Network Digital Signage Player

CMP2000N
User Guide

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I. Introduction

With ethernet connection and file transfer protocol support, digital media files like MP3's and MPEG's can be downloaded and stored onto a compact flash card from a host server. You can then set which files are played via a text based playlist and set parameters such as sequence and time schedule.

II. Specifications

- CPU: 32 bits RISC and 64 bits DSP dual processors (ES6425)
- Network: IEEE 802.3 Ethernet Single Chip (SMC9113)
- Memory: 16MB SDRam, 2MB Flash Rom, EEPROM
- Video Output: Component Video/S-Video/VGA
- Audio Output: 2 Channel Stereo
- Storage: Compact Flash Type I/II Slot
- Power: 12V AC Power Adapter
- PCB: 4 Layer Design
- Other: RTC and Battery, IR Receiver

III. Signage Player Kit

- Network Signage Player
- 12V AC power adapter
- Remote Control
- Audio/Video cables

IV. Playlist Operation

1. Playlist

- The playlist is a script text file that includes command, time scheduling, filename downloads and content server IP addresses for the signage player client to execute. Playlists are created using CAT (Client Administration Tool) software.

2. Basic Operation without CAT

- Although using the playlist commander and server/client setup utilities in CAT is recommended, you can also pre-configure those settings to have the signage player automate playback. Network setup includes username, password, server IP, client DHCP or static IP, and HTTP or FTP server's URL address to download playlist (ex: http://www.example.com/play/playlist.mpl)
- Administrator uploads playlist file to a specified URL path of HTTP or FTP server
- Connect audio/video cables to any TV display and ethernet cable to the RJ-45 connector
- Power up the unit and network settings will load from the internal EEPROM. After initializing LAN, the player will connect to the internet and download the playlist from its URL and store into the compact flash card.
- The player will read the playlist file and execute tasks including downloading new media files or playing media files.
- Administrator can update the playlist manually or by setting a reboot time on the signage player.

3. Server Monitoring and Management Tool - CAT (Client Administration Tool)

- CAT is an application used to manage multiple client devices thru LAN or internet connection

V. Client Device Setup

1. Player Setup

- High speed compact flash (CF card) memory card is required.
- Format CF card with FAT32 file system for optimal performance
- Plug in CF card into CF slot
- Plug in LAN cable
- Connect display cable to the player
- Connect audio to the player
- Connect A/C power adapter
- Power on the network player and a blue LED light should be evident

2. Player Main Menu

- The player will cycle through “Initializing”, “Initializing LAN”, “Connecting to DHCP Server”, “IP Address” and “CF card” before displaying the main menu
- The main menu will have the following items on the left hand side.
  - Client Local IP: xxx.xxx.xxx.xxx
  - Server IP: xxx.xxx.xxx.xxx or Host Name
  - Time: 2008/3/12 13:45
  - MAC Address: xx-xx-xx-xx-xx-xx
  - Server Connection: On or Off or Error
  - Storage: xxxxMB
- The main menu will have the following items on the right hand side
  - Setup : press ENTER key to go into Client Setup screen
  - Storage : press ENTER key to go to file folder of CF card

3. Client Setup Screen

a. **User Name and Password:** Press “Keyboard” on the remote control to open the virtual keyboard plane. Use the cursor to position on a letter and press ENTER to input. The “0” (zero) key will erase the last letter and after you finish, press “Keyboard” to exit the virtual keyboard mode.

b. **Server IP and Host name:** Move the cursor to select either “Server Static IP” or “Host Name”. Use the numeric keypad on the remote control to type. Note that Server IP is the PC IP where CAT is installed and running. Host name usually will go out to an internet server.

c. **Server Port:** default port is 5021. This port number must match the one in CAT. To access the port number in CAT, goto Server Setup Utility and manually change it to match the port number on the signage player.

d. **Client DHCP or Static IP:** DHCP is recommended.

Time Setup Screen

a. **Time Server:** Select between “time.nist.gov” or “windows.time.com”

b. **Date:** Ignore this setting if you are connected to the internet

c. **Time:** Ignore this setting if you are connected to the internet

d. **Time Zone:** Select your local time zone.

e. **DST:** Select "on" or "off" for Daylight Savings Time.
f. **Date Format:** Will display a date on the ticker scroll bar in either mm/dd/yyyy or dd/mm/yyyy format
g. Press ENTER to go back to the setup screen.

