

RAND/USGS Planetary Geodesy (RUPG) Software

ISIS *QMATCH* Program Measurement Input and Output File

File: RUPG-FMT1001.doc

Version: 2004.12.22

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File format:

Group 1 - Header records (2 records) (Note 1):

Record 1:

Name	Columns	Format	Description (units)
-	1-18	A	Text: "Matchpoint total ="
nmea	19-24	I6	Number of measurements in file

Record 2:

Name	Columns	Format	Description (units)			
-	1-91	A	Text:			
"Point ID		FSC	LINE	SAMP CLASS	DIAMETER	Comment"

Sample (from file generated from the RAND Lunar Clementine solution, "RAND-Clem.mat"):

=>Matchpoint total =543157<=
=>Point ID

FSC LINE SAMP CLASS DIAMETER Comment<=

Group 2 - Image pixel measurements ("nmea" records) (Note 2):

Name	Columns	Format	Description (units)
Pointid (unitless). Note 3.	1-32	A32	Alphanumeric point identification
Imageid flight data sequence (FSC) or similar image number (unitless). Note 4.	34-43	I10	Integer image identification. Usually
Line	44-51	F8.2	Line measurement on image (pixels).
Sample	52-59	F8.2	Sample measurement on image (pixels).
Class	63	A1	Measurement class. Possible values are: A - Previous measures, not used currently. M - Manually measured. T - Truth measure to which others are tied. S - Automatic sub-pixel measurement.

U - Unmeasured (e.g. predicted/unverified).

Diameter 65-82 F18.4 Feature size (e.g. crater diameter) (km).
If blank or "-0.0000" no value is available. Note 5.

Comment 83- A User comment. Must be quoted or not contain
spaces (default is blank)

Sample (first 10 measurements from file generated from the RAND Lunar Clementine
solution, "RAND-Clem.mat"):

Clerke	15730757	188.00	135.00	M	-0.0000	File=../moon0005/mea040216a.dat
Lemonni	15730843	88.00	240.00	M	-0.0000	File=../moon0005/mea040216a.dat
Borel	15840852	92.00	238.00	M	-0.0000	File=../moon0005/mea040216a.dat
Deseill	29322612	36.00	10.00	M	-0.0000	File=../moon0005/mea040216a.dat
Brewste	15530789	257.00	233.00	M	-0.0000	File=../moon0005/mea040216a.dat
Alfraga	16140153	153.00	290.00	M	-0.0000	File=../moon0005/mea040216a.dat
TaylorD	16211943	191.00	210.00	M	-0.0000	File=../moon0005/mea040216a.dat
Kant_P	29421476	132.00	169.00	M	-0.0000	File=../moon0005/mea040216a.dat
Dollond	29521258	183.00	218.00	M	-0.0000	File=../moon0005/mea040216a.dat
Archime	3703918	176.00	139.00	M	-0.0000	File=../moon0005/mea040216a.dat

Notes:

1. In some non-standard versions of files in this format, the header records may be missing, or the number of records may be missing or incorrect (or given as "XXXXXX").
2. The ISIS *Qmatch* program reads and writes the Group 2 records in free format, with blanks for field separation. However, the nominal format is given here, and this is in fact currently required by various RUPG utility programs which read this format.
3. The RUPG software currently allows for only 5 character point identifications (7 characters for lunar image measures), in a right justified (A5 or A7) format. (The RUPG *rftmat* utility program will convert *Qmatch* output files with 5 or 7 character point identifications as needed.)
4. ISIS 2.1 currently requires that image identifications be integer*4 numbers. Future versions of ISIS (e.g. 3.x) will allow for alphanumeric identifications, probably up to at least 32 characters.
5. Some early non-standard versions of file in this format had the resolution given in km/pixel, rather than feature size.

Other notes:

- A. In some non-standard versions of files in this format, lines beginning with "#" should be treated as comments.
- B. The user must currently take care to keep measurement files separated as much as possible by mission (and/or camera), in cases where image numbers are not unique across missions. A future version (e.g. for ISIS 3.x) of this format will include a camera/mission identifier.
- C. ".mat" (for matchpoint) is often used as the file name extension of files of this type. However, note that this is an unusual "reserved" special extension in Microsoft Windows for files of type "Microsoft Access Table Shortcut" and it might be preferable to simply use the ".dat" extension.

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References:

ISIS: See <http://isis.astrogeology.usgs.gov/> for general information.

RUPG: Under construction. But see <http://astrogeology.usgs.gov/Projects/ControlNetworks/> for example input and output files.

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Document History:

Begun 2004.12.22 by B. Archinal

Modifications:

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