# APPENDIX A

Interface for JASPER software

This software developed in visual basic to run the Jasper tools (jasper.exe, imginfo.exe, imgcomp.exe) through the windows shell and collect the output and Display it on the interface or make it available for printing.

To display the JP2 image format in visual basic with use the NCSLayeredView ActiveX provided by ERDAS Inc (http://ermapper.com/).

1) The software single image encoding through the main form or many encoding by choosing many parameters (compression ratio, code block and resolution level) and display the result.

The software provides the ability to display charts and spreadsheet data.

The picture below display the main screen while processing the CAT.BMP.
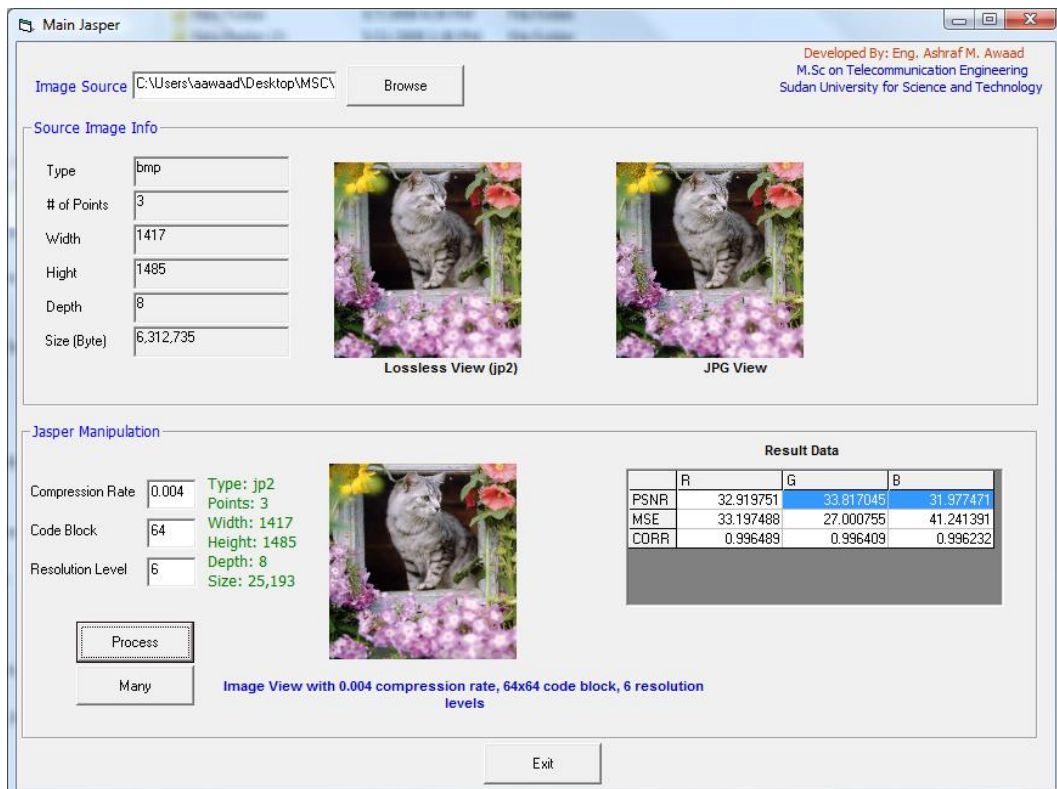
The Many screen while processing the CAT.BMP image with multi-parameters: Compression Ratio: 0.002, Code Block: 16X16 AND 64X64 Resolution Level: 6 AND 10

Multiple Options / Choose Options

Compression Rate: .002

Code Block: ☑ 16X16 ☐ 32X32 ☑ 64X64

Resolution Level: ☐ 4 ☑ 6 ☐ 8 ☑ 10

Process >>

Close

PSNR Data

CB/RL	6	10
16X16 R	29.040843	28.978027
16X16 G	29.905385	29.791725
16X16 B	28.246300	28.099128
64X64 R	29.548017	29.503232
64X64 G	30.424689	30.355511
64X64 B	28.826800	28.751184

MSE Data

CB/RL	6	10
16X16 R	81.095371	82.276844
16X16 G	66.457170	68.219388
16X16 B	97.375646	100.732024
64X64 R	72.157037	72.904983
64X64 G	58.967334	59.914136
64X64 B	85.192294	86.688592

