Domino-Pro Product Manual

Domino-Pro Ad Insertion System

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Section 1. Product Overview

The Domino-Pro is a sequential playback ad insertion system. It is intended for simple run-of-schedule type of playback, where lists of ad files are played one after another and repeats the list when finished. Script playlist.txt files can be created to recue to new lists at certain days of the week and times of the day.

The number of ad files played per cue start is predetermined from 1 to 7 files. Typically 30 second files are played, for example 2 files are played to fill a 1 minute break and 4 files are played to fill a 2 minute break. A playlist.txt text file is used to determine which files are played and in what sequence. Hundreds of files can be stored on the media player, but each sequentially cued list of files cannot exceed 159 different ad files. Repeats of the scheduled files do not count toward the 159 number. Each date and time cue point on a playlist represents a new sequentially cued list of files. The 159 file limit will only be a concern if you have only one sequential list of files that are cued for one or more days without repeats.

The Domino-Pro Ad Insertion System consists of a 1RU chassis that contains a DTMF cue tone decoder module, audio/video switching module, media player control module, audio/video media player, and a web relay microcontroller. The media player has an internal SD memory card for storage of advertisement files. Files are transferred to the SD card from a USB thumb drive port on the front of the chassis. The file transfer process is made using a menu displayed on the monitor video output or from a “command.txt” file on the USB drive. Media file management and playback schedules are also managed from the media player menu and “playlist.txt” files, transferred from the USB drive to the internal SD memory. Script files can be created in .txt file format to cue up certain lists of ads on specific days and times. A hand held remote controller is provided to adjust the audio and to navigate the menu of the media player.

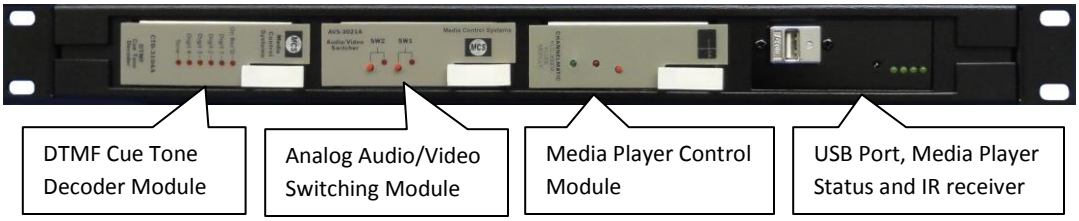
The media player control module monitors and controls the playback of the media player. Dip switches on the control module select how may files are played with each start command and how many seconds of delay happen from the reception of the start command and when the onair switch is made. The control module has a pushbutton for manually starting the ad insertion.

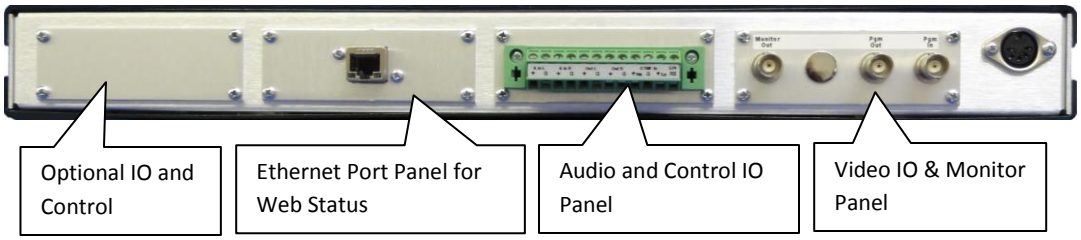
The DTMF Decoder monitors the cue tone output of a satellite receiver. When a valid 4 tone sequence is received, a relay contact closure is made. The microcontroller detects the relay closer and starts the delay time sequence on the media player control module. The DTMF decoder and the ad insertion system can be configured to play ads from the “ON” tones only or utilize both the “ON” and “OFF” cue tone sequences. The default configuration plays from the “ON” tone sequence and returns to Network after the series of ads are played. The DTMF tone sequences to be decoded are set using dip switches on the decoder module.

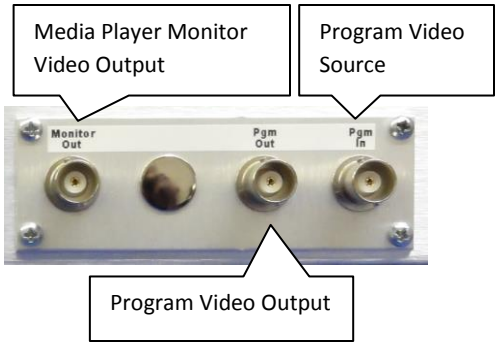
The Domino-Pro Ad Insertion System has two levels of switching. Relays are used to keep the satellite network on air when power is not applied to the frame. Active solid state switching is used to switch the output of the media player into the satellite network for the insertion of the ads. The switching happens in the vertical interval for seamless switching, provided the media player is sync locked to the satellite source. An optional time base corrector is required to lock the media player to the satellite network for seamless switching.

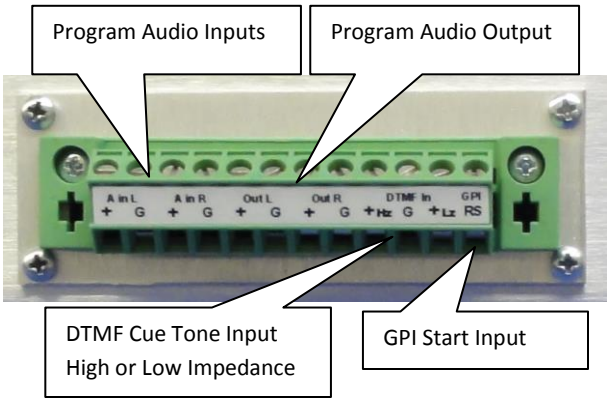
The internal web relay microcontroller provides failsafe features to prevent switching if the Media Player fails to properly play, and returns the Satellite Network, back onair, after failsafe timer expiration. The web microcontroller also provides web access for player status, manual start and override, scheduled time start, and playback time and date logging.