Device Schedule Setup Screen

a. **Reboot Time:** Select a daily reboot time. This feature will enable the signage player to download a new playlist from its host server or computer.
b. **Device Schedule:** Format is in "HH MM to HH MM". Setting to "ON" will turn on video and play from existing file on the playlist. Setting to "OFF" will turn off the video and stop playback.

Auto Start Screen

a. **OFF:** Player will not execute any commands upon initial power up.
b. **Device Schedule:** Format is in "HH MM to HH MM". Setting to "ON" will turn on video and play from existing file on the playlist. Setting to "OFF" will turn off the video and stop playback.
c. **HTTP URL:** Use the client setup utility in CAT to enter the network path URL. Upon power up, the signage player will goto this URL and download the playlist file and execute any action items on the playlist.
d. **iCAT:** iCAT is a web based content management software that is much like CAT but instead of installing software on your PC, iCAT is accessible through a web browser. Although not as feature-rich as CAT, iCAT will let you schedule a playlist and remote update files. Please ask your sales associate for more information on iCAT.

Language: Select which language is used for the scrolling ticker.

Factory Default: Will load pre-defined values into Setup settings.

Save and Reboot: Save all changes and reboot player.

Return to Menu: Returns to main menu.

Note: These client setup values can be modified under the Client Setup Utility located in CAT. The values will be saved in a configuration file called "autoconfig.mia". You can save this file onto a CF card and auto update the signage player manually by inserting it into the CF slot and switching the power to on. If you save the config file as "autoconfig.mib", the signage player will delete it after update.

4. Text Message Format

A text file can be used to store any text data including English, Chinese or Japanese. It will scroll similar to a stock ticker upon any picture or video playback.

The first line on the text file can be used to program settings.

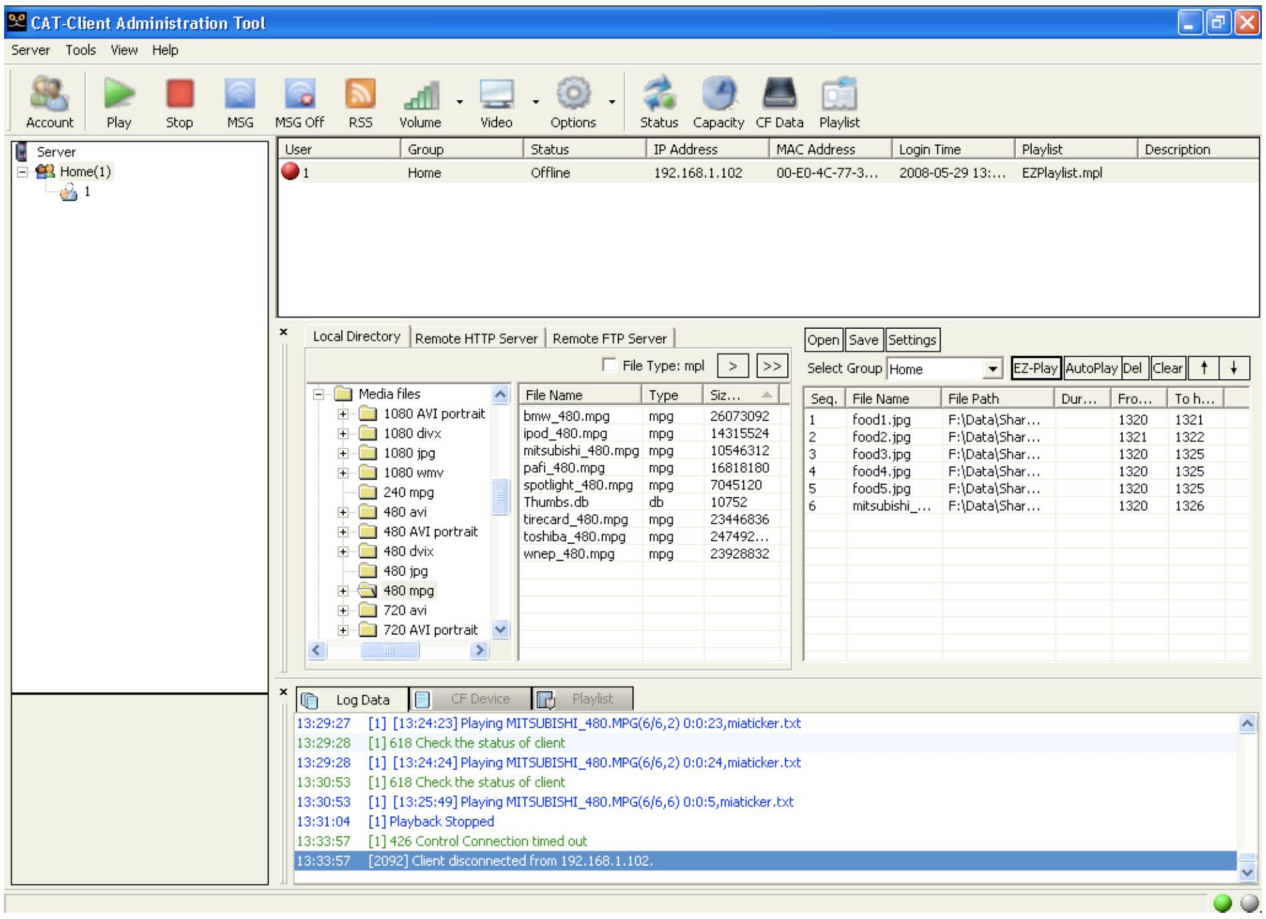
osd_settings=[B/G color], [F/G color], [Transparent], [Speed], [Font Size], [Clock]
e.g. “osd_settings=2,1,0,0,0,0

