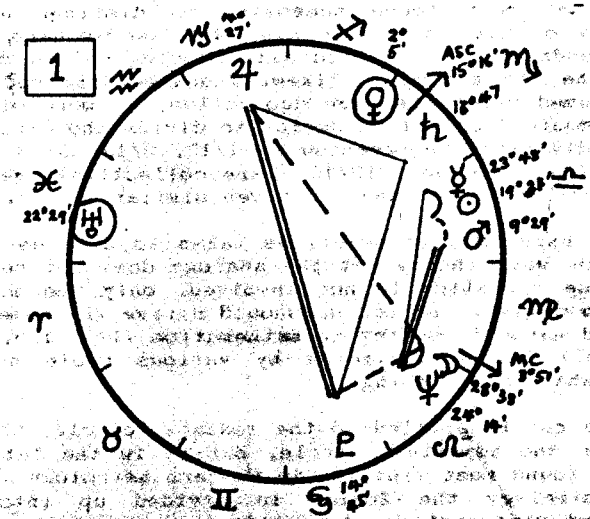
This tutorial is presented FREE.
We hope you will take the time to study it.



9 am GMT, 13th October 1925, Grantham 52°55'N 0°39'W

INTRODUCTION

This booklet and program are presented to you free, with the compliments of Astrocalc, in order to spread knowledge of harmonics - what they are, how they can be used, what the latest discoveries are. If you take the trouble to read carefully through the text and try the computer program, you will already have an enormously powerful tool at your disposal. Astrocalc do sell more sophisticated harmonics modules; more details later.

Meanwhile, please notice that sections of this booklet printed in bold type refer to the computer program, and you should not continue reading until you have used the program as instructed. So please load the program in readiness (it is called HARTUT) and when the menu appears on the screen, continue reading here:

WHAT ARE HARMONICS?

Harmonics is the name given to a comparatively new technique; one which promises to revolutionise astrology once all its implications have been explored and understood. Basically it is no more than an extension of normal aspects to include mini-aspects by smaller divisions of the circle than are yielded by the so-called major aspects (which divide the circle by 1, 2, 3, 4 and 6) and minor aspects (which do so by 8 and 12). Harmonic experimenters are prepared to look at division by virtually any number, even if the resulting aspects have no standard names: they can be identified by the harmonic number. Thus a square aspect can be called the 4th harmonic, the sextile the 6th and so on. It has not been found necessary to distinguish between multiples of the same arc; e.g. 1/8 (semisquare) and 3/8 (sesquiquadrate) are treated alike, being called octiles or simply the 8th harmonic; likewise semisextile and quincunx are subsumed under the name duodeciles, or more simply, the 12th harmonic. So, if we decide to divide the circle by say 13, the divisions represented by 1/13, 2/13, 3/13 and so on up to 12/13 - and yes, 13/13 - are collectively referred to as the 13th harmonic, and all given similar interpretation.

The name harmonics is sometimes taken to have derived from musical or wave theory but the analogy does not really hold up because vibration is not involved, only the measurement of static angles. Better we should derive the name from the so-called harmonic series in mathematics (1/2, 1/3, 1/4, 1/5 .... etc.) because dividing by various whole numbers is exactly what we are doing.

Harmonics can be applied to the zodiacal circle, the diurnal circle or the aspectual circle, but it is the latter which has been found most fruitful in Western astrology (though in Hindu astrology the Zodiac is divided up into various systems of mini-zodiacs, amounting to harmonics). For most basic purposes the definition given at the beginning of this page will be correct.

of techniques which call for 'great' accuracy and yet ignore these potential problems.

A) Distance Values. These are calculated based upon the distance of the planet from the Earth as a straight percentage of its maximum and minimum values. Thus a value of 100 will indicate that the planet is the closest it can possibly be to the earth and it may therefore have greater influence. If you see calculated tables of distance values these may not be the same as given here since there is another method of calculating distance values which gives slightly different results. These use the sine of the maximum and minimum values and the result is more akin to a 'gravitational' kind of effect. Only the LAST calculated values are shown. Values outside the range of 0 to 100 may be calculated for remote periods.

