Network Player

AV8003

NETWORK

User Guide
ABOUT THIS USER GUIDE

This unit is equipped with a network player for playing music, photo and video files. You can connect the unit's network connector to a network device and play music, photo or video files that are stored on the device.

This User Guide describes the settings and procedures that are required to use these functions.

NETWORK PLAYER FEATURES

The unit has the following functions.
- Playback of music, photo or video files that are stored on a device connected to the network
- Supports Windows Media DRM
- Supports DTCP-IP

SETTING PROCEDURE FOR USING THE NETWORK PLAYER

1. Connecting the unit to the network (See page 2)
2. Setting up the network (See page 3)
   - If there is no DHCP server on the network to which the unit is connected, the network settings must be performed manually.
3. Authenticating the unit on the server side. (See page 6)
   - It may be necessary to authenticate the unit on each server.
4. Operating the unit; playback. (See page 8)
CONNECTION

BEFORE CONNECTING

Prepare the following equipment before performing the connection.

- **LAN cable**
  This cable connects the unit's network connector to a network device such as a computer.
  **Notes:**
  - The unit's network connector supports 10BASE-T/100BASE-TX. Use a 100BASE-TX connection to ensure smooth playback.
  - Use a straight LAN cable that is category 5 or higher.

- **Router, Hub**
  These devices are for connecting multiple devices on a single network.
  If a router has a DHCP server function, the unit’s network settings are set automatically.

- **Server (in this User Guide, the following devices are referred to as a "server")**
  - Hard disk with a built-in DLNA server function (LAN connection type)
  - HDD recorder or audio system that supports DLNA
  - A computer can be used when either of the following server software programs is installed.
    - Windows Media Player 11
    - Server software that supports DLNA

- **Internet**
  - Required when using the unit’s network connection to perform a system update.

CONNECTING THE UNIT AND SERVER TO THE NETWORK

As shown below, connect the unit and a server such as a computer or hard disk to the LAN connector of a router or modem.

- **Computer**
- **Network HDD that supports DLNA**
- **HDD recorder that supports DLNA**

**Note:**
If there are not enough LAN connectors, add a hub (purchase separately) to the router.
BASIC SETTINGS

Network settings may be required when performing the connection, depending on the connection type as described below.

- If there is a router (DHCP server) on the network
  The network address settings are performed automatically.

- If there is no router (DHCP server) on the network
  The network address settings must be performed manually.

Check your network and perform the settings if required. To confirm your network type, check the network address.

CHECKING THE NETWORK ADDRESS

Example: Windows XP

1. Select “Control Panel” on the Start menu and click “Network and Internet Connections” on the menu.

2. Click “Network Connections” on the menu.

3. Right-click “Local Area Connection” and select “Status” on the pull-down menu.

When using Classic View, click “Network Connections” and go to step 3.

4. Click the “Support” tab.

5. Check the “Address Type” item.

Assigned by DHCP:
A DHCP server is running on the network. The network address settings for the unit are performed automatically. You do not need to perform connection settings because the default setting is for automatically obtaining the address.

Manually Configured:
You must set the network address manually because there is no DHCP server on the network. Start the network player and perform the network address settings.
Example: Windows Vista

1. Select “Control Panel” on the Start menu.
   When using the Control Panel Home view, click “View network status and tasks”.

2. Click “View status”.

3. Click “Details”.

4. Check the “DHCP Enabled” item.
   Yes:
   A DHCP server is running on the network.
   The network address settings for the unit are performed automatically.
   You do not need to perform connection settings for the unit because the default setting is for automatically obtaining the address.
   No:
   You must set the network address manually because there is no DHCP server on the network.
   Start the network player and perform the network address settings.

STARTING THE NETWORK PLAYER

1. Turn on the unit.
2. After pressing the HOME button on the remote controller, press the 3. NETWORK button.

The remote controller enters NETWORK operation mode.

3. Set the unit’s input mode to NETWORK.
   To select NETWORK mode, turn the input selector on the unit or press the 3. NETWORK button on the remote controller.

4. The startup screen is displayed.

   - <Monitor>

   - <Unit Display>

   It takes the network player about 30 seconds to start after turning on the unit.
   After start-up is completed, the top menu of the network player is displayed.

   Note:
   The screen resolution at start-up is 480i/576i.
**Network Address Settings**

1. Start the network player.

2. Set the remote controller to NETWORK mode.

3. Press the < and > buttons on the remote controller to move the remote controller window to 005/005, and press the SETTINGS button.

4. The SETTINGS window is displayed. Select Network Settings with the cursor and press the ENTER button.

5. The Network Settings screen is displayed. The figures displayed in this screen are the settings for the current network address. We recommend that you make a copy of these settings, because they may be required when authenticating the unit from the server.

**Manual Setting**

If you selected Manual, input is possible for the following items.

- **IP Address:**
  Set the IP address. For manual input, enter an IP address that is based on another device connected to the same network.

- **Subnet Mask:**
  Set the subnet mask address. Enter the same number as the subnet mask of another network device, such as a router or computer.

- **Default Gateway:**
  Set the gateway address. If a router is used, this is usually the IP address of the router.

- **DNS Server:**
  Set the DNS server address. This is the address that is specified by the provider, or the IP address of the router.

- **MAC Address:**
  This is the MAC address of the unit. This number cannot be changed.

**Note:**

Playback is possible even if the gateway and DNS are left blank, but value inputs are required to perform network updates.

1. Select the item that you want to set with the ▲ / ▼ buttons and press the ENTER button.

2. Select the position for entering the number with the < / > buttons, and enter the number using the number keys.

3. After finishing the setting input, press the ENTER button and select the next item using the ▲ / ▼ buttons.

4. Repeat steps 2 and 3, and after finishing all the inputs, select "OK" using the ▼ button and press the ENTER button.

5. The settings completed dialog box is displayed. Press the ENTER button to restart.

**Notes:**

- If the EXIT button is pressed or "CANCEL" is selected with the ▼ button partway through the setting procedure, the screen returns to the SETTINGS screen and the entered settings are canceled.
- The unit cannot be set to standby while it is restarting.
- Do not turn the power of this unit off while it is restarting.
AUTHENTICATING THE UNIT FROM THE SERVER

With some server types, the unit must be authenticated on the server. If authentication is not performed, it will either not be possible to obtain files even if the unit is connected to the server, or a warning will be displayed and access will not be possible.

Information such as the IP address of the unit, the MAC address and the unit device name (marantz DMP) is required for authentication.

See the server user guide for details on the authentication method.

As a reference, this section describes the procedure for authentication from Windows Media Player 11 on a computer.

Notes:

- If your computer's operating system is Windows XP SP2, you can download Windows Media Player 11 from Microsoft Corporation's website.
- If you are using Windows Vista, it is already installed.

   If you have already completed the settings for the files that you want to share, go to step 7.

2. Set sharing for the files that you want to play with the unit.
   Select “Add to Library” from Library on the menu bar.

3. A list of the folders that are currently being shared is displayed.
   If the following window is displayed, click “Advanced Options”.

4. Select the folder that you want to share and click “OK”.
   If you want to share another folder, click “Add”. The folder selection dialog box is displayed.

5. After finishing the file sharing operations, click “OK” to complete the settings.

6. A list of the shared files is created.
   After the list is created, click “Close”.

7. Next, perform the setting for authenticating the unit from Windows Media Player 11.
   Select “Media Sharing” from Library on the menu bar.

8. Select “Share my media” and click “OK”.

9. The window below is displayed.
   If the network settings are completed and the unit is connected to the network, “marantz DMP” is displayed in the device list.
   Select “marantz DMP” and click “Allow”.

10. Click “OK” to close the window and complete the authentication of the unit from the Windows Media Player.

11. Next, check from the unit that it is registered in Windows Media Player 11.
    Check that the unit is in NETWORK mode, and press the SERVER button on the remote controller.

12. Check that the computer name (name of the computer that performed the settings) and user name (name of the logged-in user) are displayed on the screen list. This means that authentication is complete.
SCREEN MENUS

TOP MENU

1. **Music**
   - Play music from all the connected servers. (See page 9)

2. **Photo**
   - Display photos from all the connected servers. (See page 11)

3. **Video**
   - Play videos from all the connected servers. (See page 13)

4. **Server**
   - Play files from a specified server. This can also be used if you want to check which servers are currently connected. (See page 15)

ITEM MENU

1. **Mode that is currently displayed**
2. **Information display panel**
3. **Main button operation guidance**
4. **Category display**
5. **List number of the selected file/Total number of files in the list**
6. **Directions in which the cursor can be moved**
7. **File list**
8. **File and category type**
9. **Icons of currently executing processes**
10. **Number of servers currently recognized by the unit**

ICONS

The icons displayed on the screen are as follows.

- **MUSIC (Music) category**
- **VIDEO (Video) file**
- **MUSIC (Music) file**
- **Other category**
- **PHOTO (Photo) category**
- **Other file**
- **PHOTO (Photo) file**
- **Server**
- **VIDEO (Video) category**

- The category specifies information such as the folder, album or genre.
- Press the **PLAY**, **REPEAT** or **RANDOM** button under a music, photo or video hierarchy to play all the files in that category.
1. Select the item that you want to play on the top menu using the ▲ / ▼ buttons and press the ENTER button.