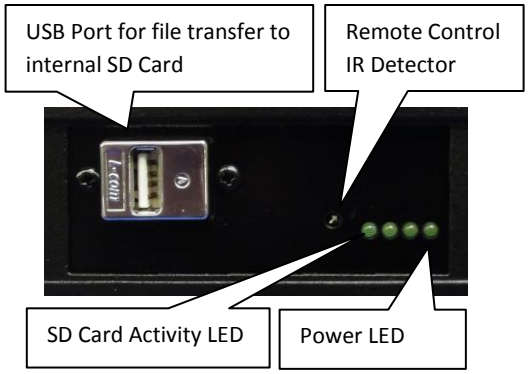
Section 2. Controls, Indicators, and IO











Section 3. Setup and Configuration

3.0 System Wiring

Connect the satellite receiver video output to the Program Input and the Program Video Output is connected to the cable modulator. The Domino Pro audio is unbalanced stereo. Connect the left and right audio from the satellite receiver to the left and right terminal strip as indicated on the label. Connect the left and right audio output of the Domino Pro to the modulator audio inputs.

The DTMF cue tone output of the satellite receiver is connected to the Domino Pro DTMF input. The +Hz connection is for a high impedance audio tone source and the +Lz is for a low impedance source. The GPI RS input is for a contact closure to ground, from a remote cue source.

A picture monitor with composite video input is connected to the Domino Pro Monitor Output. The monitor video output always shows what is playing on the internal media player. Pressing the Menu button on the hand held remote control stops the media player and brings up the media player menu. The monitor output can also be used to lock the satellite source to the media player with an external TBC.

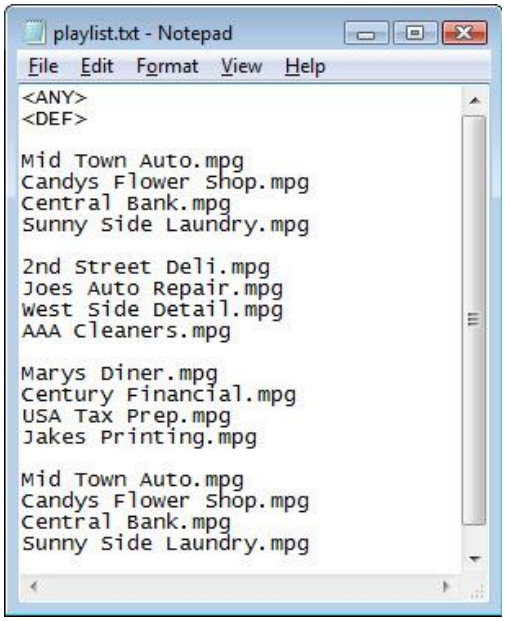
The ethernet port is used for web status monitoring, manual control, and logging. It is <u>not required</u> for the normal operation of the Domino Pro, unless timed cue starting is desired.

3.1 System Configuration

The Domino Pro is normally setup by the factory before shipping. If so all you need to do is to prepare your advertisement files and playlist.txt file and copy the files to the internal SD card. See the section of the manual for setting up the DTMF cue tone sequences to be decoded. See the media player controller section for preroll and number of files per cue start.

Section 4.0 Media Management and Scheduling

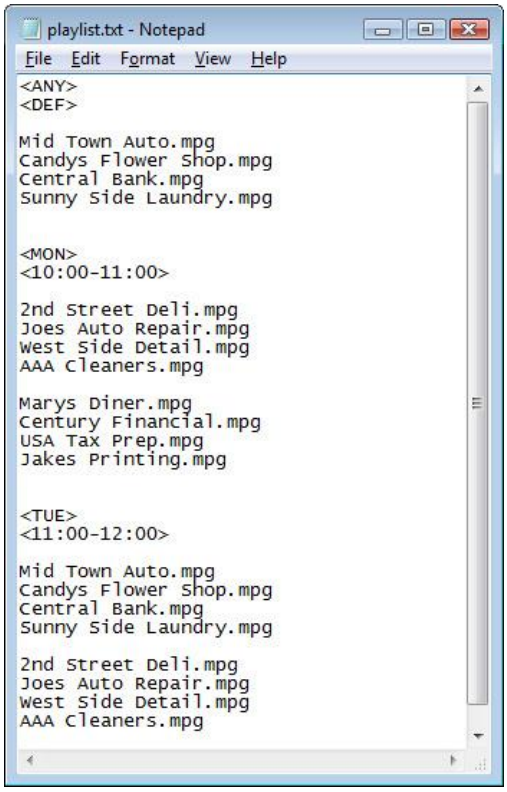
The Domino Pro plays a variety of media files, MPEG 1,2 and 4 andWMV9 with most audio formats except Dolby digital AC3. Typically MPEG2 files of DVD quality are used. The simplest playlist.txt is as shown. Ad files are copied to a USB thumb drive along with the playlist.txt file. The system will cue up to the first default ad file or to a scheduled ad file. If default ads are present every network avail will be filled.



<ANY> means any day of the week.
<DEF> means any time of the day.

The file names are listed including the file extension .mpg.

The system will cue up to the first file and play four files for each cue command, if the player controller is set for 4 files. The system will continue through the list and start over from the beginning.



<ANY> means any day of the week.
<DEF> means any time of the day.
If there are no day and times current on a playlist the default files will be played.
Leave off the <ANY> and <DEF> script if you don't want default files.

<MON>
<10:00-11:00>
Files following this syntax will play on Monday between 10AM and 11AM when cue start commands are received.

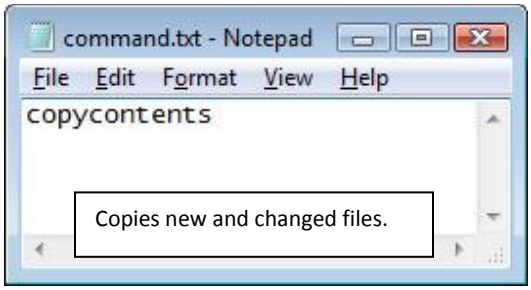
<TUE>
<11:00-12:00>
Files listed after this syntax will play on Tuesday between 11:00AM to 12:00PM.

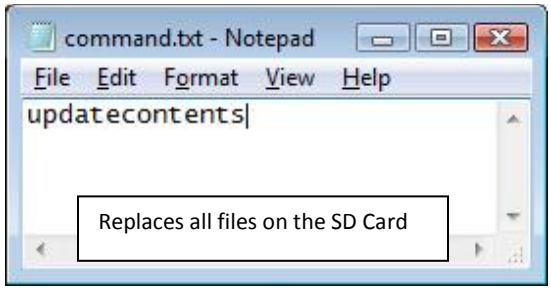
<WED>
<05:00-23:59>
24Hr time is used for scheduling.