B) Delta T before 1700 and after 2000 AD. Delta T is the difference between what is called Ephemeris Time and Greenwich Mean Time. The Earth is NOT a perfectly regular time-keeper and is subject to delays and accelerations due to tides, earth-quakes, Sun spots and all manner of other irregularities within, and possibly without, the Solar System. The equations for calculating sidereal time and the planets assume that the earth behaves in a steady manner. But as it doesn't some adjustment has to be made so that there is a correlation between 'real' or Greenwich Mean Time and Ephemeris Time, at least for the 20th century. This adjustment CANNOT be predicted in advance although an equation which describes its behaviour is incorporated in the program for the 20th century. This uses observed values from 1900 to the present day. From 1990 an incremental value of +.6 second per year is used and this can be extended beyond the year 2000 if you wish. If you do this the program will also correct for dates before 1700 AD using the following equation:- .41+1.2053*T+.4992*T*T where T is Time in centuries since 1900 and the answer is in minutes. This gives a value of about 2.5 hours difference at the time of Christ. Please note that the estimated values for delta T during the 19th century were never greater than 6 secs.

C) Lines per page. The program will keep a count of the number of lines on the page and will give a 'page' throw at the appropriate point. If you want to advance the paper and still let the program keep track of where it is, use the l option in the main calculation program. If you don't want the program to take care of the line count, enter 0 in lines per page. Note that the latter will be ignored during batch processing and if you do enter 0 lines per page batch alignment will be wrong if using other than 11 inch stationery.

The Main Calculation Program

Accuracy New planetary algorithms have been calculated for us by John Dice for the outer planets (Jupiter to Pluto). These give an unprecedented 1 minute accuracy over a 5000 year period (2500 BC to 2500 AD). At the same time additional terms have been introduced to improve the accuracy of the inner planets (Sun to Mars) so that for the whole of the 5000 period these planets should be within 1 minute of longitude. In practice the accuracy will normally be much better than that, and most calculations will be to within a few seconds of arc. If, after calculating the natal chart, you press D for declinations, the program will redisplay the longitudes to 1 decimal place (ie to within 6 secs of arc).

One caveat must be made about the accuracy, namely that our calculations only take account of the latest published scientific information that we have (notably Volume 22 - most published ephemerides use Volume 12). Adjustments to the algorithms use by NASA and others are always being made. These are usually minute and will not affect the algorithms that we have used with the possible exceptions of Neptune and Pluto whose orbits have not yet been accurately observed over a full revolution. Even then any changes that may be made are unlikely to have any noticeable effect on the calculated values over the past 400 years.

Batch Input This allows you to specify the sequence of events that you want for calculating 1 or more charts. This information is then stored as a batch file and can be called up by the main calculation program. This is done at the Name stage by simply entering bnn where nn is the number of the batch file that you have created. You then carry on entering the birth data as usual then, at the okay stage, assuming that the data has been entered correctly, you should either press Y or E. Y will cause the program to create a temporary file of information concerning the chart details you have just entered. You can then enter another chart. E will tell it to end the batch input and process the charts stored according to the information given by the batch file. All output is to the printer, except when saving information to disc. This saving will ONLY be to the Client files and assumes that the Client discs are in the correct drives: ie you cannot switch discs during batch operation! For research details see page 6.

Data Entry Data input for this is the same as for previous versions, but please note the Batch input facility mentioned above. In addition, you may use / or ; or : as separators instead of a comma. Thus as well as entering 29,2,56 for the date you could enter 29/2/56 or 29:2:56 or 29;2;56 Another features means that in most cases where data is being entered, you can step back to the previous entry by entering an * Thus instead of entering the date you would simply enter an * and the program would go back to the time entry (Starword and Forecaster users please note that this is different from the method used with these programs where it is currently necessary to enter *,1,1).

Please note that the program uses the COMPUTER DATE for calculating dates and ages during batch input. It is therefore IMPORTANT that this is CORRECT.

Chart Wheel The square 'wheel' has been replaced by a proper wheel with aspect lines. This always shows the chart using the current Ascendant. Thus the Progressed chart will show the Progressed positions using the Progressed Ascendant rather than the Natal Ascendant. To print this chart it is necessary to use the MSDOS graphics screen dump: ie press Shift and the PTR Sc key together (this will NOT work with a daisy wheel printer). When the chart has finished displaying on the screen it will beep at you: press c to continue. This instruction is NOT shown on the screen otherwise it would be printed with the screen dump. This wheel CANNOT be specified within a batch file. ***The Autoexec file supplied with this program (A.BAT) will normally load the MSDOS graphics screen dump (GRAPHICS.EXE). There are many versions of this MSDOS program (may be GRAPHICS.COM) and if you experience ANY problems you should overwrite it with the one supplied with your MSDOS.***

Autogaz If you have this routine it can be accessed when required. UK users will also have the ability to input the National Grid Reference as well as the Latitude and Longitude. The program will convert the grid reference to Latitude and Longitude and store in the normal way. See Autogaz instructions within program for more details.