2. The menu for the corresponding item is displayed.

3. Play the file.
   • Select the file that you want to play from the file list and press the ENTER or PLAY button to play.
   • Select a category from the file list and press the PLAY button to play all the files in the category.
   • To change the page if there is more than one file list page, press the ▲ / ▼ / ◀ / ▶ buttons. 
   • Press the EXIT button to return to the previous screen.
   • To see the photo thumbnail list, press the ▲ / ▼ / ◀ / ▶ buttons.
### RC2001

<table>
<thead>
<tr>
<th>Button</th>
<th>Music Playback</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ ▼ (Remote controller, unit)</td>
<td>Move between items</td>
</tr>
<tr>
<td>ENTER (Remote controller, unit)</td>
<td>Play the track selected with the cursor</td>
</tr>
<tr>
<td>GUIDE</td>
<td>Move to the top menu</td>
</tr>
<tr>
<td>EXIT (Remote controller, unit)</td>
<td>Stop</td>
</tr>
<tr>
<td>CH± (Remote controller, unit)</td>
<td>(±) Next page</td>
</tr>
<tr>
<td></td>
<td>(⁻) Previous page</td>
</tr>
<tr>
<td>MENU (Remote controller, unit)</td>
<td>TOOl menu</td>
</tr>
<tr>
<td>➤ (PLAY)</td>
<td>Play</td>
</tr>
<tr>
<td>➤ (PLAY)</td>
<td>(➤) Play the next track</td>
</tr>
<tr>
<td>▼ (STOP)</td>
<td>Stop</td>
</tr>
<tr>
<td>■ (PAUSE)</td>
<td>Pause/cancel</td>
</tr>
<tr>
<td>(Blue) MUSIC</td>
<td>Move to top of MUSIC page</td>
</tr>
<tr>
<td>(Red) PHOTO</td>
<td>Move to the set PHOTO screen</td>
</tr>
<tr>
<td>(Green) VIDEO</td>
<td>Move to top of VIDEO page</td>
</tr>
<tr>
<td>(Yellow) SERVER</td>
<td>Move to top of SERVER page</td>
</tr>
</tbody>
</table>

### RC101

<table>
<thead>
<tr>
<th>Button</th>
<th>Music Playback</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ ▼ (Remote controller, unit)</td>
<td>Move between items</td>
</tr>
<tr>
<td>ENTER (Remote controller, unit)</td>
<td>Play the track selected with the cursor</td>
</tr>
<tr>
<td>SOURCE OFF</td>
<td>Stop</td>
</tr>
<tr>
<td>SOURCE ON</td>
<td>Change the Screen resolution</td>
</tr>
<tr>
<td>➤ (PLAY)</td>
<td>Play</td>
</tr>
<tr>
<td>➤ (PLAY)</td>
<td>(➤) Play the next track</td>
</tr>
<tr>
<td></td>
<td>(➤) Play the previous track</td>
</tr>
<tr>
<td>■ (STOP)</td>
<td>Stop</td>
</tr>
<tr>
<td>■ (PAUSE)</td>
<td>Pause/cancel</td>
</tr>
</tbody>
</table>
The music top menu is displayed.

When the sorting is completed, the file list is displayed.

The music is played in the file list sequence.

If you want to play a different track during playback, move the cursor to the track and press the ENTER button.

If you want to stop playback, press the STOP or EXIT button to stop the playback and return to the previous screen.

During random playback, the tracks in the file list are played in a random sequence.

Note:
With some file configurations, a photo that is not related to the track may be displayed.
**DISPLAYING PHOTOS**

**BC901**

<table>
<thead>
<tr>
<th>Button</th>
<th>Photo Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲, ▼ (Remote controller, unit)</td>
<td>▲ Display the previous photo</td>
</tr>
<tr>
<td>▲ (Remote controller, unit)</td>
<td>▼ Display the next photo</td>
</tr>
<tr>
<td>◄, ► (Remote controller, unit)</td>
<td>◄ Display the previous photo</td>
</tr>
<tr>
<td>◄ (Remote controller, unit)</td>
<td>► Display the next photo</td>
</tr>
<tr>
<td>GUIDE</td>
<td>Move to the top menu</td>
</tr>
<tr>
<td>TOP (Unit)</td>
<td>Stop</td>
</tr>
<tr>
<td>EXIT (Remote controller, unit)</td>
<td>Tool menu</td>
</tr>
<tr>
<td>INFO</td>
<td>Tool menu</td>
</tr>
<tr>
<td>▶ (PLAY)</td>
<td>Start the slideshow</td>
</tr>
<tr>
<td>◄ ◄ ◄ ◄ (REMOTE)</td>
<td>▶▶ Display the next photo</td>
</tr>
<tr>
<td>◄ (REMOTE)</td>
<td>▶▶ Display the previous photo</td>
</tr>
<tr>
<td>◄ (REMOTE)</td>
<td>▶▶ Display the previous photo</td>
</tr>
<tr>
<td>SOURCE OFF</td>
<td>Tool menu</td>
</tr>
<tr>
<td>SOURCE ON</td>
<td>Change the screen resolution</td>
</tr>
<tr>
<td>▶ (PLAY)</td>
<td>Start the slideshow</td>
</tr>
<tr>
<td>◄ ◄ ◄ ◄ (REMOTE)</td>
<td>▶▶ Display the next photo</td>
</tr>
<tr>
<td>◄ (REMOTE)</td>
<td>▶▶ Display the previous photo</td>
</tr>
<tr>
<td>◄ (REMOTE)</td>
<td>▶▶ Display the previous photo</td>
</tr>
</tbody>
</table>

**RC101**

<table>
<thead>
<tr>
<th>Button</th>
<th>Photo Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲, ▼ (Remote controller, unit)</td>
<td>▲ Display the previous photo</td>
</tr>
<tr>
<td>▲ (Remote controller, unit)</td>
<td>▼ Display the next photo</td>
</tr>
<tr>
<td>◄, ► (Remote controller, unit)</td>
<td>◄ Display the previous photo</td>
</tr>
<tr>
<td>◄ (Remote controller, unit)</td>
<td>► Display the next photo</td>
</tr>
<tr>
<td>SOURCE OFF</td>
<td>Tool menu</td>
</tr>
<tr>
<td>SOURCE ON</td>
<td>Change the screen resolution</td>
</tr>
<tr>
<td>▶ (PLAY)</td>
<td>Start the slideshow</td>
</tr>
<tr>
<td>◄ ◄ ◄ ◄ (REMOTE)</td>
<td>▶▶ Display the next photo</td>
</tr>
<tr>
<td>◄ (REMOTE)</td>
<td>▶▶ Display the previous photo</td>
</tr>
<tr>
<td>◄ (REMOTE)</td>
<td>▶▶ Display the previous photo</td>
</tr>
<tr>
<td>◄ (REMOTE)</td>
<td>▶▶ Display the previous photo</td>
</tr>
</tbody>
</table>

**AV8003**

- **Button**                     | **Photo Display**         |
- ▲, ▼ (Remote controller, unit) | ▲ Display the previous photo  |
- ▲ (Remote controller, unit) | ▼ Display the next photo  |
- ◄, ► (Remote controller, unit) | ◄ Display the previous photo |
- ◄ (Remote controller, unit) | ► Display the next photo  |
- GUIDE                      | Move to the top menu  |
- TOP (Unit)                  | Stop                  |
- EXIT (Remote controller, unit) | Tool menu            |
- INFO                       | Tool menu             |
- ▶ (PLAY)                  | Start the slideshow   |
- ◄ ◄ ◄ ◄ (REMOTE)         | ▶▶ Display the next photo  |
- ◄ (REMOTE)                | ▶▶ Display the previous photo  |
- ◄ (REMOTE)                | ▶▶ Display the previous photo  |

**NOTES**

- Displaying photos can be controlled using buttons on the remote controller.
- Remote controller buttons for display operations:
Select Photo on the top menu with the cursor and press the ENTER button, or press the red (PHOTO) button on any screen. (When the red (PHOTO) button setting is Category (see page 18))

The photo top menu is displayed.

When the sorting is completed, the photo thumbnail list is displayed.

Select the photo that you want to display and press the ENTER or PLAY button.
- Press the ENTER button to display the selected photo.
- Press the PLAY button to start the slideshow from the selected photo.

Note:
If you skip to the previous or next photo during the slideshow playback, the slideshow pauses.
PLAYING VIDEO

RC2001

<table>
<thead>
<tr>
<th>Button</th>
<th>Video Playback</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲, ▼ (Remote controller, unit)</td>
<td>▲ Skip back 15 seconds</td>
</tr>
<tr>
<td></td>
<td>▼ Skip forward 15 seconds</td>
</tr>
<tr>
<td>◀, ▶ (Remote controller, unit)</td>
<td>Change slow speed during slow playback</td>
</tr>
<tr>
<td>GUIDE</td>
<td>Move to top menu</td>
</tr>
<tr>
<td>TOP (Unit)</td>
<td>Move to top menu</td>
</tr>
<tr>
<td>EXIT (Remote controller, unit)</td>
<td>Stop</td>
</tr>
<tr>
<td>MENU</td>
<td>TOOL menu</td>
</tr>
<tr>
<td>INFO</td>
<td>Select panel display</td>
</tr>
<tr>
<td>◄ (PLAY)</td>
<td>Play</td>
</tr>
<tr>
<td>◄ ◄/ ► ◄ ◄</td>
<td>During continuous playback, play next video</td>
</tr>
<tr>
<td>◄ ◄ ◄/ ◄ ◄ ◄ ◄</td>
<td>During continuous playback, play the previous video (if one second or more has elapsed from the start of the video or only one video is selected, play from the start of the same video)</td>
</tr>
<tr>
<td>■ (STOP)</td>
<td>Stop</td>
</tr>
<tr>
<td>▼ (PAUSE)</td>
<td>Pause/cancel</td>
</tr>
<tr>
<td>(Blue) MUSIC</td>
<td>Move to top of MUSIC page</td>
</tr>
<tr>
<td>(Red) PHOTO</td>
<td>Move to the set PHOTO screen</td>
</tr>
<tr>
<td>(Green) VIDEO</td>
<td>Move to top of VIDEO page</td>
</tr>
<tr>
<td>(Yellow) SERVER</td>
<td>Move to top of SERVER page</td>
</tr>
</tbody>
</table>

