



[Home](#) [Image fusion](#) [Software](#) [Data product](#) [Download](#) [Purchase](#) [Contact](#)

[Introduction](#)

[Command-line](#)

[Features](#)

[Tutorials](#)

[Samples](#)

HighView | Spectral Transformer B742B321

(1) Introduction

Spectral Transformer B742B321 is an advanced command-line utility tool for producing high-quality, natural-colour imagery (equivalent to Landsat bands 3/2/1) from pan-sharpened, false-colour Landsat bands 7/4/2 at 14.25m resolution in NASA GeoCover series.

Medium-resolution, natural-colour Landsat imagery is an excellent and indispensable mapping layer for observing land covers in major virtual globes such as Google Earth and Microsoft Virtual Earth. The input for such global Landsat imagery is the enduring GeoCover Landsat series, which is now publicly available in three main forms:

- ~8000 individual scenes with all separate bands at original spatial resolutions after a Nearest Neighbour (NN) resampling. Such data are available at USGS [GloVis](#) or [the Global Land Cover Facility](#). The spatial resampling schemes (Nearest Neighbour versus Cubic Convolution) used in inputs significantly affect image fusion and pan-sharpening result. (An illustration is provided [here](#), and pan-sharpening with NN-based inputs is discouraged.)
- The same number of individual scenes with pan-sharpened, false-colour bands 7/4/2 at 14.25m spatial resolution: During pan-sharpening, corresponding bands 7/4/2 were resampled with Cubic Convolution (CC) to ensure an outstanding result. This is **the best quality data source** and available at USGS [GloVis](http://glovis.usgs.gov/) <http://glovis.usgs.gov/> (also read the [news release](#) from USGS issued late 2005, and a tutorial below for demonstration).
- ~880 mosaic tiles made from the above ~8000 pan-sharpened, false-colour bands 7/4/2 with colours balanced across tiles. Each mosaic tile in a compressed MrSID format is hosted by NASA Stennis Space Center web server and freely [downloadable](#). (An uncompressed version is not in the public domain yet but may be purchased through USGS EROS or NASA Stennis Space Center.)

Spectral Transformer B742B321 uses pan-sharpened, false-colour Landsat bands 7/4/2 as inputs (i.e., the above data sources 2 and 3). Both individual scenes and mosaic tiles are acceptable. For un-stretched individual scenes with full dynamic ranges, *Spectral Transformer B742B321* includes an intelligent, highly-efficient and time-saving image stretching option; for mosaic tiles with color balancing already applied, *B742B321* is equipped with a number of color templates during false-to-true colour simulations.

This tool is of great potential use since 14.25m-resolution, false-colour imagery with Landsat bands 7/4/2 is now widely available in the public domain. *Spectral Transformer B742B321* can be licensed separately or as an add-on of *HighView* software.

(2) Command line - A powerful, easy-to-implement DOS command

```
Usage: b742b321.exe
```

```
b742b321 <image_source_indicator> <image_stretch_indicator>  
<green_colour_coefficient> <in.tif> <out.tif>
```

(3) Features and tutorial

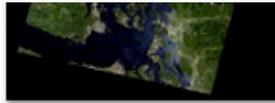
Features list and a three-step tutorial in PDF are [available](#)

(4) Samples

- Processed natural-colour, full-scene examples for evaluation: Spatial resolution 14.25 m, auto intelligent image stretching in *Spectral Transformer B742B321* enabled. In this case, the best quality input source used ensures extremely valuable outputs. Seeing is believing!



Vancouver
[Full scene](#) (image size 17738x15966 pixels,
zipped JPEG file size 24.8MB, JPEG)



compression ratio ~30:1)



San Francisco
[Full scene](#) (17254x15490, 32.6MB)



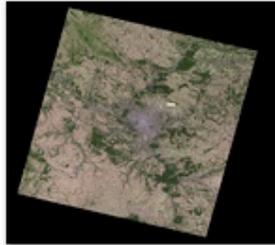
New Orleans
[Full scene](#) (16956x15136, 26.2 MB)



New York
[Full scene](#) (17480x15488, 14.5MB)



Washington, D.C.
[Full scene](#) (18058x15986, 35.8MB)



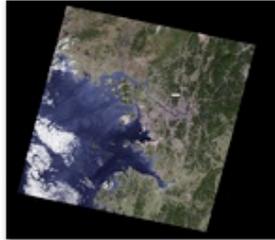
Paris
[Full scene](#) (18114x16232, 32.7MB)



Jerusalem
[Full scene](#) (17154x15146, 29.6MB)



Kuala Lumpur
[Full scene](#) (17276x15096, 25.1MB)



Seoul
[Full scene](#) (18086x15978, 29.4MB)



Tokyo
[Full scene](#) (17982x15980, 30.2MB)

- Compressed 883 mosaic tiles were converted into [Earth Land Surface 2000](#) - global satellite imagery in simulated natural colour.
- Regional and continental false-colour mosaics of Landsat 5 Bands 7/4/2 (data heavily compressed and available at <http://www.GeoTorrent.org/>) were converted into natural colour mosaics at ~120m spatial resolution. Processed data are downloadable at [free data page](#).