1. B/G color: a digital number from 0 to 7 (0 blue, 1 grey, 2 red, 3 light blue, 4 green, 5 yellow, 6 magenta, 7 orange)
2. F/G color: 0(white). 1(black)
3. Transparent: 0(no transparent effect), 1(75%), 2(50%), 3(25%), 4(100%)
4. Speed: 1(slow), 2(normal), 4(fast)
5. Font size: 1(small), 2(medium), 3(large)
6. Clock/Date: 1(On), 0(Off)

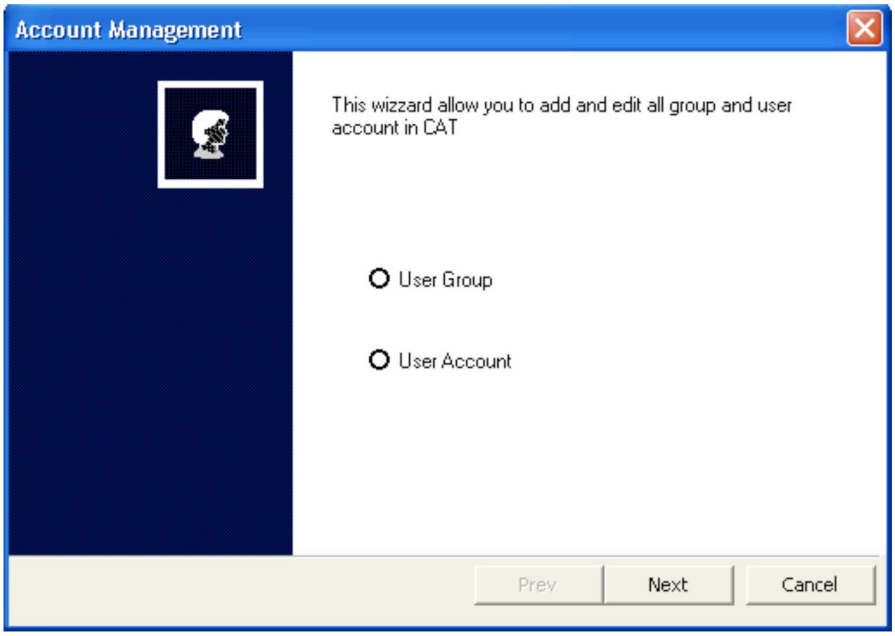
VI. Client Administration Tool

1. CAT.exe

CAT is a program that allows administrators to update media content through the internet. As long as the signage player is connected to a network that has access to the internet, CAT will be able to control and maintain playlists, message files and normal operation commands like powering down or rebooting. CAT will run on either Windows XP or Windows Vista.