RC101

<table>
<thead>
<tr>
<th>Button</th>
<th>Video Playback</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲, ▼ (Remote controller, unit)</td>
<td>▲ Skip back 15 seconds</td>
</tr>
<tr>
<td></td>
<td>▼ Skip forward 15 seconds</td>
</tr>
<tr>
<td>◀, ▶ (Remote controller, unit)</td>
<td>Change slow speed during slow playback</td>
</tr>
<tr>
<td>SOURCE OFF</td>
<td>Stop</td>
</tr>
<tr>
<td>SOURCE ON</td>
<td>Change screen resolution</td>
</tr>
<tr>
<td>◄ (PLAY)</td>
<td>Play</td>
</tr>
<tr>
<td>◄ ◄/ ► ◄ ◄</td>
<td>During continuous playback, play next video</td>
</tr>
<tr>
<td>◄ ◄ ◄/ ◄ ◄ ◄ ◄</td>
<td>During continuous playback, play the previous video (if one second or more has elapsed from the start of the video or only one video is selected, play from the start of the same video)</td>
</tr>
<tr>
<td>■ (STOP)</td>
<td>Stop</td>
</tr>
<tr>
<td>▼ (PAUSE)</td>
<td>Pause/cancel</td>
</tr>
</tbody>
</table>
Select Video on the top menu with the cursor and press the ENTER button, or press the green (VIDEO) button on any screen.

The video top menu is displayed.

After the sorting by conditions is completed, the file list is displayed.

**Note:**

With some files, an accurate time cannot be obtained for Duration.

Select the file that you want to play and press the ENTER or PLAY button. Only the selected file is played.

If you want to play other files from the file list continuously, press the MENU button and select “Continuous Playback.”

**VIDEO PLAYBACK**

- Title
- Album name
- Date display
- Status display
- Progress bar
- Elapsed time/Total time
- Audio mode display
- Repeat status display
- Random status display

- If you want to stop video playback, press the STOP or EXIT button to stop playback and return to the previous screen.
- The display changes as follows each time the INFO button is pressed.

No panel display ——— Player panel display

Information panel display
PLAYING FILES BY SPECIFYING A SERVER

SPECIFYING A SERVER
In the following cases, you can use “Server” in the top menu to play files and obtain a file list.
- When you want to specify one server from multiple connected servers and play files from this server
- When you cannot obtain a file list from the Music, Photo or Video menu on the connected server

1. Select “Server” using the cursor on the top menu and press the ENTER button, or press the yellow (SERVER) button on any screen.

2. The SERVER menu is displayed.

3. Select a server from the server list, and press the ENTER button to display the file list of the selected server on the screen.

Notes:
- The unit can register a maximum of 50 servers. If the number of servers exceeds 50, delete servers that are no longer required.
- The contents of the displayed server list vary depending on the server.
- It may not be possible to play some files on the server using this unit.

When the Server Supports WakeOnLAN
If a server displayed with gray text on the server list supports WakeOnLAN, you can press the ENTER button to start the server and display the files. The dialog box below is displayed while the server is starting. Press the ENTER button again to abort the connection.

After the server has started, you can display the server files.

REFRESHING THE SERVER LIST
In the following cases, you can display the list correctly by refreshing the server list.
- When a newly connected server is not automatically registered on the server list
- When a server whose connection was canceled remains on the server list

1. Press the MENU button on the server list.
2. When you select “Refresh” and press the ENTER button, the unit obtains the server information from the network again and refreshes the server list.

DELETING UNNECESSARY SERVERS FROM THE SERVER LIST
All servers that were recognized by the unit in the past are registered on the server list. If the history has grown larger than is necessary or the list is full with 50 items, you can delete servers that are no longer required from the server list.

1. Select a server that is not currently connected and press the MENU button.
2. Select “Remove server” and press the ENTER button.
3. When the following dialog box appears, select “OK” and press the ENTER button.
ADVANCED OPERATIONS

REMOTE CONTROLLER OPERATIONS

<table>
<thead>
<tr>
<th>Command</th>
<th>File List</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ (Remote controller, unit)</td>
<td>Move between items (List)</td>
</tr>
<tr>
<td></td>
<td>Display the previous photo (Photo)</td>
</tr>
<tr>
<td></td>
<td>Skip back 15 seconds (Video)</td>
</tr>
<tr>
<td></td>
<td>During detailed information display, move to previous file</td>
</tr>
<tr>
<td>▼ (Remote controller, unit)</td>
<td>Move between items (List)</td>
</tr>
<tr>
<td></td>
<td>Display the next photo (Photo)</td>
</tr>
<tr>
<td></td>
<td>Skip forward 15 seconds (Video)</td>
</tr>
<tr>
<td></td>
<td>During detailed information display, move to next file</td>
</tr>
<tr>
<td>◼ (Remote controller, unit)</td>
<td>Move between items (Photo list)</td>
</tr>
<tr>
<td></td>
<td>Display the previous photo (Photo)</td>
</tr>
<tr>
<td></td>
<td>Adjust slow playback speed (Video)</td>
</tr>
<tr>
<td></td>
<td>During detailed information display, change the information</td>
</tr>
<tr>
<td>ENTER</td>
<td>(Remote controller, unit)</td>
</tr>
<tr>
<td></td>
<td>Select/play item</td>
</tr>
<tr>
<td>GUIDE</td>
<td>(Remote controller, unit)</td>
</tr>
<tr>
<td></td>
<td>Move to the top menu</td>
</tr>
<tr>
<td>EXIT</td>
<td>(Remote controller, unit)</td>
</tr>
<tr>
<td></td>
<td>Previous screen (List)</td>
</tr>
<tr>
<td></td>
<td>Stop</td>
</tr>
<tr>
<td>CH± (+)</td>
<td>Next page</td>
</tr>
<tr>
<td></td>
<td>Previous page</td>
</tr>
<tr>
<td>MENU</td>
<td>TOOL menu</td>
</tr>
<tr>
<td>INFO</td>
<td>Display the file details (List)</td>
</tr>
<tr>
<td></td>
<td>Select the panel display (Photo, video)</td>
</tr>
<tr>
<td>PLAY</td>
<td>(Remote controller, unit)</td>
</tr>
<tr>
<td></td>
<td>Play</td>
</tr>
<tr>
<td></td>
<td>Start the slideshow (Photo)</td>
</tr>
<tr>
<td>&lt;&lt; / &gt;&gt;</td>
<td>Play the next file</td>
</tr>
<tr>
<td></td>
<td>Play the previous file</td>
</tr>
<tr>
<td>STOP</td>
<td>(Remote controller, unit)</td>
</tr>
<tr>
<td></td>
<td>Stop</td>
</tr>
<tr>
<td>PAUSE</td>
<td>(Remote controller, unit)</td>
</tr>
<tr>
<td></td>
<td>Pause/cancel</td>
</tr>
<tr>
<td>BLUE MUSIC</td>
<td>Move to MUSIC Top</td>
</tr>
<tr>
<td>RED PHOTO</td>
<td>Move to the set PHOTO screen</td>
</tr>
<tr>
<td>GREEN VIDEO</td>
<td>Move to VIDEO Top</td>
</tr>
<tr>
<td>YELLOW SERVER</td>
<td>Move to SERVER TOP</td>
</tr>
</tbody>
</table>

1. Track fast forward/rewind
The speed changes in the sequence below each time the ◼ (fast forward) or ◼ (rewind) button is pressed.

\[
\begin{align*}
&\times 2 \rightarrow \times 4 \rightarrow \times 8 \\
&\times 100 \rightarrow \times 50 \rightarrow \times 20
\end{align*}
\]

Press the PLAY button to return to normal playback.

**Note:**
The playback speed of DRM-protected files cannot be changed.

2. Random playback
Press the RANDOM button to perform the random playback of all the files in the category.

**Note:**
A separate RANDOM setting is available for music, photo and video files.

3. Repeat playback
Press the REPEAT button to repeat the playback of all the files in the category.

**Note:**
If the REPEAT button is pressed during playback, the mode changes as follows.

- Repeat off
- File list repeat

**Random off ↔ Random on**
### Command List

<table>
<thead>
<tr>
<th>Command</th>
<th>File List</th>
</tr>
</thead>
</table>
| ▲ (Remote controller, unit) | Move between items (List)  
|                  | Display the previous photo (Photo)  
|                  | Skip back 15 seconds (Video)  
|                  | During a display of detailed information, move to previous file          |
| ▼ (Remote controller, unit) | Move between items (List)  
|                  | Display the next photo (Photo)  
|                  | Skip forward 15 seconds (Video)  
|                  | During a display of detailed information, move to next file              |
| ◀ (Remote controller, unit) | Move between items (Photo list)  
|                  | Display the previous photo (Photo)  
|                  | Adjust slow playback speed (Video)  
|                  | During a display of detailed information, change the information        |
| ▶ (Remote controller, unit) | Move between items (Photo list)  
|                  | Display the next photo (Photo)  
|                  | Adjust slow playback speed (Video)  
|                  | During a display of detailed information, change the information        |
| ENTER (Remote controller, unit) | Select/play item                                                              |
| SOURCE OFF (Remote controller, unit) | Previous screen (List)  
|                  | Stop                                                                        |
| SOURCE ON (Remote controller, unit) | Change the screen resolution                                                |
| ▶ (PLAY) | Play  
|                  | Start the slideshow (Photo)                                               |
| ◀ ◀ ◀ ◀ ◀ ◀ ◀ ◀ ◀ | Play the next file                                                          |
| ◀ ◀ ◀ ◀ ◀ ◀ ◀ ◀ ◀ | Play the previous file                                                       |
| ■ (STOP) | Stop                                                                       |
| ▼ (PAUSE) | Pause/cancel                                                               |

### Diagrams

**RC101**

![Remote Control Diagram]

**AV8003**

![AV Control Panel Diagram]
ADVANCED PHOTO FILE OPERATIONS

RED (PHOTO) BUTTON SETTINGS
Set the destination for when the red (PHOTO) button is pressed as follows.