Progressions The house positions shown are the progressed planets in the natal chart. Where you want the progressed planets in the progressed chart reselect the house system that you are using after calculating the progressed chart. The standard house system and information will be retained and restored afterwards. One other addition to the All Progressions routine is Tertiaries - or those known as Tertiary 1. This will calculate the positions for a certain age plus the aspects using the natal orbs.

Transits The option to send transits directly to the printer now operates in a slightly different way. If you select it the output will be directed to the printer according to the way you have set it up in the configuration program. This can be either for output using 2/3 letter abbreviations or using symbols in the manner you normally specify for your printer. This is to allow you to choose the fastest output appropriate to your method of working.

Lunar Phases The Time shown will be GMT rather than Ephemeris time for the period from 1700 to 2000 AD. Outside of this period the Time shown will depend upon which option you have chosen for Delta T.

Minor Planets Natal - not Progressed - Aspects are calculated for all the planets. Please note that the positions of these planets are only approximate - normally within a degree or so for the 20th century.

The Hypothetical tenth Transpluto/Isis is no longer shown unless you also order the even more hypothetical Transneptunians. The reason for this is that it is quite obvious that the planetary elements we were given cannot be correct, and whilst we are always willing to support reasonable hypotheses in astrology, there is little point in keeping up this particular pretence. In addition, recent measurements of the size of Pluto indicate that it is much smaller than first thought and cannot possibly have caused the apparent errors between the observed and calculated motions of Uranus and Neptune which led to its discovery. These perturbations are the reason for the search for the 10th planet and if it is found it is possible that astronomers will demote Pluto to the status of Minor Planet.

The Major Planets are recognised as being Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. The names 'Minor Planet' or 'Planetoid' are given to small bodies such as the Asteroids between Mars and Jupiter. These are small lumps of rock or even ice the four largest being Ceres, Pallas, Juno and Vesta. Many thousands of these bodies exist some of which have extreme orbits taking them near the Earth (Icarus), or even near Mercury. Chiron is a recently discovered (1977) **VERY TINY** lump of rock or ice whose orbit is mainly between Saturn and Uranus - it is very probable that there are others scattered THROUGHOUT the solar system.

Errors and Omissions Any known errors and their effects will be detailed in the Configuration program.

Research Files The research file facilities provided in this program are based on the standards established by the ISDF committee. This was essentially intended for data interchange between computers, with particular reference to data transmission over telephone lines, etc. Whilst following the guide lines laid down for this we have been more concerned with producing files for use by programs or spreadsheets such as Lotus 1-2-3. We have therefore created facilities which allows the user to produce a wide variety of differing formats but which still follow the standards and guide lines mentioned above.

The creation of these various formats is established within the configuration program. Any number of formats and files may be created. These will always be named RESnn where nn is any number that you specify. Files can be renamed and when you create a new file a check is made to ensure that you do not unwittingly overwrite the old one.

The information stored on the files consists of a header record, a series of optional user-defined header record descriptions, then the chart data. The latter information can be in various formats depending upon what you have specified in the header records. This is best explained by following the questions asked by the configuration program.

1) The file can be stored either with each field as a continuous string or as separate strings. Thus if, for instance, the only data fields we ever stored were the date and time, and assuming that you didn't want to split either field into their component parts, these could be held as a single field YYYYMMDDHHMM or 2 fields (YYYYMMDD and HHMM). The advantages of the first format are that it is most suitable for spreadsheets and saves disc space. The disadvantage is the time is lost in manipulating data in any programs that may be written to use it. Thus, assuming that no additional fields are stored, the most compact storage method with minimum chart data (ie no house cusps, declinations, etc) will allow about 2500 records on a 360K disc, whereas the most profligate with declinations, etc., but still no additional fields will allow only 300. We would suggest that the most suitable method is somewhere between the two extremes and to only store those items you really need. If in doubt take the first option shown. The rest of the header fields with the values which may be stored in the record are:-