Correlation Data
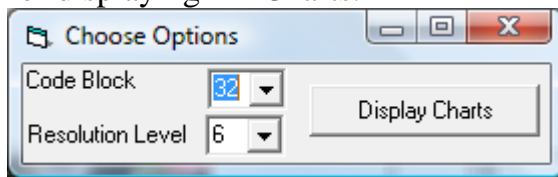
CB/RL	6	10
16X16 R	0.991510	0.991188
16X16 G	0.991051	0.990805
16X16 B	0.991115	0.990713
64X64 R	0.992480	0.992200
64X64 G	0.992064	0.991931
64X64 B	0.992255	0.992014

PSNR Chart

MSE Chart

Correlation Chart

All Compression Rate Chart

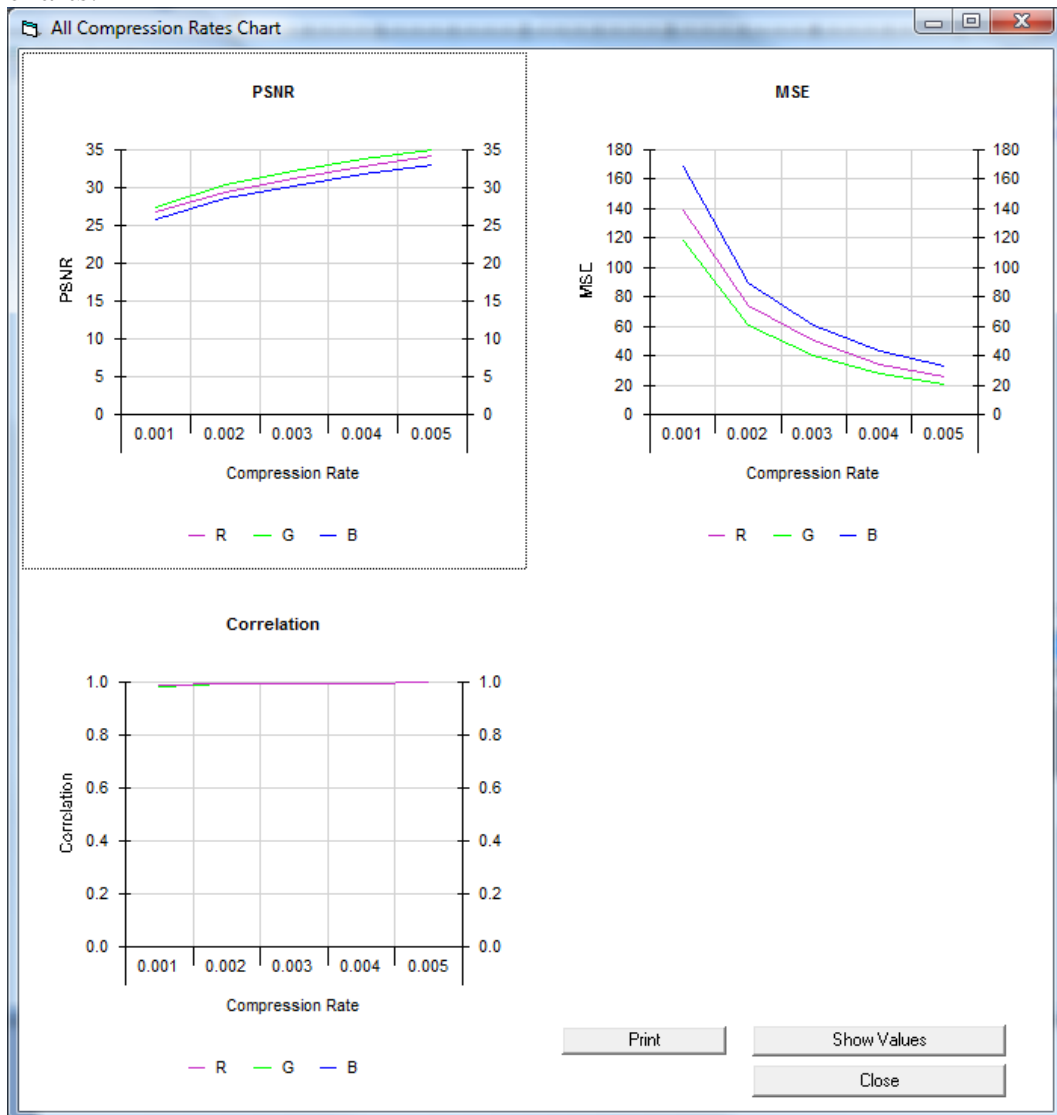Below is the chart displaying the PSNR for the above result.
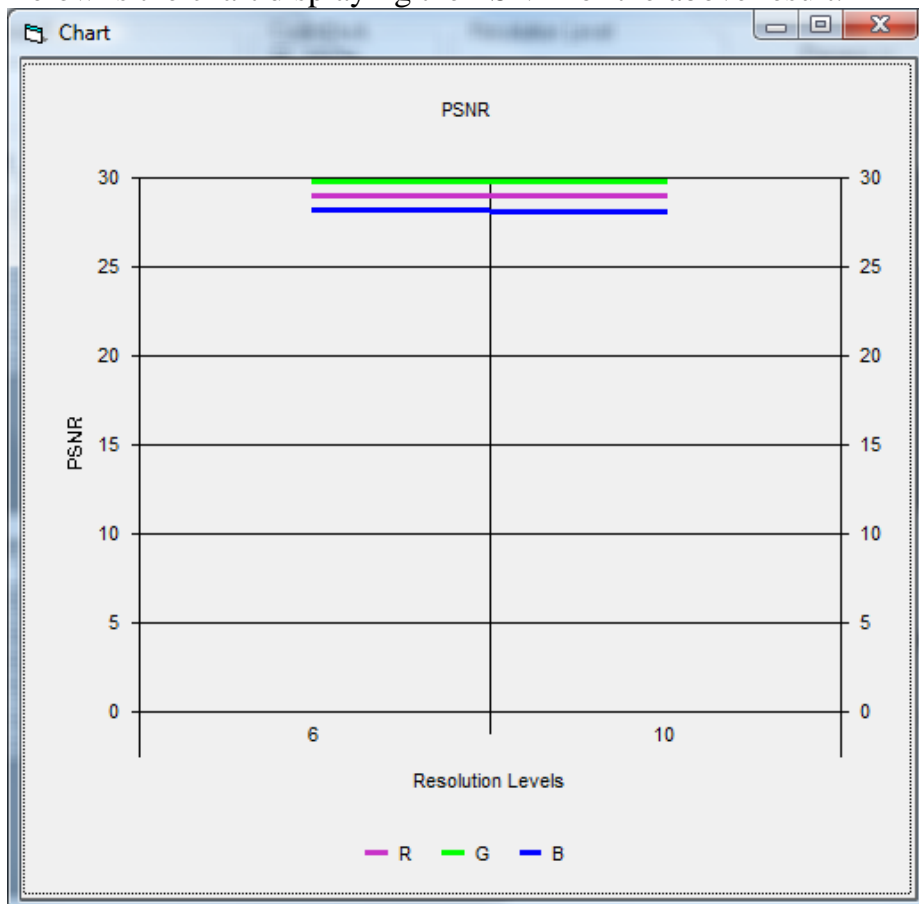
The form below demonstrate how to choose code block and resolution level for displaying All Charts.

The picture below show the display of the result when pressing show charts.

The picture below show the display of all results when pressing show values. The print button allows printing of the values and charts.

All Compression Rates Chart

PSNR, MSE, and Correlation for
.001/.002/.003/.004/.005 compression rates
32 code block
6 resolution levels

PSNR

C	R	G	B	
0.001	26.703416	27.408851	25.852266	
0.002	29.413893	30.288134	28.620652	
0.003	31.099305	32.138729	30.271271	
0.004	32.758093	33.706589	31.764895	
0.005	34.096701	34.993844	32.991502	

MSE

C	R	G	B	
0.001	138.911664	118.085134	168.987181	
0.002	74.420245	60.850887	89.333664	
0.003	50.483546	39.738131	61.087630	
0.004	34.456493	27.696284	43.310267	
0.005	25.316887	20.591878	32.653530	

Correlation

C	R	G	B	
0.001	0.985369	0.984088	0.984435	
0.002	0.992237	0.991809	0.991867	
0.003	0.994736	0.994670	0.994480	
0.004	0.996376	0.996311	0.996036	
0.005	0.997337	0.997279	0.997031	

Print   Show Charts

Close