1. Press the SETTINGS button on the remote controller.

2. Select “Preferences” using the cursor and press the ENTER button.

The screen below is displayed.

Press the ENTER button on the “Browse Photos by” item.

• Date (All servers):
  Sort photos from all the connected servers by date. (Default setting)
• Date (Selected server):
  Select the server from which to obtain the photos and sort by date.
• Category:
  The same as when PHOTO is selected from the top menu.

Select the setting item using the 
buttons and press the ENTER button again.
Press “OK” to complete the setting.

DISPLAYING PHOTOS BY DATE
When the red (PHOTO) button setting is “Date server”, the photos on the server are sorted by year/month/date.

Note:
The save date of a bmp file is used as its shooting date.

When the setting is “All servers,” the following screen is displayed and photos in all the servers are divided into groups based on year/month.

A list of the photos from the selected date is displayed as thumbnails. Select the photo that you want to display and press the ENTER button.
• Press the ENTER button to display the selected photo.
• Press the PLAY button to start the slideshow from the selected photo.

Note:
Press the PLAY, REPEAT or RANDOM button over a thumbnail on the selected date to start a slideshow of the photos in the thumbnail.
SLIDESHOW SETTINGS
You can perform settings for the slideshow.

1. Press the MENU button during photo display or while the photo content list is displayed.
2. Select “Slideshow Settings” on the Tool menu and press the ENTER button. The following window is displayed.

Effects:
Select the effects when changing photos.
• None (No effects when changing.)
• Fade To White (Fades out to white.)
• Fade To Black (Fades out to black.)
• Random (Fades out to either white or black.)

Interval:
Set the time interval at which the photos are changed.
• 3seconds
• 5seconds
• 10seconds
• 30seconds
• 60seconds

BGM List:
Select the BGM during slideshow playback from a music playlist of 1 to 5.

BGM:
Select whether or not to play BGM during slideshow playback.
• Disable (Do not play BGM.)
• Enable (Play BGM.)

3. Press “OK” to complete the setting.

PHOTO ROTATION (PHOTO)
• Press the >> button while a photo is displayed to turn it 90 degrees to the right.
• Press the << button while a photo is displayed to turn it 90 degrees to the left.

Effects:
Select the effects when changing photos.
• None (No effects when changing.)
• Fade To White (Fades out to white.)
• Fade To Black (Fades out to black.)
• Random (Fades out to either white or black.)

Note:
If you turn a photo during slideshow playback, the slideshow is paused after the rotation.

OPERATING VIDEO FILES

SKIP PLAY
You can skip the video playback forward or back by 15 seconds.

1. Press the menu button during video playback.
2. Select “Slow Play” and press the ENTER button.
3. Press the 2 button to make the slow playback speed faster.
   Press the 1 button to make the slow playback speed slower.
   1/16 1/8 1/4 1/2
4. Press the PLAY button or the PAUSE button to cancel the slow playback.

Note:
Slow play is not possible with some video files.

SLIDE SHOW SETTINGS
You can perform settings for the slideshow.

1. Press the MENU button during photo display or while the photo content list is displayed.
2. Select “Slideshow Settings” on the Tool menu and press the ENTER button. The following window is displayed.

Effects:
Select the effects when changing photos.
• None (No effects when changing.)
• Fade To White (Fades out to white.)
• Fade To Black (Fades out to black.)
• Random (Fades out to either white or black.)

Interval:
Set the time interval at which the photos are changed.
• 3seconds
• 5seconds
• 10seconds
• 30seconds
• 60seconds

BGM List:
Select the BGM during slideshow playback from a music playlist of 1 to 5.

BGM:
Select whether or not to play BGM during slideshow playback.
• Disable (Do not play BGM.)
• Enable (Play BGM.)

3. Press “OK” to complete the setting.

PHOTO ROTATION (PHOTO)
• Press the >> button while a photo is displayed to turn it 90 degrees to the right.
• Press the << button while a photo is displayed to turn it 90 degrees to the left.

Effects:
Select the effects when changing photos.
• None (No effects when changing.)
• Fade To White (Fades out to white.)
• Fade To Black (Fades out to black.)
• Random (Fades out to either white or black.)

Note:
If you turn a photo during slideshow playback, the slideshow is paused after the rotation.

OPERATING VIDEO FILES

SKIP PLAY
You can skip the video playback forward or back by 15 seconds.

1. Press the menu button during video playback.
2. Select “Slow Play” and press the ENTER button.
3. Press the 2 button to make the slow playback speed faster.
   Press the 1 button to make the slow playback speed slower.
   1/16 1/8 1/4 1/2
4. Press the PLAY button or the PAUSE button to cancel the slow playback.

Note:
Slow play is not possible with some video files.

SLIDE SHOW SETTINGS
You can perform settings for the slideshow.

1. Press the MENU button during photo display or while the photo content list is displayed.
2. Select “Slideshow Settings” on the Tool menu and press the ENTER button. The following window is displayed.

Effects:
Select the effects when changing photos.
• None (No effects when changing.)
• Fade To White (Fades out to white.)
• Fade To Black (Fades out to black.)
• Random (Fades out to either white or black.)

Interval:
Set the time interval at which the photos are changed.
• 3seconds
• 5seconds
• 10seconds
• 30seconds
• 60seconds

BGM List:
Select the BGM during slideshow playback from a music playlist of 1 to 5.

BGM:
Select whether or not to play BGM during slideshow playback.
• Disable (Do not play BGM.)
• Enable (Play BGM.)

3. Press “OK” to complete the setting.

PHOTO ROTATION (PHOTO)
• Press the >> button while a photo is displayed to turn it 90 degrees to the right.
• Press the << button while a photo is displayed to turn it 90 degrees to the left.

Effects:
Select the effects when changing photos.
• None (No effects when changing.)
• Fade To White (Fades out to white.)
• Fade To Black (Fades out to black.)
• Random (Fades out to either white or black.)

Note:
If you turn a photo during slideshow playback, the slideshow is paused after the rotation.

OPERATING VIDEO FILES

SKIP PLAY
You can skip the video playback forward or back by 15 seconds.

1. Press the menu button during video playback.
2. Select “Slow Play” and press the ENTER button.
3. Press the 2 button to make the slow playback speed faster.
   Press the 1 button to make the slow playback speed slower.
   1/16 1/8 1/4 1/2
4. Press the PLAY button or the PAUSE button to cancel the slow playback.

Note:
Slow play is not possible with some video files.

SLIDE SHOW SETTINGS
You can perform settings for the slideshow.

1. Press the MENU button during photo display or while the photo content list is displayed.
2. Select “Slideshow Settings” on the Tool menu and press the ENTER button. The following window is displayed.

Effects:
Select the effects when changing photos.
• None (No effects when changing.)
• Fade To White (Fades out to white.)
• Fade To Black (Fades out to black.)
• Random (Fades out to either white or black.)

Interval:
Set the time interval at which the photos are changed.
• 3seconds
• 5seconds
• 10seconds
• 30seconds
• 60seconds

BGM List:
Select the BGM during slideshow playback from a music playlist of 1 to 5.

BGM:
Select whether or not to play BGM during slideshow playback.
• Disable (Do not play BGM.)
• Enable (Play BGM.)

3. Press “OK” to complete the setting.
**USING PLAYLISTS**

You can arrange your favorite music, photo and video files in a single group as a playlist.

- You can create five playlists each for music, photos and videos.
- You can register a maximum of 100 files in each playlist.

**REGISTERING A PLAYLIST**

1. Select the file or category that you want to register using the cursor and press the PLAYLIST button, or press the MENU button and select “Add Playlist” on the TOOL menu.

   Alternatively, press the PLAYLIST button while the file that you want to register is playing, or press the MENU button and select “Add Playlist” on the TOOL menu.

2. Use the ▲ / ▼ buttons to select the registration destination playlist and press the ENTER button. The ■ mark is displayed next to the selected playlist.

3. Press “OK” to complete the registration. To cancel the registration, press “CANCEL.”

**PLAYING A PLAYLIST**

1. Select “Playlists” on the Music, Photo or Video top menu and press the ENTER button.

   Alternatively, press the “M P-LIST”, “P P-LIST” or “V P-LIST” button on the remote controller.

2. The playlist screen is displayed.

   Select the playlist that you want to play using the ▲ / ▼ buttons and press the ENTER button.

   Press the PLAY button on the selected playlist to play the files that are in the selected playlist.

3. Select the file that you want to play from the list using the ▲ / ▼ buttons and press the ENTER or PLAY button to perform continuous playback of the files in the playlist starting from the selected file.

**CHANGING THE PLAYLIST SEQUENCE**

You can change the playlist sequence.

1. Press the MENU button on the playlist screen.

2. Select “Move” on the TOOL menu.

3. Select the file that you want to move and press the ENTER button.

4. Select the file destination and press the ENTER button.

5. Repeat steps 3 and 4, until you have finished the sequence change.

6. When you have finished the sequence change, press the EXIT button. The following dialog box is displayed.

7. Press “OK” to complete the move. To cancel the registration, press “CANCEL.”

**REMOVING PLAYLIST REGISTRATIONS**

You can remove file registrations from the playlist if they are no longer required.

**Removing Registered Files**

1. Open a playlist, select the file that you want to remove from the playlist and press the MENU button.

2. Select “Remove from Playlists” on the TOOL menu and press the ENTER button. The following dialog box is displayed.

3. Press “OK” to complete the registration removal.

**Removing Registered Files**

(All files in a playlist)

You can remove all the files that are registered in a playlist at the same time.