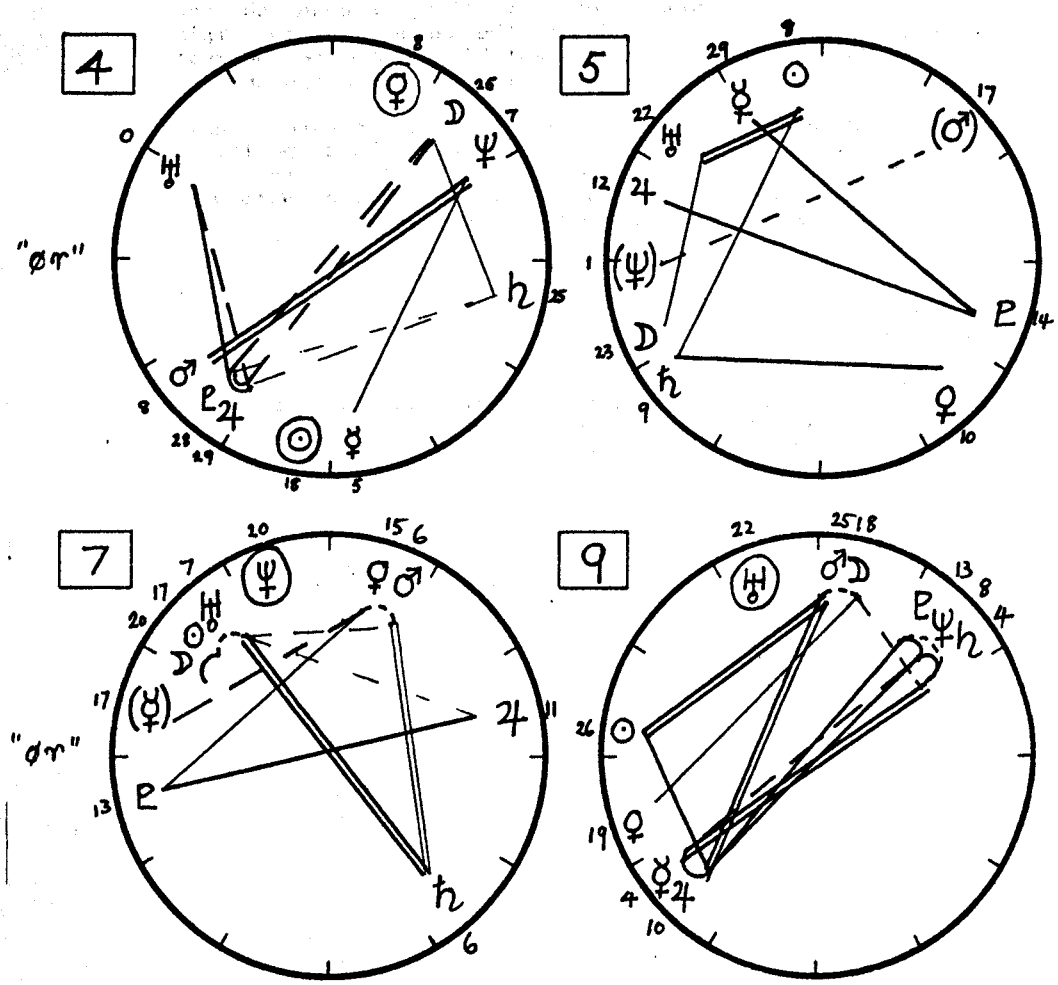
2) Date +/-YYYYMMDD or +/-YYYY with MM and DD as separate fields
3) Time (24hr GMT) HHMM or HHMMSS or separate fields or a no. from 0-24
4) Lat (south -) +/-DDMM or +/-DDMMSS or as separate fields or as a no. 0-90
   Long (east -) +/-DDDMM or +/-DDDMMSS or as separate fields or as a no. 0-180

5) Zodiac	0-3	6) House System	0-8
7) True/Apparent	0 or 1	8) Delta T	0 or 1

9) Planet data +/- SSDDMMSSHH or as separate fields or as numbers

10) Heliocentric positions	Y or N	11) House Cusps (2,3,11,12)	Y or N
12) Sex	Y or N	13) Profession	Y or N
14) Information source	Y or N	15) Time Zone	Y or N
16) East Point	Y or N	17) Vertex	Y or N
18) Declinations	Y or N	19) Latitudes	Y or N
20) True Node	Y or N	21) Pars Fortuna	Y or N
22) Other Fields	Y or N		

FOUR HARMONIC CHARTS FOR MARGARET THATCHER



COMPUTER PROGRAMS

Please note that the Harmonics Chart calculator provided in this free program is good enough for experiments, but lacks the accuracy of a more sophisticated version, because you are providing chart positions rounded to the nearest minute. This means that HC5 has them to the nearest 5', HC9 to the nearest 9' and so on. Also you had to enter the positions yourself.

Astrocalc harmonics modules will already have computer basic positions from birthdata, and moreover, will hold positions very accurately, to many places of decimals. The most sophisticated module currently available is called ***Harmonic Chart Analysis***, and has the following features:

Any HC number calculated
Includes Angles and Node
Automatic harmonic orbs (User sets conjunction orb)
Finds major aspects plus octiles and duodeciles
Measures every aspect's strength and indicates what line to draw on chart
Gives aspect-strength for each planet
Reports all 3-planet configurations, with strength

This module costs £10 and is available either as an additional feature within the current harmonics modules or replaces these modules.