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TITLE: RSD + Newtek LightWave3D 5.0 LWS -> enhanced RSD (COD, PVT, MOT)

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lws2rsd Requirements:

- Newtek LightWave3D 5.0
- RSD output plug-in for D-Storm LightWave modeler
- Microsoft Windows95
- a PC sufficiently powerful to run this software

lws2rsd.exe
rsdup.exe
rsd2hmd.exe

Using lws2rsd:

Usage: lws2rsd *.lws *.rsd scalingFactor
RSD file name is a dummy.
Options: none

- (1) Use the LightWave3D modeler to create a single-body type character that is not separated at its joints.
- (2) Use the RSD output plug-in to output an RSD file. Note the magnification rate as it is used below in step 7.
- (3) Load the character into the LightWave3D layout and assign it a bone.
 - The initial state of the character must be the same as the initial state of the modeler.
 - Inverse kinematics must not be used.
 - Please refer to other samples and example source code.
- (4) Create an LWS file by creating an animation using the LightWave3D layout.
- (5) Create a work folder and enter the LWS and RSD files to be converted.
- (6) Open the LWS file in the texture editor and change the object name.

```
LoadObject  objects\tricera.lwo
```

```
--> LoadObject  tri.lwo (this must match the RSD file name excluding the  
extension)
```

- (7) Run lws2rsd.exe from a DOS window. At this time, enter the magnification rate that was used when the character was converted to an RSD file. This should be specified at the end of the startup arguments as shown below.

```
lws2rsd  tri.lws  dummy.rsd  500
```

Notes

- The RSD file name "dummy" is not used internally to avoid problems.
- After running lws2rsd, the data will not be converted to RSD output from the LightWave3D modeler. rsdup must be used to convert it to extended RSD.
- To assign texture to the RSD, perform steps (2) to (7) before executing lws2rsd. This is because the material editor changes the order of the vertices applied to the PLY file.
- To compile the source code from scratch, create a separate ".mak" project for a CONSOLE application and add all the "*.c" files within Visual C++ (2.x or later).
- When processing a bone that has no vertex, lws2rsd will create a COD file that can not be processed by RSD2HMD. To solve this problem, it can be processed by modifying the source code file "cod.c" by changing the code at the "for" statement following the comment, "/* Write respective Vertex belonging to each coordinate */" :

```
/* Write respective vertex belonging to each coordinate */  
fprintf(fp, "#Vertex belongs to Coordinate\n");
```

```
for(i = 0; i < NumCoord; i++){  
    coord = malcoord + i;
```

```
    if(coord->numvert != 0){          /* Change this line*/  
        /* Write coordinate index */  
        fprintf(fp, "%d ", i);
```

```
        /* Write number of vertex */  
        fprintf(fp, "%d\t", coord->numvert);
```

```
        /* Initialize counter */  
        counter1 = 0;  
        counter2 = 0;
```

```
        /* Write vertex index */  
        for(j = 0; j < NumVert; j++){  
            vert = malvert + j;
```

```
            if(vert->cno == i){  
                fprintf(fp, "%d", j);  
                counter1++;  
                counter2++;
```

```

        if(counter1 == NUM_VERTEX &&
           counter2 != coord->numvert){
            fprintf(fp, "\n\t");
            counter1 = 0;
        }
        else if(counter2 == coord->numvert){
            fprintf(fp, "\n");
            counter2 = 0;
        }
        else{
            fprintf(fp, " ");
        }
    }
}
}
}

```

(Note that this change has not been made to the lws2rsd.exe in this directory. However, producing this kind of data is not recommended. Be sure to make the vertex and bone correspond to each other.)

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