4.1 Copying Files to Domino Pro Internal SD card

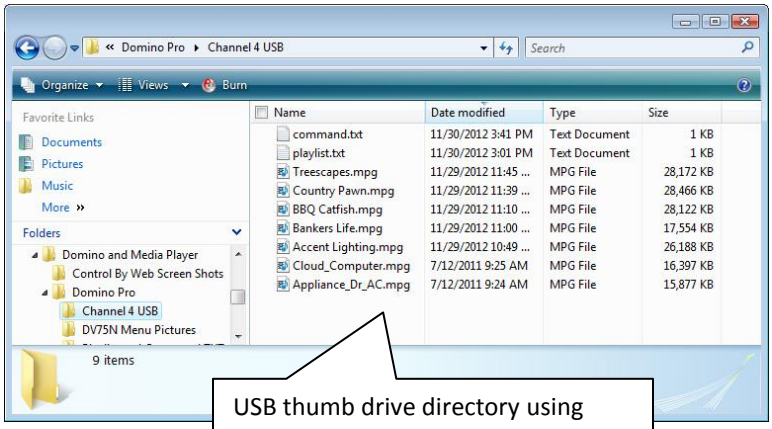
There are two modes used to copy files to the internal SD card in the Domino Pro from a USB thumb drive. One mode replaces all the content on the SD card with the content on the USB drive. The other mode only copies new files and existing files that have been changed. To replace all the files select "USB Sync" on the player menu or create and place a command.txt file with the words UPDATECONTENTS on the USB drive.

To just copy new files and changed files select "USB Copy" on the menu or use the words COPYCONTENTS in the command.txt file and place on the USB drive. Files can be deleted from the internal SD card by using the menu selecting "View" and deleting selected files, "Erase All", or by using the "updatecontents" command.txt.



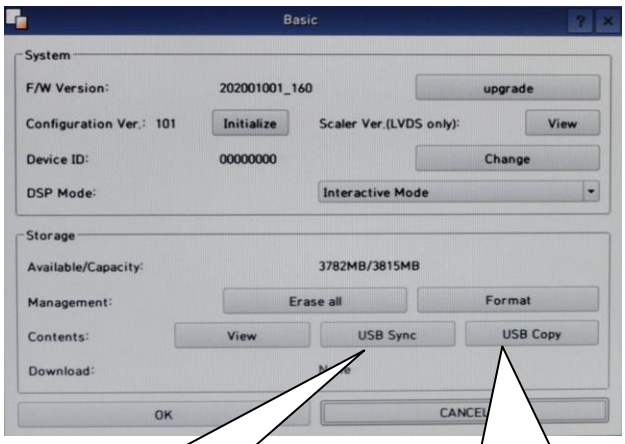


USB Drive File Directory



USB thumb drive directory using Windows Explorer; showing ad files, playlist.txt and command.txt

Media Player "Basic" Menu



Replace all files on SD with USB files

Copy different files to SD with USB files

Section 5.0 System Operation

When the USB drive is removed, or the menu is exited by selecting PLAY from the Main menu, or the power is cycled on the Domino Pro, the system will read the playlist.txt file and cue up to the appropriate ad file. Using a USB drive with an activity LED lets you know that the files have been transferred. Otherwise you need to view the monitor output of the media player.

When the USB drive is removed from the Domino Pro the media player will cue up to first ad file in the default list or the first scheduled file when the scheduled time is reached. A default file is not required in the playlist. If you don't want to use default ad files, leave off the <ANY> and <DEF> from the playlist script.

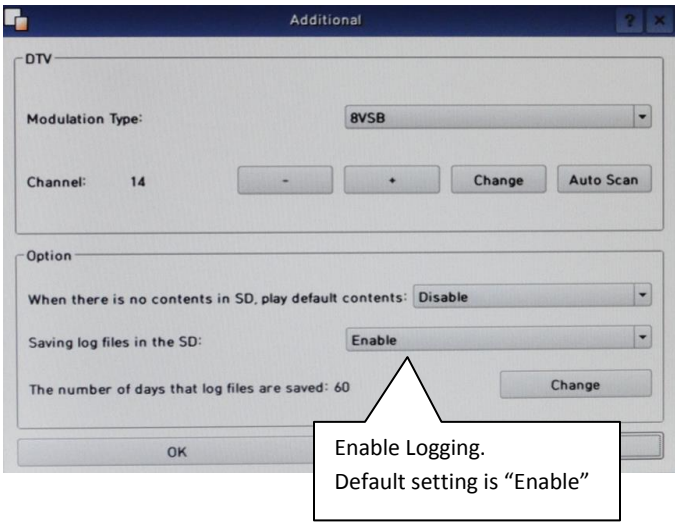
The status LEDs on the front of Domino Pro tells the operator what the inserter is doing. The green LED on the media player control modules shows if the media player is cued up and is ready to play. The red light shows the media player is playing. No lights indicate the system is not ready.

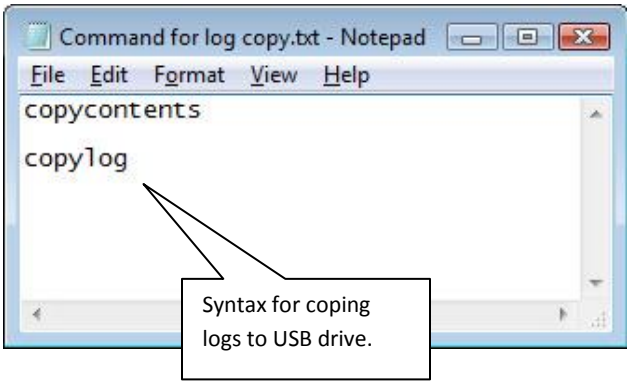
The media player status lights are on the right side of the Domino Pro. The far right green LED is power. The LED on the left shows the SD memory card activity. This light flashes when files are loaded and played. During playback the LED will flash until the playback buffers are loaded then stop even though the player is still playing.

LEDs on the cue tone decoder flash when tones are read. The A/V switch LEDs indicate whether program input 1 is routed to the output or the advertisement input 2 is on air.

