Readme for 02/24/2012

If you're turning data into PJ, or if you're communicating with other single-cam users, some of my batch scripts might be interesting.  They can be found at <http://davesamuels.com/cams>. Download the AutoCams\*.zip file and expand them to C:\CAMS.

Version 0.973 has some bug fixes and some improvements:

* FTP\_CaptureAndDetect.exe and FTP\_Reprocess.exe have been modified to allow another command line option that controls whether to discard images where the moon is present. I haven't tested it yet. The new argument is the value that represents what percentage of the moon that can be within the FOV for it to process the FF file. It works like this:
  + If the argument is greater than 1.0, then it will act the old way and will always process every FF file no matter where the moon is.
  + If the argument is equal to 0.0, it will never process an FF file if the moon is within the FOV.
  + If argument is less equal to 0.5, it will process an FF file even if the moon is present in the FOV and the phase is before first quarter or after last quarter.
* AutoCams.bat has the following improvements:
  + The menu now displays the number of files, the meteor counts for the archivedfiles and the confirmedfiles.
  + Option "3. Choose Captured Date" now provides the captured file listing as a numbered list of choices so you no longer have to type the date. It also supports the ability to enter the date as it did before. Another enhancement is that it allows you to enter "S" to list the SubmissionFiles directories and to be able to select one of those. If you hit Enter, without entering anything to the date prompt, it will not make any chnages and return to the menu. Finally, it will automatically go to Choose CapturedFiles and then to Choose ArchivedFiles, perform the file and meteor count searches and display those values on the menu.
  + 7. FTP\_MeteorCal\_Update now passes the ArchivedFiles directory and the Cal directory on the command line so that you don't have to navigate with the dialog boxes to provide those values. It does not apply the new calibration file to the detect file.
  + 8. FTP\_MeteorCal\_AutoUpdate is a new program that iteratively performs the functions of FTP\_MeteorCal\_Update. It processes the calibration as parameterized by command line arguments, which specify the Minimum number of acceptable calstars and a maximum Mean O-C value. The value used in the AutoCams menu system is 100 stars and Mean O-C better than 1.0. The program outputs an AutoCalUpdate.log file in the source directory. If an autocal is not achieved, AutoCams stops there. In the case of an autocal failure, the AutoCalUpdate.log file can be examined with Notepad to see if there are any FF files that were close and use that FF file time to assist you in determining which files to use for FTP\_MeteorCal\_Update or FTP\_MeteorCal.
  + 9. Apply Cal to Archived has been improved to perform a better heuristics for determining the validity of a cal file.
  + 16. Make Transmit Zip option uses 7-zip instead of WinZip to make zip files from the command line. 7-zip is a freeware utility, whereas WinZip was running under a 45 day evaluation license.

Version 0.972 is a significant change. It provides for autonomous processing. It performs all the tasks without having to touch the computer unless something fails. Usually, it will be the calibration that fails. In that case, the Transmitted directory will not contain the zip file. Also, when you go to change the date from the AutoCams menu, it will show dates that need to be processed manually. Manual processing entails:

* Performing a FTP\_MeteorCal\_Update or FTP\_MeteorCal.
* Applying the new calibration file to the detect file
* Submission
* Making the Transmit Zip file
* Uploading the Zip file via FTP