1. On the playlist screen, select the playlist whose file registrations you want to remove and press the MENU button.

2. Select “Remove from Playlists” on the TOOL menu and press the ENTER button. The following dialog box is displayed.

3. Press “OK” to complete the registration removal.
VIEWING DETAILED FILE INFORMATION

You can view detailed information about the files in the file list.

Select the file that you want to display and press the INFO button, or press the MENU button and then select “Detailed Information” on the TOOL menu.

- ◄/► buttons: Change the page
- ▲/▼ buttons: Change the file
- PLAY buttons: Play the file that is currently displayed
- INFO buttons, EXIT buttons: Return to the list screen

Notes:
- The displayed items vary depending on the server.
- When the server transcodes a file for playback, information such as the bit rate and resolution may be different from the actual values.

MULTI ZONE PLAYBACK

You can perform network playback in multi zones.

See the main unit user guide for the method of assigning the network to ZONE A and B.

Notes:
- In ZONE B, only audio is output.
- Only 2ch is available for audio output. Multi channel files are down mixed to 2ch.

OPERATION USING RC2001

<table>
<thead>
<tr>
<th>Button</th>
<th>File List</th>
<th>Music Playback Screen</th>
<th>Photo Display Screen</th>
<th>Video Playback Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLUME+</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Raise the volume</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOLUME-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower the volume</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mute on/mute off</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>◄/►</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Move between items</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>During detailed information display, move between the previous and next files</td>
<td>Move between items</td>
<td>Display the previous photo</td>
<td>Skip back 15 seconds</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Display the next photo</td>
<td>Skip forward 15 seconds</td>
</tr>
<tr>
<td>▲/▼</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Move between items (Photo)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>During detailed information display, change the information</td>
<td></td>
<td>Display the previous photo</td>
<td>Adjust slow playback speed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Display the next photo</td>
<td></td>
</tr>
<tr>
<td>ENTER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select/play item</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Play the track selected using the cursor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Previous screen</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td></td>
<td>Play</td>
<td></td>
<td>Start the slideshow</td>
<td>Play</td>
</tr>
<tr>
<td>► (PLAY)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Play</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Start the slideshow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>◄/►</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Play the previous track</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(If 1 second or more has elapsed from the start of the track, play from the start of the same track.)</td>
<td>Play the next track</td>
<td>Display the previous track</td>
<td>During continuous playback, play the next video</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Display the next photo</td>
<td>During continuous playback, play the previous video</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Display the previous photo</td>
<td></td>
</tr>
<tr>
<td>■ (STOP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
<td>Stop</td>
</tr>
<tr>
<td>■ (PAUSE)</td>
<td></td>
<td>Pause/cancel</td>
<td>Pause the slideshow</td>
<td>Pause/cancel</td>
</tr>
</tbody>
</table>
<Playback in ZONE A>

1. Press the HOME button on the remote controller and press the < / > buttons to select the 003/004 page.
2. Press the ZONE-A button to set the RC2001 to the ZONE A operation mode.
3. Press the < / > buttons to select the 005/005 page. The RC2001 display is set to the zone A network operation mode.
4. Press the PLAY button to play the file.

When the RES button is pressed, the screen returns to the NETWORK top menu and the resolution is changed. The screen resolution changes in the following sequence each time the RES button is pressed:

- 480i/576i → 480p/576p → 720p
- Auto → 1080i

Notes:
- When viewing in ZONE A, set an appropriate resolution for your monitor, other than AUTO.
- When the resolution setting is AUTO, operations in the main zone are prioritized.
- If a dialog box or the TOOL menu is displayed, the resolution cannot be changed. In such cases, first close the dialog box or menu.

<Playback in ZONE B>

1. Press the HOME button on the remote controller and press the < / > buttons to select the 003/004 page.
2. Press the ZONE-B button to set the RC2001 to ZONE B operation mode.
3. Press the < / > buttons to select the 005/005 page. The RC2001 display is set to zone B network operation mode.
4. After pressing the All MUSIC button, press the PLAY button to play all the music files in the server.

<Zone A Screen Settings>

If you set component output 2 in ZONE A to ZONE A, you can output video from component output 2 in all resolutions.

Video can only be output from the ZONE OUT connector at a resolution of 480i/576i.

You can change the resolution of the network player screen from ZONE A.

Press the < / > buttons on the RC2001 to open the LCD's 005/005 page, and press the RES button.

OPERATION USING RC101

When the SOURCE ON button is pressed, the screen returns to the NETWORK top menu and the resolution is changed. The screen resolution changes in the following sequence each time the SOURCE ON button is pressed:

- 480i/576i → 480p/576p → 720p
- Auto → 1080i

Note:
- If a dialog box or the TOOL menu is displayed, the resolution cannot be changed. In such cases, first close the dialog box or menu.

<Playback in ZONE A/B>

1. Set the RC101 to zone A or B. (See page 67 of the main unit user guide)
2. Press the AUX2 button to set the RC101 to network operation mode.
3. Press the AUX2 button twice in succession to change the unit ZONE A or B input to NETWORK.
4. Press the PLAY button to play the file.

ZONE-A 005/005

<table>
<thead>
<tr>
<th>ALL-M</th>
<th>ALL-P</th>
<th>ALL-V</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL-M</td>
<td>ALL-P</td>
<td>ALL-V</td>
</tr>
</tbody>
</table>

ZONE-B 005/005

<table>
<thead>
<tr>
<th>RANDOM</th>
<th>REPEAT</th>
<th>ALL MUSIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>RANDOM</td>
<td>REPEAT</td>
<td>Move to All songs.</td>
</tr>
<tr>
<td>Rewind</td>
<td>Fast forward</td>
<td></td>
</tr>
</tbody>
</table>
When you want to perform operations such as network settings or system updates, press the SETTINGS button in any screen to display the SETTINGS menu.

**NETWORK PLAYER INITIALIZATION**
You can return the network player to its default settings. Select “System Reset” on the SETTINGS menu and press the ENTER button. When initialization is performed, the registered server lists and playlists are erased.

1. Select “RESET” and press the ENTER button. The following dialog box is displayed.

2. Press “OK” to restart the unit and complete the initialization.

**SOFTWARE UPDATES**
You can connect to the Internet to update the network player firmware.

1. Select “Software Updates” on the SETTINGS menu and press the ENTER button.

On the screen below, select “NEXT” and press the ENTER button. The unit checks whether an update file is available on the Internet.

**If the server connection failed**
Press the ENTER button to return to the SETTINGS menu.

**If an update file is available**

1. Select either of the following and press the ENTER button.
   - START: Download the update file
   - CANCEL: Do not download the update file

Press the ENTER button to return to the SETTINGS menu.
3. The following screen is displayed when the update file starts to download.

![Software Updates](image)

If you want to stop the download partway, press the ENTER or EXIT button. After the download finishes successfully, writing and verification is performed for the downloaded file. Key operations are disabled until the update is finished.

4. Press the ENTER button. The following dialog box is displayed.

![Software Updates](image)

5. Press ENTER button to restart the network player and complete the software update.

### Checking the System Information

You can display the system information for the network player. Select “System Information” on the SETTINGS menu and press the ENTER button.

- **Device name**: Name of the unit recognized by the server
- **DMP S/W Version**: Version of the network player firmware
- **MAC Address**: This is the MAC address of the unit.

Press the ENTER or EXIT button to return to the SETTINGS menu screen.

### Setting the Network Screen

You can set the output for the unit’s NETWORK screen.

1. Press the GUIDE button on the remote controller to move to the top menu.
2. <AV8003>

   Press the MENU button on the unit to display the OSD menu.

   ![Setting the Network Screen](image)

   After pressing the HOME button on the remote controller, press the MENU button to display the OSD menu.
3. The following screen is displayed on the monitor that is connected to the unit.

Press the ▲ / ▼ buttons to select 7. NETWORK and press the ENTER button.

4. The NETWORK SETUP screen opens.

Select the item that you want to set using the ▲ / ▼ buttons, and change the selection using the ◀ / ▶ buttons.

Note:
Settings cannot be changed if the top menu of the NETWORK screen is not displayed.
In such cases, a warning message is displayed on the bottom of the screen. Return the NETWORK screen to the top menu.
Close the OSD menu and press the GUIDE button to return the NETWORK screen to the top menu.

VIDEO
The color system of this unit is NTSC.

RESOLUTION
Use the ◀ / ▶ cursor buttons to select video signal resolution (pixel count) on the NETWORK PLAYER from the following options.
* 480/576i → 480/576p → 720p → 1080i → “AUTO” → “AUTO” 480/576i

- AUTO (default) : Sets an appropriate resolution for a television that is connected using HDMI.
(If the unit is not connected to the television using HDMI, the output is 480/576i)
(If connected by converting to DVI, the output is 480p/576p)

- 480/576i :
The output is 480i/576i.

- 480/576p :
The output is 480p/576p.

- 720p :
The output is 720p.

- 1080i :
The output is 1080i.

Notes:
- If a monitor connected using HDMI is changed during the AUTO setting, the screen returns automatically to the top menu and the resolution is changed to one that is appropriate for the monitor. If a dialog box or the TOOL menu is displayed at this time, the resolution is changed after the dialog box or TOOL menu is closed.
- Set 480i/576i if you are using VIDEO/S-VIDEO output.
- If you are using a monitor connected using HDMI, and the signal is being input from the network, the video signal is output in the resolution that was set in RESOLUTION.