5.1 Ad File Playback Logging

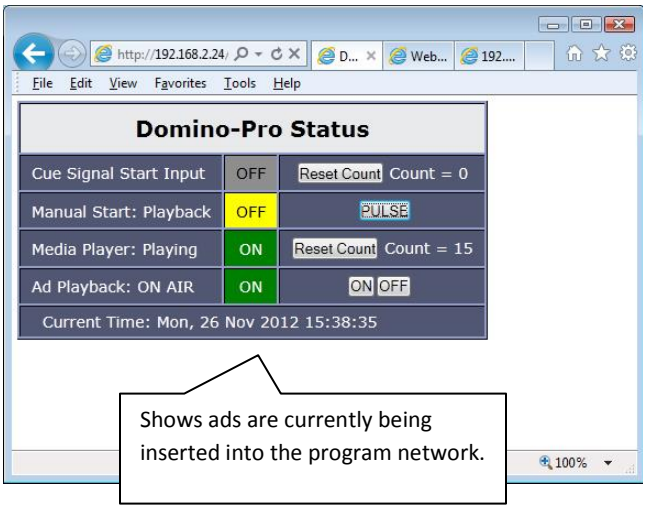
To turn on the logging mode of the media player, select enable from the media players "Additional" menu. To copy the logs to the USB thumb drive a "command.txt" script must be used. The syntax for this is "copylog". To delete the logs on the SD memory, use "deletelog". The media player logs files as they are played. It also logs when the first ad file is cued. So there are extra entries in the log .txt file that you need to ignore or delete.

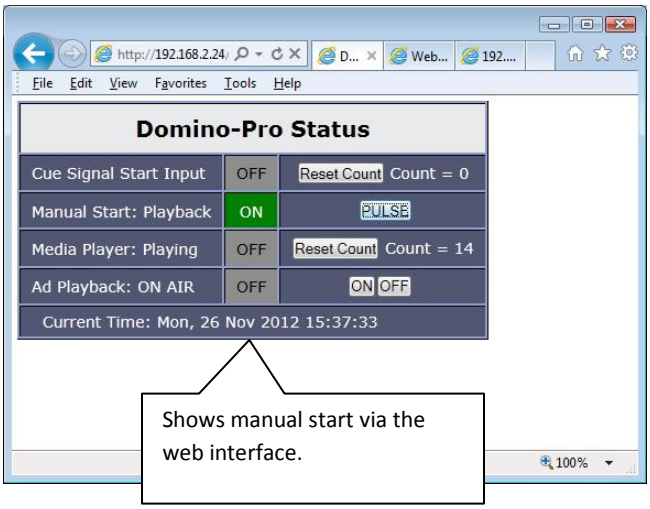


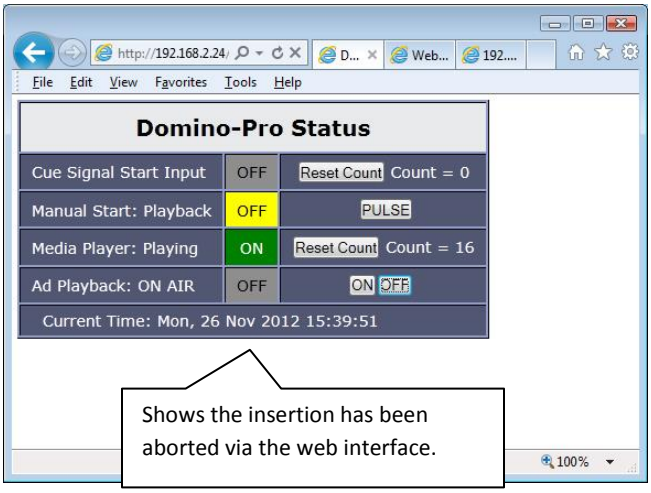


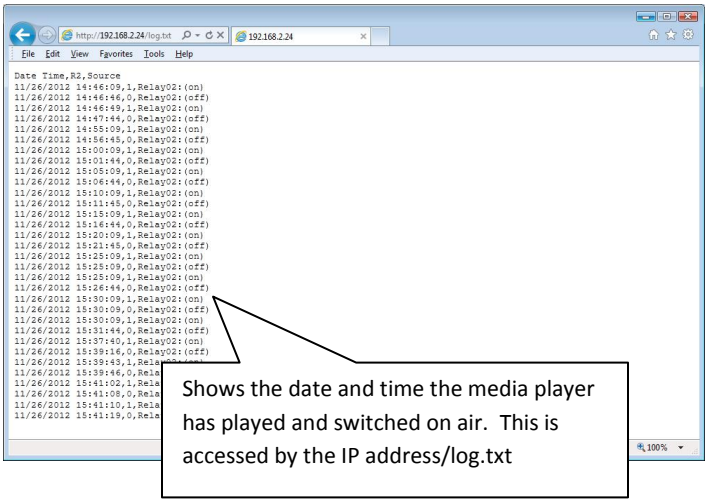
5.2 Web Status Monitoring and Control

The web controller provides a way to view the status of the Domino Pro over a ethernet network. After setting up the network address you can view the status screen by entering the IP address in a web browser.

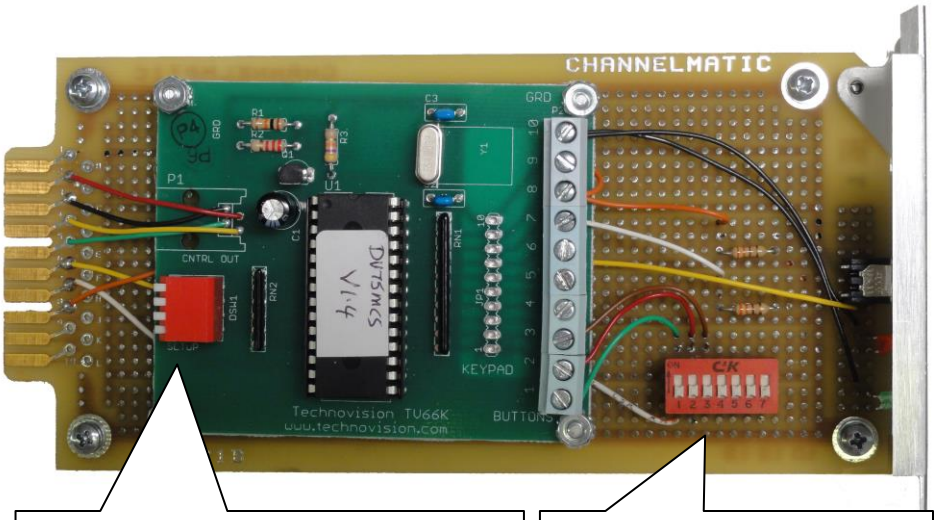








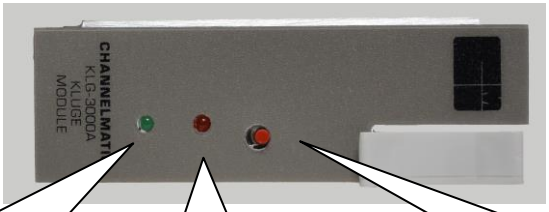
Section 6.0 Media Player Control Module



Sets the Pre-roll delay, from the Cue Tone Receipt to the On-Air Switch. Binary 1,2,4,8
1 ON = 1 Second
2 ON = 2 Seconds
1+2 ON = 3 Seconds
2+4 ON = 6 Seconds, etc…
**** The On-Air switch happens about ½ second later than the set time. If set for 0 the delay would be ½ Sec.**