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| CamsMenu.bat | Obsolete. It has been replaced with AutoCams.bat. |
| **AutoCams.bat** | Menu items have changed to accommodate the new autonomous mode and some updates. Some of the original options have been moved to the Utilities menu. For example, since MergeFiles was a routine that was only required if you were running the multi-tasked reprocess, it was moved to the Utilities menu. |
| AutoCams.bat.ini | Configuration file for autocams. It remembers settings, such as your camera and drive letter. Also the FTP site and credentials. |
| **FixDetectPaths.bat** | Changes the "FF folders = " and the "CAL folder = " entries in the FTPdetectinfo.txt file to match the directory that the file is currently sitting in. |
| **StageFromConfirmed.bat** replaces Submission.bat | Usage:  StageFromConfirmed [dirname]  Processes the files from the 4 main directories (working directories), Cal, ArchivedFiles, CapturedFiles, and ConfirmedFiles and *moves* them into a SubmissionFiles directory tree structure on the same drive.  The idea was to make it easier to organize these large collections of files into manageable units.  Under the SubmissionFiles directory, each batch is collected into a dirname that matches the date/time directory names.  Under SubmissionFiles\<dirname> is a copy of the files that pertain to the processing on that date, including the Cal file and the FF\*.bin file that was actually used during calibration.  The resulting tree structure is as follows, for example, supposed the date/time 20110928 for camera number 213:  **SubmissionFiles**  **2011\_09\_28\_02\_30\_15**  **ArchivedFiles**  **2011\_09\_28\_02\_30\_15**                          FF213\_2011\_09\_28\_\*.bin                          CameraTimeOffsets.txt                          FTPdetectinfo.txt                          LASTSETTINGS.txt                          ReprocessParameters.txt  **Cal**                     CAL213\_20110928\_030006\_741.txt                     CameraSites-213.txt                     CameraSites.txt  **CapturedFiles**                     2011\_09\_28\_02\_30\_01                        FF213\_2011\_09\_28\_\*.bin  **ConfirmedFiles**                     FTPdetectinfo.txt                     FF213\_2011\_09\_28\_\*.bin  **EmailFiles**                     CameraSites.txt                     CameraTimeOffsets.txt                     comments.txt                     FTPdetectinfo\_confirmed-213-84.txt                     FTPdetectinfo\_confirmed.txt                     FTPdetectinfo\_scanned-213-566.txt                     FTPdetectinfo\_scanned.txt                     LASTSETTINGS.txt                     ReprocessParameters.txt                     submit.txt  **Cal-213**                        CAL213\_20110928\_030006\_741.txt                        CameraSites-213.txt                        FF213\_20110928\_030002\_454\_0044288.bin |
| FTP\_Capture.bat replaced by FTP\_CaptureAndDetect.bat | Called from LaunchCapture.bat script. The LaunchCapture.bat script is launched by the task scheduler or run directly.  FTP\_Capture.bat does some checking and then launches FTP\_Capture.exe. |
| **FTP\_CaptureAndDetect.bat** | Called from LaunchCapture.bat script. In this release, it is compatible with the "autonomous" command line argument. The LaunchCapture.bat script is launched by the task scheduler or run directly.  FTP\_Capture.bat does some checking and then launches FTP\_Capture.exe. |
| **CaptureAndDetect.bat** | Called by LaunchCapture.bat script. It runs the capture and simultaneous performs a meteor scan. |
| **ReplaceText.exe** | A freeware utility that can find/replace text in a file much quicker than doing it with batch file language. |
| ReprocessParameters.txt | New line added to the file |
| MergeCaseFiles.bat | Script that merges the output from MakeCaseListing.bat. The MakeCaseListing.bat script produces multiple ftpdetectinfo\*.txt files along with a dummy header file. These all need to be merged into a single detect file for further processing. |
| SkippedFrames.bat | Designed to report on the number of dropped frames by examining the CapturedFiles directory. It only works using the CapturedFiles directory and only when that directory contains all the bin files from the ArchivedFiles directory also. |
| **7za.exe** | 7-zip. A freeware utility to make zip files from a command line. |
| CheckBinFileSize.bat | Iterates through the three main directories on the current drive and reports on any FF\*.bin files that aren't exactly 1,228,820 bytes in size:   - ConfirmedFiles   - ArchivedFiles   - CapturedFiles  Errors in file size can occur if the FTP\_Capture.exe program is interrupted, freezes, the EasyCAP fails or locks up, the computer reboots, etc.  This produces a **CheckBinFileSize.cleanup.bat** script, which contains commands to move any errant files to an immediate subdirectory of its source called "<path>**\bad**". |
| MeteorCount.Presubmission.bat  **MeteorCount.Submission.bat**  MeteorCount.Submitted.bat | These three scripts can be used to report on the meteor counts and comments from different areas.  **Presubmission** works from the .\ConfirmedFiles directory.  **Submission** works from the .\SubmissionFiles\<date>\EmailFiles directory.  **Submitted** (broken) Supposed to work from the .\Submitted\<date>\EmailFiles directory. |
| ListDrives.bat | Uses WMIC to get drive information.  This is useful reporting on free disk space to be sure you can manage the disk space and keep the capture drive free enough for the next night's processing.  Usage: listdrives.bat [/remote machinename] [/verbose]  /Verbose produces drive sizes and free size with commas.  See: wmic logicaldisk get deviceid, caption, description, volumename, filesystem, size, freespace, drivetype |
| Submit.Email.bat | Similar in function to Submission.bat, however, it *copies* files from the SubmissionFiles directory to the Submitted directory.  The directory tree structure under the Submitted directory is the same as the SubmissionFiles directory structure, except that it doesn't contain the FF\*.bin files from the ArchivedFiles, CapturedFiles, and ConfirmedFiles directories.  The product of this script is a directory that you can right-click and then select "Add to <date/time>.zip".  This zip file is sufficient to email to SETI for coincidence processing.  Note: The FTPdetectinfo\_confirmed-213-84.txt file above has the header stripped so that it can be more easily concatenated by SETI for coincidence processing.  In Vers 0.972, it also puts the detect and cal files into the highest directory so as to facilitate the coordinator's actions to avoid having to navigate deep into the zip file structure. |
| Taskscheduler\_cams\_ftp\_capture\_C.xml | Xml to import into your Windows Task Scheduler to launch FTP\_Capture.bat with the correct parameters. |
| ValidateCal.bat | In 0.973, it was updated to work faster.  Reports on bad cal files based on file size. It also reports the RA/DEC, ALT/AZ, StarCount, etc. I think people will find it useful. I use it to get the values to input into FTP\_MeteorCal. This is a very useful tool. Sample output: |
| c:\cams\Cal\CAL213\_20111104\_043105\_437.txt, RA=36.484 [02.4323] DEC=31.207 ALT=50.852 AZ=85.249 Mean O-C = 0.985 +- 0.446 arcmin [Cal stars=97] c:\cams\Cal\CAL213\_20111105\_030012\_425.txt, RA=00.9806 DEC=31.196 ALT=50.830 AZ=85.253 Mean O-C = 0.941 +- 0.329 arcmin [Cal stars=114] | |
| FTP\_\*.exe | Several changes have been made by the programmer to allow command line arguments as well as a few other enhancements. Most of these enhancements are being utilized from the scripts. |

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