SCREEN SAVER
Use the ◀ / ▶ cursor buttons to select “ON” or “OFF” for the screen saver from the video signal that is output from the unit.
- ON (default) :
If no operation is made for 10 minutes on the NETWORK screen or SETTING screen, the screen saver is activated on the monitor. (The screen goes dark)
- OFF :
The screen saver is not activated even if no operation is made for 10 minutes.

Note:
The screen saver is not activated during photo display or video playback.
**MUSIC FILES**

<table>
<thead>
<tr>
<th>MUSIC</th>
<th>Codec</th>
<th>Extension</th>
<th>Sampling frequency</th>
<th>Bit rate VBR/MBR</th>
<th>Number of channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP3</td>
<td>MPEG-1/2 Layer-III</td>
<td>mp3</td>
<td>Max. 48 kHz</td>
<td>Max. 320 kbps</td>
<td>Max. 2ch</td>
</tr>
<tr>
<td>LPCM</td>
<td>LPCM</td>
<td>-</td>
<td>Min. 32 kHz</td>
<td>Max. 64 kHz</td>
<td>Max. 2ch</td>
</tr>
<tr>
<td>WAV</td>
<td>PCM</td>
<td>wav</td>
<td>Min. 32 kHz</td>
<td>Max. 64 kHz</td>
<td>Max. 2ch</td>
</tr>
<tr>
<td>WMA</td>
<td>WMA8</td>
<td>asf</td>
<td>Max. 48 kHz</td>
<td>Max. 320 kbps</td>
<td>Max. 2ch</td>
</tr>
<tr>
<td></td>
<td>WMA9 Professional</td>
<td>asf</td>
<td>Max. 48 kHz</td>
<td>Max. 768 kbps</td>
<td>Max. 6ch**</td>
</tr>
<tr>
<td></td>
<td>AAC</td>
<td>m4a</td>
<td>Max. 48 kHz</td>
<td>Max. 640 kbps</td>
<td>Max. 5.1ch**</td>
</tr>
</tbody>
</table>

* WMA Lossless is not supported.
** In the case of multi channels, WMA and AAC are down mixed to 2ch.

**PHOTO FILES**

<table>
<thead>
<tr>
<th>PHOTO</th>
<th>Extension</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEG</td>
<td>jpg</td>
<td>* Max. 67108864 pixels (Example: 8192 x 8192)</td>
</tr>
<tr>
<td></td>
<td>peg</td>
<td></td>
</tr>
<tr>
<td>BMP</td>
<td>bmp</td>
<td>No restrictions</td>
</tr>
</tbody>
</table>

* When the following conditions are satisfied.
  – Color space is YCbCr
  – Not in progressive mode
  – The format is YUV420, YUV422 or YUV444

* For JPEG photos that do not satisfy the conditions above, the maximum is 983040 pixels (example: 1280 x 768).
**VIDEO FILES**

<table>
<thead>
<tr>
<th>VIDEO</th>
<th>Extension</th>
<th>Codec</th>
<th>Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPEG PS</td>
<td>mpeg, mpeg, mpe</td>
<td>M2p</td>
<td>Video section MPEG-1 Profile level Up to MP@HL Bit rate VBR/CBR Max. 15 Mbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Audio section MPEG-1/2 Layer-II Sampling frequency Max. 48 kHz Number of channels Max. 2ch Bit rate VBR/CBR Max. 384 kbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LPCM Sampling frequency Max. 48 kHz 16 bit Quantization bit rate Max. 16 bit Number of channels Max. 2ch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AC3 Sampling frequency Max. 48 kHz Number of channels Max. 5.1ch Bit rate Max. 640 kbps</td>
</tr>
<tr>
<td>MPEG-2 TS/TTS</td>
<td></td>
<td></td>
<td>Video section MPEG-2 Profile level Up to MP@HL Bit rate VBR/CBR Max. 23.1 Mbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Audio section MPEG-1/2 Layer-II Sampling frequency Max. 48 kHz Number of channels Max. 2ch Bit rate VBR/CBR Max. 448 kbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AC3 Sampling frequency Max. 48 kHz Number of channels Max. 5.1ch Bit rate Max. 448 kbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MPEG-2/4 AAC LC Sampling frequency Max. 48 kHz Bit rate Max. 448 kbps</td>
</tr>
<tr>
<td>Windows Media Video</td>
<td>asf, wmv</td>
<td></td>
<td>Video section WMV9 Profile level No DRM, up to MP@HL With DRM, up to MP@ML Bit rate VBR/CBR No DRM, max. 10 Mbps With DRM, max. 4 Mbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Audio section WMA8 Sampling frequency Max. 48 kHz Number of channels Max. 2ch Bit rate Max. 320 kbps WMA9 WMA9 Professional Sampling frequency Max. 48 kHz Number of channels Max. 6ch Bit rate VBR/CBR Max. 768 kbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MPEG-4 mp4 Video section MPEG-4 Profile level ASP Bit rate VBR/CBR Max. 5 Mbps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Audio section MPEG-4 AAC LC Sampling frequency Max. 48 kHz Number of channels Max. 5.1ch Bit rate Max. 448 kbps</td>
</tr>
</tbody>
</table>

**Notes:**
- This unit does not support MPEG4-AVC, AVCHD.
- Depending on the encoding system, playback may not be possible even if the file is within the above specifications.
- Depending on the server, it may not be possible to play a file that is supported by the unit.
- It may be possible to play files that are not supported by this unit by converting them to a supported format.
- For details, see your server's user guide.
- License authentication must be performed in advance on Windows Media Player 11 to play files with copyright protection (Windows Media DRM).
- This unit supports DTCP-IP. This unit can play video recorded on a home HDD recorder that is connected to the network.
- See your recorder's user guide for the playable video types.
- Surround playback is possible for videos with Dolby AC3 multichannel sound.
- In the case of multi-channels, WMA and AAC are down-mixed to 2ch.
### Troubleshooting

If you experience any problems, check the following before calling for service:

1. Are the connections made properly?
2. Are you operating the unit properly by following the user’s guide?

If the unit does not operate properly, check the items shown in the following table. If the problem cannot be resolved using the actions listed in the following table, the internal circuitry may be malfunctioning. Unplug the power cable immediately and contact your dealer, nearest Marantz authorized dealer, or the Marantz Service Center in your country.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot connect to the network</td>
<td>• The LAN cable is not connected&lt;br&gt;• The IP address is incorrect</td>
<td>Correct the network connections.</td>
</tr>
<tr>
<td></td>
<td>• The connection has been blocked by the firewall</td>
<td>Allow communication with the unit.</td>
</tr>
<tr>
<td>Cannot find the server</td>
<td>The server is not running</td>
<td>Start the server.</td>
</tr>
<tr>
<td></td>
<td>The server has not authenticated the unit</td>
<td>Authenticate the unit on the server side. (See page 6)</td>
</tr>
<tr>
<td></td>
<td>The unit does not recognize the server</td>
<td>Obtain the server list again. (See page 15)</td>
</tr>
<tr>
<td></td>
<td>The number of registrations on the server list has reached 50</td>
<td>Delete servers that you no longer require from the list. (See page 15)</td>
</tr>
<tr>
<td>Takes time to play or change to the next file</td>
<td>• The file size is large&lt;br&gt;• DRM-protected content is being played</td>
<td>This is not a malfunction.</td>
</tr>
<tr>
<td>Takes time for the file list to display</td>
<td>There is a large number of files in the list</td>
<td>During random play, the larger the number of files in the server, the longer it takes to display the file list. Reduce the number of connected servers (to about four) or reduce the number of files registered on the server (to about 5,000).</td>
</tr>
<tr>
<td>Cannot obtain the file list</td>
<td>The server is creating the file list</td>
<td>It may take some time for the server to create the file list. If that is the case, wait until the list creation has finished.</td>
</tr>
<tr>
<td></td>
<td>• The number of files that can be registered by the server has been exceeded&lt;br&gt;• Characters that are not supported by the server are used in areas such as the file name</td>
<td>Limit the number of files and file formats to the range that can be registered by the server. For details, see the server’s user guide.</td>
</tr>
<tr>
<td>Cannot play even though the file format is supported for playback</td>
<td>The server does not support this file format</td>
<td>Only files whose formats are supported by both the unit and the server can be played. See the server’s user guide.</td>
</tr>
<tr>
<td>Playback breaks up</td>
<td>• There is not enough network bandwidth&lt;br&gt;• The file bit rate is too high</td>
<td>Communication in a network may become congested. Stop the communication of the other devices, or redesign your network environment. If you use wireless communication, then the required bandwidth is larger than that required for the actual communication.</td>
</tr>
<tr>
<td>The network player does not respond</td>
<td>• There is a large number of files in the list and processing takes time&lt;br&gt;• Multiple servers are starting or updating information</td>
<td>Wait until the process finishes.</td>
</tr>
<tr>
<td>The network player no longer responds to operations</td>
<td></td>
<td>Press the <strong>RESTART</strong> button on the remote controller to restart the network player.</td>
</tr>
</tbody>
</table>
NETWORK PLAYER NOTIFICATIONS

A popup message or dialog box may appear from the network player to give notification about an operation. In such cases, refer to the following.

POPUP MESSAGES

These messages disappear a few seconds after they are displayed.

<table>
<thead>
<tr>
<th>Message</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browsing authorization denied</td>
<td>Windows Media Player canceled the unit's authentication.</td>
</tr>
<tr>
<td>Invalid Operation</td>
<td>An invalid operation was performed.</td>
</tr>
<tr>
<td>Preparing to Playback</td>
<td>It takes 4 or more seconds from the key input to the start of playback.</td>
</tr>
<tr>
<td>Can not resume playback</td>
<td>Resume play was attempted on a server that does not support resume.</td>
</tr>
<tr>
<td>No media Contents</td>
<td>There is nothing within the hierarchy.</td>
</tr>
<tr>
<td>Unable to retrieve the list</td>
<td>Failed to obtain the list.</td>
</tr>
<tr>
<td>Restarting</td>
<td>Restarting is in progress.</td>
</tr>
</tbody>
</table>

DIALOG BOX MESSAGE

Dialog boxes are closed by selecting "OK" or "ABORT," and depending on the case, the screen may return to the top menu or the previous screen.