Sets number of spot files to play with each start command. Binary: 1, 2, 4.
1 ON = 1 Spot File
2 ON = 2 Spot Files
1+2 ON = 3 Spot Files
3 ON = 4 Spot Files, etc…
7 files maximum per start

Media Player Control Module



System Ready LED
This will light up green when the player is ready to play files. It can take several minutes to get ready from initial power up.

ON-AIR LED
Lights red when the player is playing.

Manual Start Button
CAUTION, pressing the start button will insert a commercial into the program source.

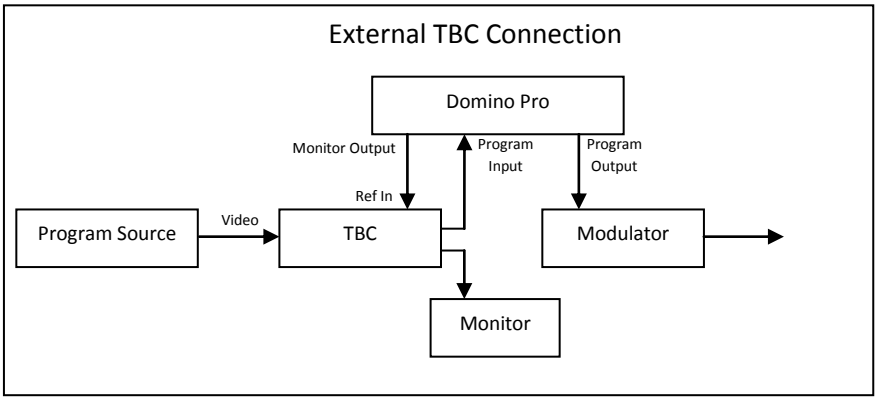
Section 7.0 Audio/Video Switch Module

Audio/Video Switch module with Relay Bypass Module

The Domino Pro Ad Insertion System includes a 2x1 analog audio/video switcher. The A/V switch module includes a relay bypass card and a vertical interval solid-state switching card. The relay card keeps the Program input connected to the A/V output when the frame is powered off. The front panel buttons on the AVS module are locked out for the Ad Insertion application.

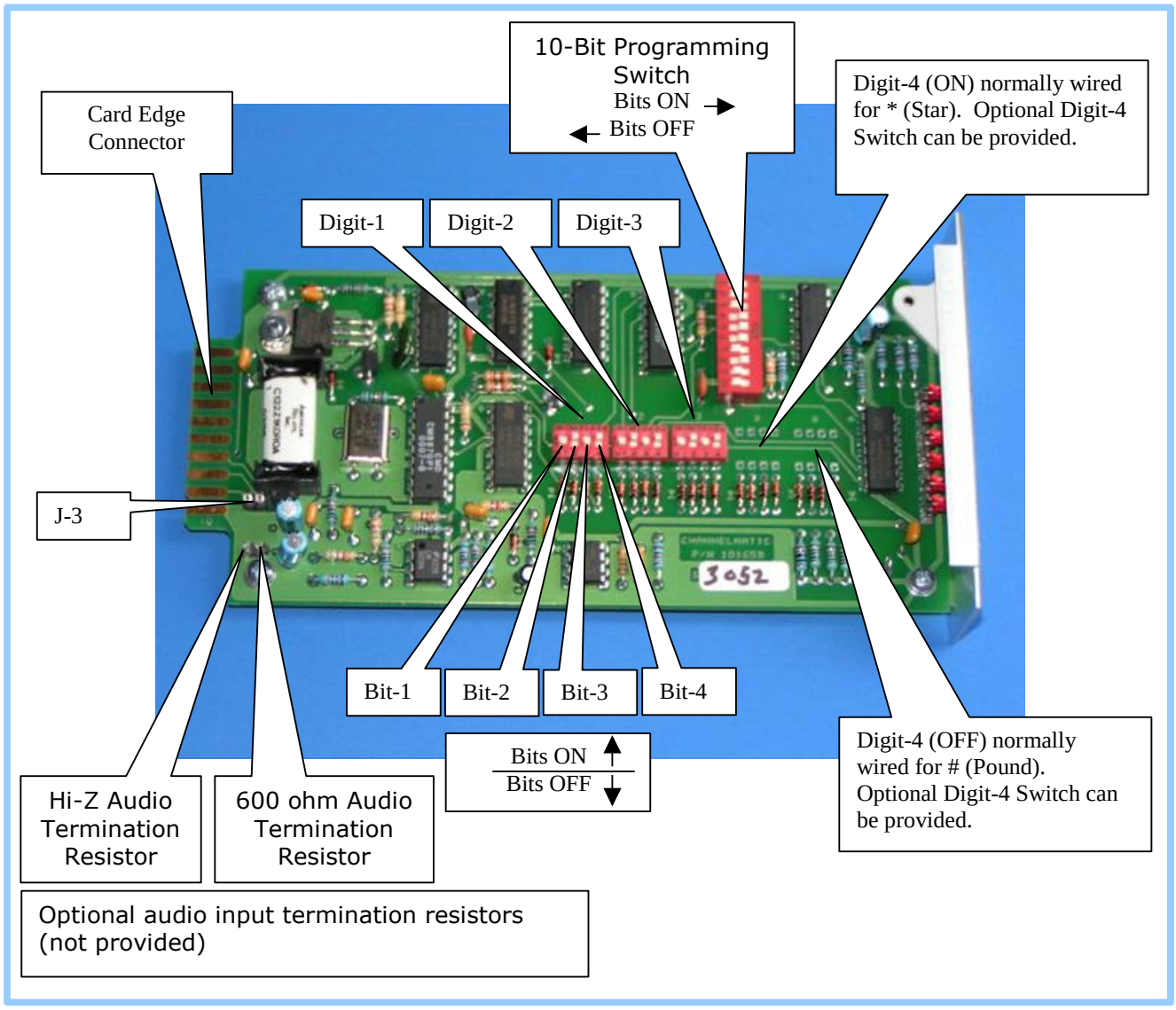
The Domino Media Player does not have a Genlock input, so if you want seamless video switching, an optional TBC is required. The Domino Pro can be purchase with a TBC built in. The media player monitor output can be use to sync lock an external TBC that locks the program source to the media player output.