2. Account Setup

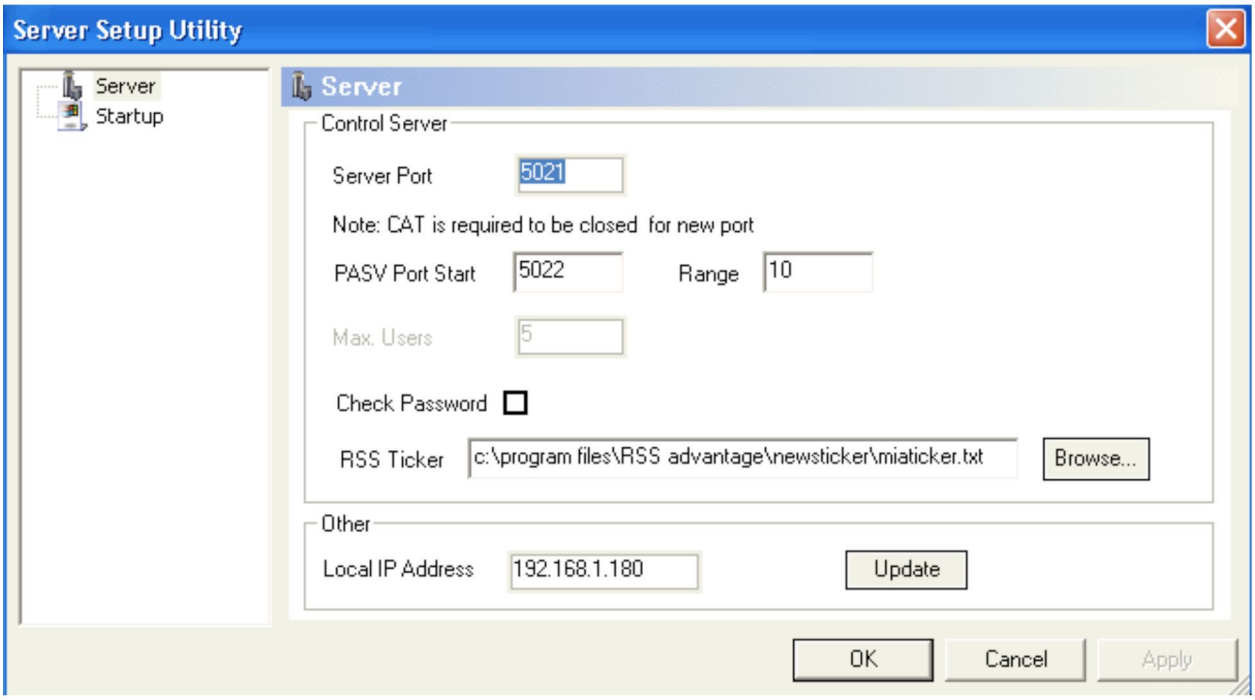


The Account command is used to create or manage user or group names. You can create multiple groups and assign different account names to these groups. When any client logs into CAT, it will go in its corresponding group if the account names match. If there is no match, then the client will fall under the default Home group.

Autoplay is a new feature available on CAT and firmware version 0225 and later (firmware version can be viewed on the upper right section of the main menu on the signage player and the CAT version on the Help -> About screen)

When the signage player powers up and logs into CAT, the program will automatically send a playlist file and update contents as specified on the playlist. To enable this mode, make sure that Autostart is turned OFF in the player setup screen.