<table>
<thead>
<tr>
<th>Dialog Box Title</th>
<th>Message</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting Server</td>
<td>Establishing Server Connection... The server is starting.</td>
<td></td>
</tr>
<tr>
<td>Starting Server</td>
<td>Failed to connect to server  The server that was starting did not start after 5 minutes.</td>
<td></td>
</tr>
<tr>
<td>Starting Server</td>
<td>Can not connect to server  Failed to start the server with WakeOnLAN.</td>
<td></td>
</tr>
<tr>
<td>Authorization Error</td>
<td>Not authorized to browse this server  An unauthenticated server was selected.</td>
<td></td>
</tr>
<tr>
<td>Retrieving List</td>
<td>Unable to retrieve the list  .While browsing a server, communication with all servers or the target server was lost. Could not obtain information even though the server was browsed.</td>
<td></td>
</tr>
<tr>
<td>Detailed Information</td>
<td>Can not find the requested information Attempted to display detailed information from the list, but could not obtain the related information.</td>
<td></td>
</tr>
<tr>
<td>Playback Error</td>
<td>Failed to play media content  Playback of the playing content could not proceed, or could not play at all after moving to the playback screen.</td>
<td></td>
</tr>
<tr>
<td>List Update</td>
<td>Updating the List  The server playback list was updated.</td>
<td></td>
</tr>
<tr>
<td>Playback Error</td>
<td>No media Contents under one hierarchy  There is no playable content in the hierarchy.</td>
<td></td>
</tr>
<tr>
<td>Playback Error</td>
<td>Unsupported media type  Content in an unsupported format was played.</td>
<td></td>
</tr>
<tr>
<td>Authorization Error</td>
<td>Verify authorization of selected media on server  DTCP-IP authentication failed</td>
<td></td>
</tr>
</tbody>
</table>
GLOSSARY

Default Gateway:
This device is the entry and exit point between an internal network and an external network (Internet, etc.).

DHCP:
An abbreviation of Dynamic Host Configuration Protocol. This function assigns IP addresses automatically to network devices.

DLNA:
An abbreviation of Digital Living Network Alliance. An industry group that was established to decide specifications for the mutual connection of audio visual devices and computers in a home network and the mutual utilization of music, photo and video data. This unit is based on DLNA Home Networked Device Interoperability Guidelines v1.0.

DNS:
An abbreviation of Domain Name System. A system that matches host names on the Internet to IP addresses.

DTCP-IP:
This system transmits content in a copyright protected-status on an IP network such as a home LAN. When devices that support DTCP-IP are connected together, copyright-protected files can be transmitted over a network and played.

IP Address:
An identification number that is assigned to each network device.

LAN:
An abbreviation of Local Area Network. A wired or wireless network that connects devices together.

MAC Address:
A unique identification number for network devices such as LAN cards.

NAS:
An abbreviation of Network Attached Storage. A single-function server that integrates elements such as a hard disk, network interface and OS.

Subnet Mask:
A 32-bit value that defines which bits in an IP address are reserved for a network address for identifying the network.

Windows Media Player 11:
Media playback and sharing software that can be downloaded from the Microsoft Corporation website. You can use this software if your computer’s operating system is Windows Vista or Windows XP SP2.

TRADEMARKS

Windows Vista, Windows XP and Windows Media™ are trademarks of Microsoft Corporation in the United States.

Windows Media DRM
This product is protected by certain intellectual property rights of Microsoft. Use or distribution of such technology outside of this product is prohibited without a license from Microsoft.

Content owners use Windows media digital rights management technology (WMDRM) to protect their intellectual property, including copyrights. This device uses WMDRM software to access WMDRM-protected content. If the WMDRM software fails to protect the content, content owners may ask Microsoft to revoke the software’s ability to use WMDRM to play or copy protected content. Revocation does not affect unprotected content. When you download licenses for protected content, you agree that Microsoft may include a revocation list with the licenses. Content owners may require you to upgrade WMDRM to access their content. If you decline an upgrade, you will not be able to access content that requires the upgrade.

DLNA CERTIFIED™ Audio/Video/Image Player
DLNA®, the DLNA Logo and DLNA CERTIFIED™ are trademarks, service marks, or certification marks of the Digital Living Network Alliance.

This product uses DynaFont. DynaFont is a registered trademark of DynaComware Taiwan Inc.

This product contains software that is licensed under GNU General Public License (GPL) or GNU Lesser General Public License (LGPL).
### TECHNICAL INFORMATION

License information for the software used in the unit

This product uses GPL/LGPL software and software made by other companies. After you purchase this product, you may procure, modify or distribute the source code of the GPL/LGPL software that is used in the product.

If you contact the Marantz Support Center, we will provide you with a CD-ROM of the source code that is used, charging only the actual expenses involved. However, note that we make no guarantees concerning the source code. Please also understand that we do not offer support for the contents of the source code.

End user license agreements for the software used in the unit

<table>
<thead>
<tr>
<th>Software</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linux</td>
<td></td>
</tr>
<tr>
<td>uCLinux</td>
<td></td>
</tr>
<tr>
<td>busybox</td>
<td></td>
</tr>
<tr>
<td>cohe</td>
<td></td>
</tr>
<tr>
<td>bintools</td>
<td></td>
</tr>
<tr>
<td>gcc-lib</td>
<td></td>
</tr>
<tr>
<td>ext2root</td>
<td></td>
</tr>
<tr>
<td>libiconv</td>
<td></td>
</tr>
<tr>
<td>elf2ft</td>
<td></td>
</tr>
<tr>
<td>GDB</td>
<td></td>
</tr>
<tr>
<td>genex2fs</td>
<td></td>
</tr>
<tr>
<td>genromfs</td>
<td></td>
</tr>
<tr>
<td>mtd</td>
<td></td>
</tr>
<tr>
<td>madwifi</td>
<td></td>
</tr>
<tr>
<td>uClibc</td>
<td>Exhibit A</td>
</tr>
<tr>
<td>libc</td>
<td></td>
</tr>
<tr>
<td>expat</td>
<td>Exhibit B</td>
</tr>
<tr>
<td>expat</td>
<td></td>
</tr>
<tr>
<td>FreeType</td>
<td>Exhibit C</td>
</tr>
<tr>
<td>bzip2</td>
<td></td>
</tr>
<tr>
<td>libpng</td>
<td>Exhibit D</td>
</tr>
<tr>
<td>Zlib</td>
<td></td>
</tr>
<tr>
<td>Libtiff</td>
<td>Exhibit E</td>
</tr>
<tr>
<td>Libtremor</td>
<td></td>
</tr>
<tr>
<td>STLport</td>
<td>Exhibit F</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Exhibit A

GPL

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are made to ensure that you have the freedom to share and change free software (and that the software is free for everyone else to share and change as well).

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above provided that you also do one of the following:

i) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only if you receive the object code under the same terms that required the object code to be made available under the terms of these Sections. If you cannot distribute the object code under these terms, you must not distribute the source code; when you distribute the object code you may embed the source code distribution requirements in what would otherwise be source code for the object code; or,

ii) Accompany it with the machine-readable corresponding source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

iii) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms and conditions of Sections 1 and 2 above provided that you also do one or more of the following:

i) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only if you receive the object code under the same terms that required the object code to be made available under the terms of these Sections. If you cannot distribute the object code under these terms, you must not distribute the source code; when you distribute the object code you may embed the source code distribution requirements in what would otherwise be source code for the object code; or,

ii) Accompany it with the machine-readable corresponding source code, which must be distributed under the terms and conditions of Sections 1 and 2 above, provided that you also do one of the following:

b) Try to ensure that the distribution of the object code accompanied with the corresponding source code results in a product consistent with the object code, and exercise due care to avoid inadvertently distributing modifications not your own of the object code.

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, the source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

You may copy and distribute in object code or executable form the work that results from translating a work into another programming language if you also distribute the source code for the original work. This may apply, for instance, to a language that uses the same byte encoding as your operating environment.

You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence thereof you may not distribute the Program at all. For example, if a patent license would not permit freeing a derivative work, then the program could be covered by this License notwithstanding that it is a derivative work.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or issues. Each version is given a version number as shown at the end of that version, but not, of course, as shown in this publication.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which anyone can redistribute and change under these terms. To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the “copyright” line and a pointer to where the full notice is found.

The original author’s name and a brief idea of what it does. Copyright (C) <year> <name of author> This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) <year> name of author Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type ‘show w’. This free software, and you are welcome to redistribute it under certain conditions; type ‘show c’ for details.

The hypothetical commands ‘show w’ and ‘show c’ should be available as interactive help. Of course, the commands you use may be called something other than ‘show w’ and ‘show c’; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a “copyright disclaimer” for the program, if necessary. Here is a sample; alter the names:

Written by James Hacker. <signature of Ty Coon>, 1 April 1989 Ty Coon, President of Vice This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.
Exhibit B

LGPL

GNU LIBRARY GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed. (This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.)

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it. You can use it for your libraries, and you can modify it.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to share and change free software (and charge for the work performed on it). The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of this library. The Library includes a library function which uses non-free code, and has a provision for a separate license to allow linking non-free code with it. We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the source files. (Hereinafter, translation is included without limitation in the term ‘modification’)

Also, for each distributor’s protection, we want to make certain that everyone understands that there is a warranty for this free library. If the library is modified by someone other than you, we want its recipients to know that you changed the files and the date of any change. (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional; if the application does not supply it, the square root function must still compute square roots.)