Optionally the Domino Pro can control an external HD/SD SDI switcher when used with HD or SD SDI feeds. Analog video to SDI and DVI to HD-SDI converters are used for SD and HD SDI playout and ad insertion.



Ensemble TBC, BE-5

Section 8.0 DTMF Cue Tone Decoder Module



LED indicators are provided on the front panel of the CTD-3104A that indicates the status of virtually all important functions of the module. Adjacent to each indicator is a label that identifies it functionally. A list of these indicators and their related functions is listed on the next page.

CTD-3104A Front Panel Indicators	
Indicator	**Function**
ON REC'D	Lights to indicate receipt of a valid "ON" tone group. May not light if "momentary" operation is selected on internal programming switch. Internal switch may also be used to cause ON REC'D indicator to light on every other valid tone group.
DIGIT 1	Lights to indicate receipt in proper sequence of each digit in preset tone group. (See Note below)
DIGIT 2	
DIGIT 3	
DIGIT 4	
TONE	Flashes to indicate receipt of audio with peak levels in excess of 2.1 volts peak-to-peak. Steady ON indication signifies audio levels in excess of normal operating range.

Each digit in the tone sequence to be decoded is pre-selected by setting the Digit Pre-Select DIP Switch for that digit. To pre-select the digits to be decoded, refer to Internal Parts Placement diagram, and Digit Pre-select Switch Settings chart.

DTMF Digit	S1, S2, S3, S4, S5 Settings			
	SW1	**SW2**	**SW3**	**SW4**
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
0	OFF	ON	OFF	ON
*	ON	ON	OFF	ON
#	OFF	OFF	ON	ON
A	ON	OFF	ON	ON
B	OFF	ON	ON	ON
C	ON	ON	ON	ON
D	OFF	OFF	OFF	OFF

The CTD-3104A Tone Decoder module(s) used in your system is supplied with an audio tone input from either the audio output of a satellite receiver or other similar source.

The primary (program tone) input to the CTD-3104A is connected to one of the terminal board screw terminals. This input is high impedance (about 50,000 ohms) and may be connected directly to a 150 or 600 ohm program audio line without any detrimental loading or other effects.

To assure proper operation of the module, input audio level, connect the audio source to the module and adjust the output level control at the audio source. The correct adjustment is indicated by the TONE indicator on the front panel of the CTD-3104A module. Optimum performance is obtained when the audio level is adjusted as follows:

1. When TONES are carried on a Program Audio Channel (such as satellite network programming)- Adjust the output level control at the source until the TONE indicator on the front panel of the CTD module flashes regularly on program audio peaks.

2. When TONES are on a dedicated audio channel- Adjust the output level control at the source upward until the TONE indicator on the front panel of the CTD module just lights during a tone burst or test tone transmission. Then adjust the level slightly downward from that point.

NOTE: Although the input circuitry of the CTD-3104A module has been designed to perform with a wide variation in input levels, non-standard tone levels may cause the module to miss an occasional tone burst. Periodic checks of the tone audio level are advised to optimize reliability.

A detailed CTD-3104A product manual can be provided upon request.

Section 9.0 Web Controller Setup

Relay and Timed Start Controller
The Domino Pro Ad Insertion System uses a web relay controller to control the A/V switching, provide a return-to-network fail-safe timer, and provide real-time scheduled starting. The controller is installed inside the Domino frame and does not have to be accessed by the user unless advanced web features are desired or the return-to-network time needs to be changed. MCS factory assistance should be requested.

Changing some settings on the web controller could render the Domino Pro system inoperable. **Contact MCS before making changes other than IP and Time Settings.**

Relay Control Module Login

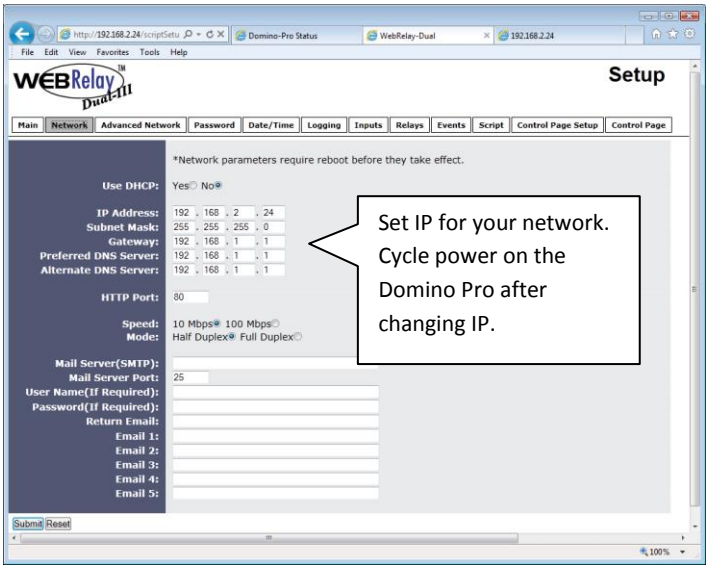
Basic Setup Steps:
(1) Connect unit to network.

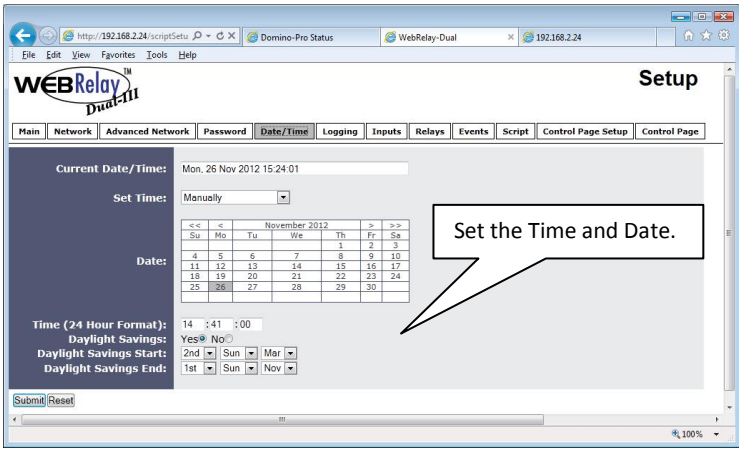
(2) Set up a computer on the same network to configure web controller. To do this, set the IP address of the computer to 192.168.1.50 with a subnet mask of 255.255.255.0.