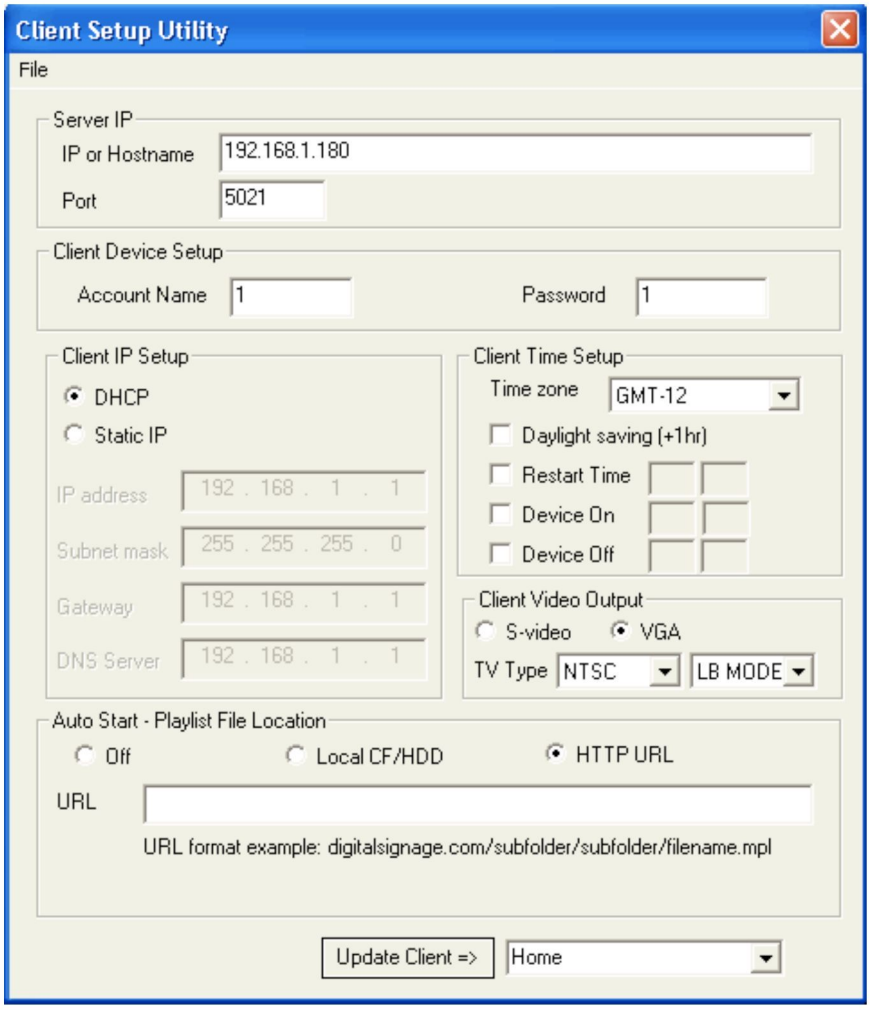
3. Server Utility Setup



Under the Tools menu, you can locate the Server Setup Utility which is used by the administrator to make changes on the server. Server port 5021 is the default port used by CAT to access the signage player. PASV port is used when you access an FTP through the playlist commander. The RSS ticker file will only be used when you are running RSS feeds through the signage player.

4. Client Utility Setup

Under the same **Tools** menu, you can locate **Client Setup Utility** which is used by the administrator to make changes on the signage player. The autoconfig.mia file is used as an update file and the internal EEPROM will save any changes after the update.



a) IP or Hostname: Input a static IP for LAN server or a hostname for remote internet server.

b) Port: The default port is 5021. If 5021 is in use on the server side, then you can manually change it to any open port. Be sure to input the same port number in CAT under **Server Setup Utility** and forward the router's port setting if needed.

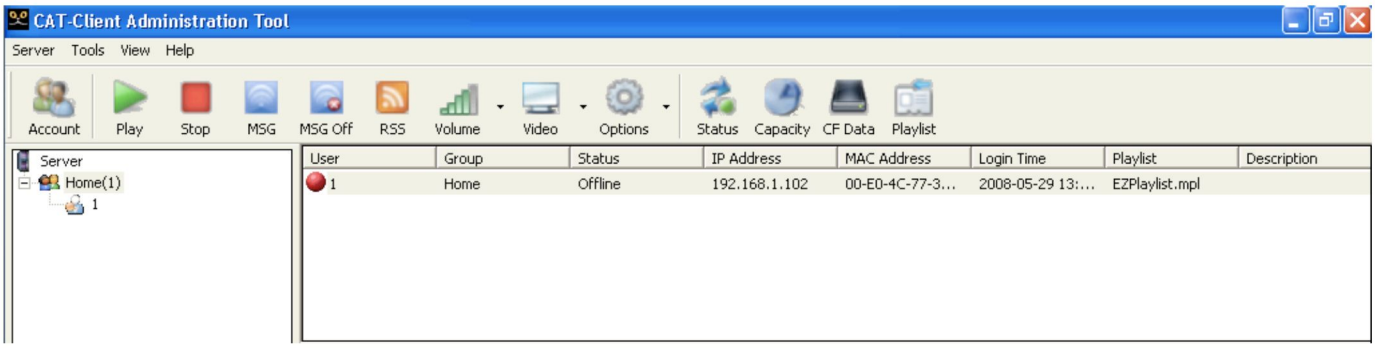
c) Client Account Name and Password: Type in the username and password for the signage player client.

d) DHCP or Static IP: Select either dynamic IP in which the router will issue the signage player an IP or fixed static IP.

e) Time Zone: Select your local time zone.