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that you have.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

In summary, what this license guarantees for all third parties is:

1. a complete right to copy and distribute the library with source code, and to modify it.

2. a complete right to copy and distribute the library without source code, and to modify it.

3. the right to redistribute modified copies of the library.

4. the right to distribute object code using the modified library.

5. the right to distribute modified translation of the object code.

6. the right to modify the library for the purpose of distributing it.

The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a ‘work based on the library’ and a ‘work that uses the library’. The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called ‘this License’). Each licensee is addressed as ‘you’.

A ‘library’ means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executable programs. The ‘Library’ refers to any such software library or work which has been distributed under these terms. A ‘work based on the Library’ means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term ‘Modification’).

‘Source code’ for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library. Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library’s complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library. You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library. b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change. c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License. d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful. (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional; if the application does not supply it, the square root function must still compute square roots.) These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it. Thus, it is not the intent of this section to claim rights or contest your rights written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works made from the Library in a freedom consistent with freedom for the user. Therefore, if you distribute the modified Library, you may distribute any part of it under this License, provided that you license the entire modified work under this License. Thus, the distribution of derivative works may be regarded as offering the entire modified work for free.

3. You may apply to the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy. This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library or a portion of it, under Section 2, in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange. If distribution of object code is made by offering access to copy from a designated place, then offers equivalent access to copy the source code from the same place or channel.

5. You may offer to distribute the Library (or any portion or derivative of it), in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange. If distribution of object code is made by offering access to copy from a designated place, then offers equivalent access to copy the source code from the same place or channel.
5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a “work that uses the Library”. Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License. A “work that uses the Library” with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a “work that uses the Library”. The executable is therefore covered by this License. Section 6 states terms for distribution of such executables. When a “work that uses the Library” uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law. If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.) Otherwise, if the work is a derivative of the Library, you may distribute the object file under the terms of Section 6. You provide a license to any other person who displays, runs or distributes copies of the work that you distribute under this License, provided that you also inform them that copying of the Library is permitted under the terms of this License. (For example, a program that contains no derivative of any portion of the Library, but is designed to work with a derivative such as to read it or display it on a monitor, is considered to be a variation of the Library.) You provide a license to any other person who distributes the object file as part of a whole archive of libraries, even if the archive contained no material covered by this License. 

6. As an exception to the Sections above, you may also compile or link a “work that uses the Library” with other code licensed as a proposition of the Library, into an executable containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer’s own use and reverse engineering for debugging such modifications. You must give prominent notice with each copy of the work that the Library is used in and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code of the Library in whatever form it is available under the terms of this License. (It is understood that the source code of the Library includes any accompanying utilities as well.) If a program is distributed as a self-contained machine-executable file with one or more executable libraries, the reference in this clause must be to the source code of the libraries included with the program.

b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6 a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has received a copy of this License.

e) Accompany the work with the complete machine-readable “work that uses the Library”, the object code, and all other materials of the Library, and all other libraries of the Library which the work is based on. You must also tell the user how to run a copy of the Library provided under this License, or obtain a copy at no charge with any other method specified on the cover of the computer tape/disk containing the work, and that the user can copy the Library in accordance with section 6 of this License. You must stop distributing the Library after a prescribed period of time or when you cease to distribute the work.

f) If the work was distributed as part of a collection, the Library among the other contributions must usually be released under the terms of this License.

7. You place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the work based on the Library, without any other library facilities.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated as long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) to limit the use or further copies of the Library, or to require the removal of the Library from its site of combination as a whole, then you are permitted to convey the Library just as you received it and all its associated materials from its distributor.

12. If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

13. Each time you redistribute the Library, it is up to you to ensure that the recipient of a copy has the rights to do anything with the Library that the initial distributor of the Library gave you.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

This License incorporates the limitation as if written in the body of this License.

The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission.

Version 2.1, October 2000

Copyright (C) 2000 Jacob3r

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

END OF TERMS AND CONDITIONS

Anyone implementing a library or other software that uses the Library is held to accept this License automatically, and cannot distribute it without accepting this License.

This License incorporates the limitation as if written in the body of this License.

The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission.

Version 2.1, October 2000

Copyright (C) 2000 Jacob3r

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

END OF TERMS AND CONDITIONS

Anyone implementing a library or other software that uses the Library is held to accept this License automatically, and cannot distribute it without accepting this License.
To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.> Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.

You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990 Ty Coon, President of Vice That's all there is to it!

EXHIBIT C

expat
Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

EXHIBIT D

FreeType
Portions of this software are copyright © 1996-2002 The FreeType Project (www.freetype.org). All rights reserved.

EXHIBIT E

libjpeg
This software is based in part on the work of the Independent JPEG Group.
EXHIBIT F

libpng
COPYRIGHT NOTICE, DISCLAIMER, and LICENSE:

If you modify libpng you may insert additional notices immediately following this sentence.

libpng versions 1.2.6, August 15, 2004, through 1.2.18, May 15, 2007, are Copyright (c) 2004, 2006-2007 Glenn Randers-Pehrson, and are distributed according to the same disclaimer and license as libpng-1.2.5 with the following individual added to the list of Contributing Authors:

Cosmin Truta

libpng versions 1.0.7, July 1, 2000, through 1.2.5 - October 3, 2002, are Copyright (c) 2000-2002 Glenn Randers-Pehrson, and are distributed according to the same disclaimer and license as libpng-1.0.6 with the following individuals added to the list of Contributing Authors:

Simon-Pierre Cadieux
Eric S. Raymond
Gilles Vollant

and with the following additions to the disclaimer:

There is no warranty against interference with your enjoyment of the library or against infringement. There is no warranty that our efforts or the library will fulfill any of your particular purposes or needs. This library is provided with all faults, and the entire risk of satisfactory quality, performance, accuracy, and effort is with the user.

libpng versions 0.97, January 1998, through 1.0.6, March 20, 2000, are Copyright (c) 1998, 1999 Glenn Randers-Pehrson, and are distributed according to the same disclaimer and license as libpng-0.96, with the following individuals added to the list of Contributing Authors:

Tom Lane
Glenn Randers-Pehrson
Willem van Schaik

libpng versions 0.89, June 1996, through 0.96, May 1997, are Copyright (c) 1996, 1997 Andreas Dilger Distributed according to the same disclaimer and license as libpng-0.88, with the following individuals added to the list of Contributing Authors:

John Bowler
Kevin Bracey
Sam Bushell
Magnus Holmgren
Greg Roelofs
Tom Tanner

libpng versions 0.5, May 1995, through 0.88, January 1996, are Copyright (c) 1995, 1996 Guy Eric Schalnat, Group 42, Inc.

For the purposes of this copyright and license, “Contributing Authors” is defined as the following set of individuals:

Andreas Dilger
Dave Martindale
Guy Eric Schalnat
Paul Schmidt
Tim Wegner

The PNG Reference Library is supplied “AS IS”. The Contributing Authors and Group 42, Inc. disclaim all warranties, expressed or implied, including without limitation, the warranties of merchantability and of fitness for any purpose.

The Contributing Authors and Group 42, Inc. assume no liability for direct, indirect, incidental, special, exemplary, or consequential damages, which may result from the use of the PNG Reference Library, even if advised of the possibility of such damage.

Permission is hereby granted to use, copy, modify, and distribute this source code, or portions hereof, for any purpose, without fee, subject to the following restrictions:

1. The origin of this source code must not be misrepresented.
2. Altered versions must be plainly marked as such and must not be misrepresented as being the original source.
3. This Copyright notice may not be removed or altered from any source or altered source distribution.

The Contributing Authors and Group 42, Inc. specifically permit, without fee, and encourage the use of this source code as a component to supporting the PNG file format in commercial products. If you use this source code in a product, acknowledgment is not required but would be appreciated.

A ‘png_get_copyright’ function is available, for convenient use in “about” boxes and the like:

printf("%s", png_get_copyright(NULL));

Also, the PNG logo (in PNG format, of course) is supplied in the files “pngbar.png” and “pngbar.jpg (88x31) and “pngnow. png” (88x31).

Libpng is OSI Certified Open Source Software. OSI Certified Open Source is a certification mark of the Open Source Initiative.

Glenn Randers-Pehrson
glennp at users.sourceforge.net
May 15, 2007
EXHIBIT G
zlib
Copyright (C) 1995-2004 Jean-loup Gailly and Mark Adler

EXHIBIT H
libtiff
Copyright (c) 1988-1997 Sam Leffler
Copyright (c) 1991-1997 Silicon Graphics, Inc.

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that (i) the above copyright notices and this permission notice appear in all copies of the software and related documentation, and (ii) the names of Sam Leffler and Silicon Graphics may not be used in any advertising or publicity relating to the software without the specific, prior written permission of Sam Leffler and Silicon Graphics.

THE SOFTWARE IS PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL SAM LEFFLER OR SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER OR NOT ADVISED OF THE POSSIBILITY OF DAMAGE, AND ON ANY THEORY OF LIABILITY ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

EXHIBIT I
libtremor
Copyright (c) 2002-2004 Xiph.org Foundation

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of the Xiph.org Foundation nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

EXHIBIT J
STLport
Copyright (c) 1994
Hewlett-Packard Company
Copyright (c) 1996-1999
Silicon Graphics Computer Systems, Inc.
Copyright (c) 1997
Moscow Center for SPARC Technology
Copyright (c) 1999-2003
Boris Fomitchev

This material is provided "as is", with absolutely no warranty expressed or implied. Any use is at your own risk.

Permission to use or copy this software for any purpose is hereby granted without fee, provided the above notices are retained on all copies.
Permission to modify the code and to distribute modified code is granted, provided the above notices are retained, and a notice that the code was modified is included with the above copyright notice.