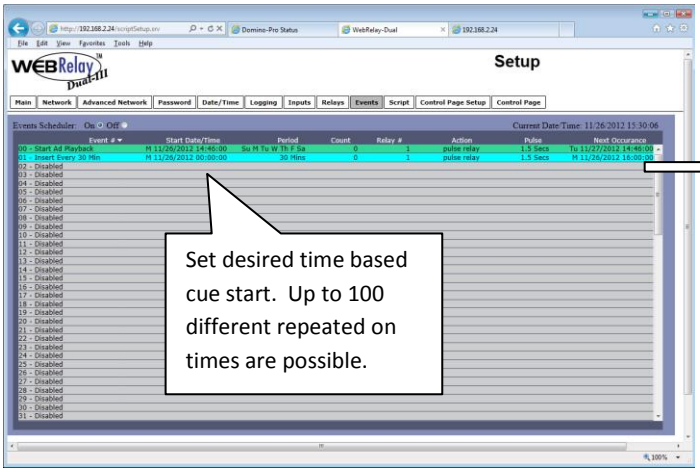
(3) Configure web controller using a web browser. Do this by pointing browser to http://192.168.1.2/setup.html.
Username is **admin** and password is **webrelay** (all lower case).

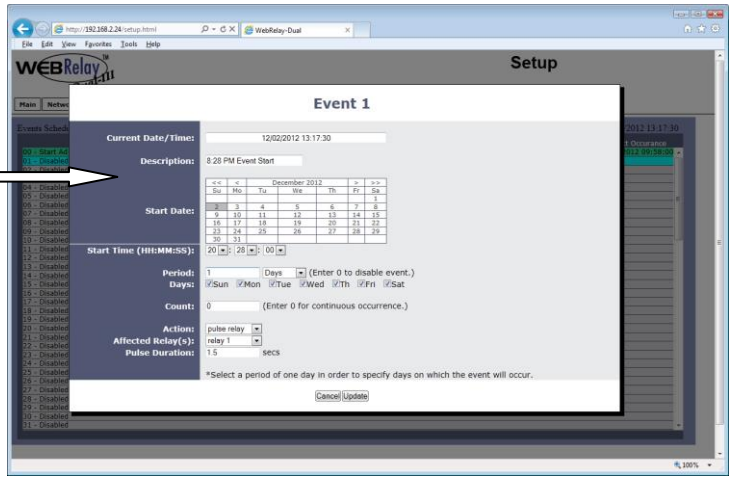
(4) Set the permanent IP address in the configuration page. Restart web controller (Remove power, re-apply power). After restarting the unit, set your computer back to its original settings and access web controller at its new IP address.

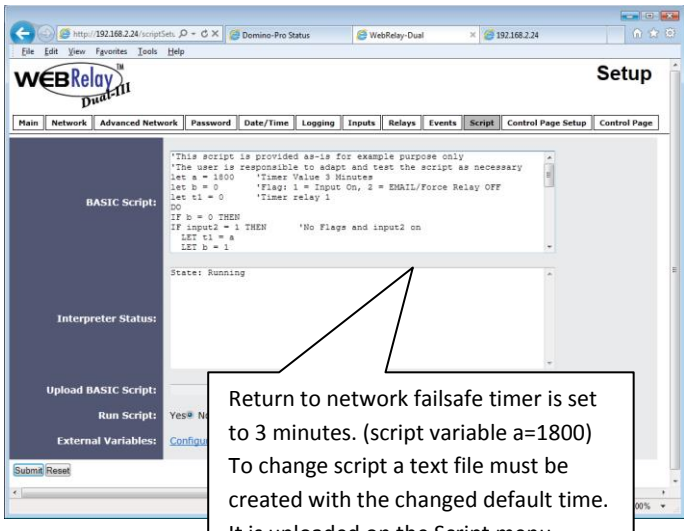
(5) Factory Default Settings
IP Address: 192.168.1.2
Subnet Mask: 255.255.255.0
Web Controller Status Address: http://192.168.1.2
Setup Web Address: http://192.168.1.2/setup.html
Log web address: 192.168.1.2/log.txt
Setup Username: admin
Setup Password: webrelay (all lower case)
Control Username: *not required*
Control Password: *not set*

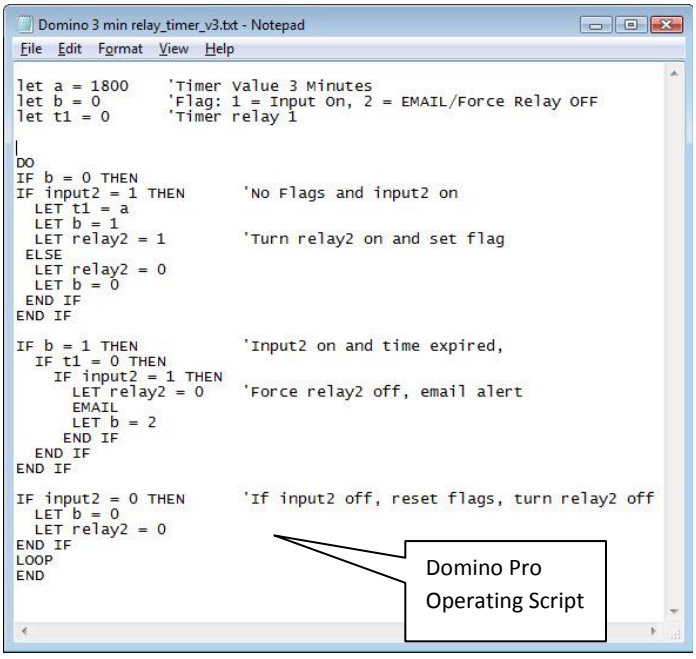

Setup
Set IP for your network. Cycle power on the Domino Pro after changing IP.


Setup
Set the Time and Date.


Setup
Set desired time based cue start. Up to 100 different repeated on times are possible.


Setup
Event 1


Setup
Return to network failsafe timer is set to 3 minutes. (script variable a=1800)
To change script a text file must be created with the changed default time.
It is uploaded on the Script menu.
Do not change any other parameters!