f) **Daylight Saving:** Check this box to add one hour.
g) **Reboot Time:** The signage player will reboot at specified time if box is checked. This option can be useful when you need to update the signage player's playlist and media contents because upon a reboot, the client player will automatically check for latest playlist version if autostart is enabled for HTTP URL update (explained below).
h) **Device On:** The signage player will turn on video at specified time.
i) **Device Off:** The signage player will turn off video at specified time.
j) **Video output:** Options include S-Video (composite), and VGA. With the remote control, use the **Angle** key to cycle between modes.
k) **Off/Local CF/HTTP URL Address:** When the signage player boots up initially, it will execute one of three commands depending on this option. **OFF** will pause the signage player to wait for next command. **Local CF** will autoplay any media content on the CF card based on local playlist. **URL Address** will specify the signage player to goto this URL and download/update playlist and any new media content subsequently.
l) **Update Client:** This is a remote command to update the signage player with a new autoconfig.mia file. It will send this file to the signage player and these new settings will be saved in EEPROM. It will take approximately 20-30 seconds to reboot.

5. Commands for CAT



a) **Account:** Create group and account user name.
b) **Play:** Send "playback" command manually to a group of clients. Make sure that the active group is highlighted by selecting it with your cursor. All signage players under this group will execute command.
c) **Stop:** Send "Stop" command manually to a group of clients. Make sure that the active group is highlighted by selecting it with your cursor. All signage players under this group will execute command.
d) **Message:** Open the ticker message editor. You can select any text file or type in a message to send to a group. A news ticker on-screen-display will scroll text from right to left on the bottom of the screen.
e) **Message Off:** Turn off ticker for selected group.
f) **RSS:** Send RSS news ticker to selected group. RSS Advantage specified for the signage player (usually bundled with software package, ask your reseller for install file if you do not have it) will need to be installed along with Microsoft .NET framework 1.1 or 2.0 for this feature to function.
g) **Volume:** There are 15 levels of volume that the administrator can control manually.
h) **Video:** Turns the video **On** or **Off** on selected group
i) **Options:** Less frequently used commands are located here.
   - **Send Playlist:** Send a playlist to a group of clients.
   - **Download:** Send a download command to a group of clients.
   - **Playback:** Send playback command to a group of clients.
   - **Format:** Send a format CF card command to a group of clients. All files in the CF card will be erased.
   - **Reboot:** Send reboot command to a client.
   - **Shutdown:** Send a shutdown command to a a group of clients. All clients in the group will power OFF. If you use this command, you will have to manually flip the switch to ON to resume operation.
   - **Group Status:** Inquire all clients to send back status.

These commands will be for an individual signage player or client.

a) **Status:** Inquire client to send back current status including time, current file on playback, music and instant message.
b) **Capacity:** Inquire client to display CF card capacity and firmware version
c) **CF Data:** Inquire client to display all filenames on the CF card under the **CF Device** tab of CAT.
d) **CF Data [delete]:** If you right click the mouse, a 'Delete' window will pop up. You can check all files to be deleted.
e) **Playlist:** Inquire client to report current playlist file.

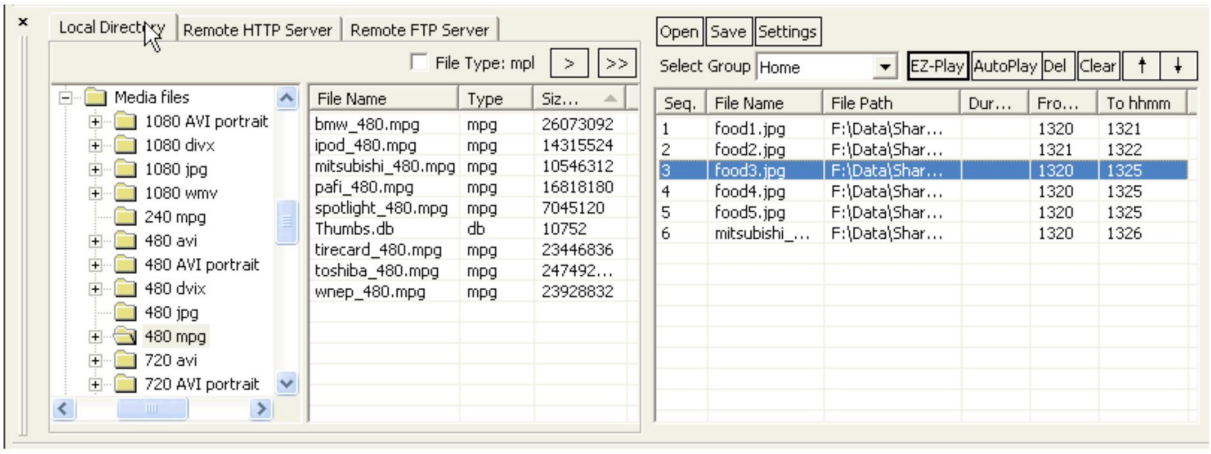
6. RSS Advantage Software

RSS provides your audience with a up-to-date feed of instant news and events around the world. To use this feature, you must install the RSS software provided by the manufacturer and not from the RSS advantage website. This software provides and RSS 2.0 feed that allows administrators to manage their favorite RSS links. News tickers on the PC server side will me mirrored on the signage player display as long as the RSS button is pressed.

Note that the bundled version is without some useful features. If you prefer to unlock your RSS software, please click on "Help->About" to purchase an upgraded version for a 10% discount.

Note: You must install Microsoft .NET 2.0 framework. The ticker file must be located in the following directory: C:\Program Files\RSS Advantage\Newsticker

7. Playlist Commander



a) **Local Directory:** Load media files from local PC's directory. Once files are moved to right window, press 'EZ-Play' on selected group and the server will transfer files to client(s).
b) **Remote HTTP Server:** Type URL address and filename from remote HTTP server.
c) **Remote FTP Server:** Log into any FTP server and browse files.
d) **File Type: mpl:** File filter check box is for playlist extension (.mpl) only. This feature is to support multiple playlist with time range settings.
e) **Open:** Open existing playlist file.
f) **Save:** Save new playlist file or overwrite existing one.
g) **>:** Move single file to playlist window.
h) **>>:** Move all files to playlist window.
i) **Select Group:** User must specify which group to execute "EZ-Play" and "Playlist" buttons.
j) **EZ-Play:** All the media files on the right playlist window will be sent to the client and afterwards, playback will start immediately. This is manual mode, controlled by user.
k) **AutoPlay:** New feature on v.0225-2008 and later. 'Playlist' is changed to 'AutoPlay'. Create Autoplaylist.mpl file under that group and enable Autoplay mode. This will not be effective until the signage player reboots. User can pre-assign playlist file for a particular group of players.
l) **Duration/Times:** For JPEG images, "duration" will control how long an image is displayed. For movies/videos, "times" will be the succession counter on how many times a video/movie is repeated before the next file is played.

m) **Start Time/End Time:** The format is HHMM. If the time range is blank, there is no time limit. Please refer to the example below.

Examples:

Filename	Duration/Counter	From hhmm	To hhmm	Comments
A000.jpg	Blank	Blank	Blank	A000 will display 3 seconds for 24 hours
A001.jpg	30	Blank	Blank	A001 will display for 30 seconds for 24 hours
A002.jpg	Blank	0800	1200	A002 will display 3 seconds from 8am to 12pm
A003.mpg	Blank	Blank	Blank	A003 video will play 1 time each loop for 24 hours
A004.mpg	3	0800	1200	A004 video will play 3 times each loop from 8am-12pm
P001.mpl	Blank	0800	1200	P001 playlist file will start from 8am to 12pm
P002.mpl	Blank	1200	1800	P002 playlist file will start from 12pm to 6pm

n) **Del:** Remove single file from playlist window
o) **Clear:** Remove all files from playlist window and reset values in the Setting menu.
p) **Up/Down Arrows:** Move up or down the highlighted filename to a new poistion
q) **Settings:** Settings to change for the playlist file
   - **Picture Play Time:** Transition interval between JPEG files.
   - **Picture Transition Mode:** 3 modes to choose from (Full Screen, Random, and Cross Fade)
   - **Delete Files:** Choose between 4 deletion options on the CF Card.
   - **Mute Sound:** Mute all content during playback.
   - **Download Schedule:** Set a daily download schedule to check for a new playlist file.

8. Remote HTTP Server

The playlist commander also supports HTTP server browsing. Just type in the URL path and filename and click EZ-Play or save the playlist file for future use.

9. Remote FTP Server

This feature allows the administrator to access an FTP server and create a FTP playlist. The navigation is exactly the same as your local directory. Please have all relevant FTP information in order to login.

Upload Playlist is a new feature from V0115 and later. Click the button and the playlist file will be saved on to the FTP server.