Domino 3 min relay_timer_v3.txt - Notepad
File Edit Format View Help
let a = 1800 'Timer Value 3 Minutes
let b = 0 'Flag: 1 = Input On, 2 = EMAIL/Force Relay OFF
let t1 = 0 'Timer relay 1
DO
IF b = 0 THEN
IF input2 = 1 THEN 'No Flags and input2 on
LET t1 = a
LET b = 1
LET relay2 = 1 'Turn relay2 on and set flag
ELSE
LET relay2 = 0
LET b = 0
END IF
END IF
IF b = 1 THEN 'Input2 on and time expired,
IF t1 = 0 THEN
IF input2 = 1 THEN
LET relay2 = 0 'Force relay2 off, email alert
EMAIL
LET b = 2
END IF
END IF
END IF
IF input2 = 0 THEN 'If input2 off, reset flags, turn relay2 off
LET b = 0
LET relay2 = 0
END IF
LOOP
END
Domino Pro Operating Script

Section 10.0 Media Player Schedule Script Guide

playlist.txt Name of the schedule file in Plain Text format. The playlist.txt file is located in the same folder as the media on a USB Drive and internal SD Card.

If a playlist.txt file is not used or located in the media folder, the system will sort the media files in alpha/numeric order and play them in sequence.

****

Using a # symbol before text denotes the information is a comment and will not be acted upon by the schedule processor. Except for media files like .mpg or .jpg, the # is considered part of the file name.

****

Script and Media File names are to be at the far left margin of a text file line.

****

<ANY> Script used when there is no day of the week (i.e. <MON>) specified for listed media files.

****

<DEF> Script used when there is no time of day (i.e. <10:00>) specified for listed media files.

****

<ANY> and <DEF> Scripts are used when you want files to play as default files, when nothing is currently scheduled to play for any day and time of the week.

<ANY>
<DEF>
Media File Name.mpg
Media File Name.mpg
Media File Name.jpg

****

<MON>, <TUE>, <WED>, <THU>, <FRI>, <SAT>, <SUN> Scripts used to indicate a day of the week.

****

<MON> and <DEF> Scripts are used when you want files to play as default files for a particular day of the week, when nothing is scheduled to play for the current time.

<MON>
<DEF>
Media File Name.mpg
Media File Name.mpg
Media File Name.jpg

****

<00:00> through <23:59> Time format for media files to start, <HH:MM>.

<HH:MM> Schedule time when the following files will be played in the order listed one time and then play the listed default files or next scheduled time. A time in the playlist must have associated files listed. If not the schedule time should have a # before it. (# <10:00>) A time listed without files will cause the media player to start playing the first default file.

8:00 AM
<08:00>
Media File Name.mpg
Media File Name.mpg
Media File Name.mpg

6:00 PM (Providing these comments in a schedule helps an operator to quickly recognize the time)
<18:00>
Media File Name.mpg
Media File Name.mpg
Media File Name.mpg

****

<HH:MM–HH:MM> Files listed under this script will repeat over and over during this time period.

<05:00-08:00>
Media File Name.jpg
Media File Name.jpg
Media File Name.mpg
Media File Name.mpg
****

Media File names can be any length followed by the file extension .mpg; .jpg; .wmv etc.
The media player will internally shorten the file name to an 11 character name according to FAT 32 syntax. It is recommended that the file names use numbers and then letter descriptions.

3465 Oct 31 Board Meeting.mpg
20045 Ford Dealer Spot 24.mpg
18 Station ID.jpg
2300 No To Drugs PSA.wmv
July 4 2011 Parade.mpg

****

<ANY>
<DEF>
3654 Spot Name.mpg
1094 Spot Name.mpg
9803 Spot Name.mpg
9458 Spot Name.mpg

<MON>
<05:00-06:00>
3654 Spot Name.mpg
1094 Spot Name.mpg
9803 Spot Name.mpg
9458 Spot Name.mpg

4003 Spot Name.mpg
4023 Spot Name.mpg
2109 Spot Name.mpg
2384 Spot Name.mpg

<06:00-07:00>
2654 Spot Name.mpg
4094 Spot Name.mpg
1103 Spot Name.mpg
1258 Spot Name.mpg

4003 Spot Name.mpg
2323 Spot Name.mpg
2109 Spot Name.mpg
2784 Spot Name.mpg

Continue throughout the day .

<TUE>
<05:00-06:00>
1222 Spot Name.mpg
1094 Spot Name.mpg
7774 Spot Name.mpg
9458 Spot Name.mpg

Continue throughout the week.

Default files when nothing else is currently scheduled.
<ANY> and <DEF> should not be used if only timed lists are scheduled and default ads are not desired.

If default ads are used every break will be inserted into.

The media player will cue to the first spot after a scheduled time window and wait for a cue tone or GPI to play the pre-programmed number of files.

****

Limited Warranty

MEDIA CONTROL SYSTEMS, LLC, Warrants each new product manufactured by it to be free of defective materials and workmanship, and agrees to remedy any such defect by repair or replacement at no extra charge for a period of one (1) year from the original date of purchase.

This warranty does not extend to any MCS product subject to misuse, neglect, accident, improper wiring or installation, or used in violation of MCS instructions. Nor does it extend to equipment that has been altered outside MCS's factory without prior written approval, nor to equipment that has had the serial number removed, nor to accessories used herewith, which were not manufactured by MCS. Fuses and batteries are specifically excluded from this Warranty. Equipment sold by but not manufactured by MCS is warranted by the original equipment manufacturer.

The owner must deliver equipment covered by this warranty with all transportation charges prepaid, to the MCS factory for examination. If examination discloses, by MCS's judgment, that this is thus defective, the equipment will be repaired or replaced at no charge. Equipment returned prepaid under warranty and repaired in MCS's factory will be returned with all transportation charges, surface freight only, paid by MCS. Units that fail under conditions cited above, as being outside of the warranty extension will be repaired on a time-and-material basis after notification to and approval by owner. All freight incurred in repairing equipment not under warranty will be the responsibility of the owner.

In respect to any and all equipment furnished by MCS, this warranty is in lieu of any other warranty, obligation, or liability expressed or implied including warranty of merchantability or fitness for a particular purpose. No person, including a company representative, is authorized to assume for MCS any other liability in connection with the sale of its products.

Under no circumstances shall MCS be liable in contracts or in tort for any economic loss, including any loss of profits, or for any special or consequential damage.

All inquires relating to either product operation or warranty service should be directed to:

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