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Flex Control Network
Model No. CP-20

CONTROL PANEL

User Manual
Rev. 1.01

Table of Content

Revision History

020107	Original document
020507	Minor corrections

I. Installation

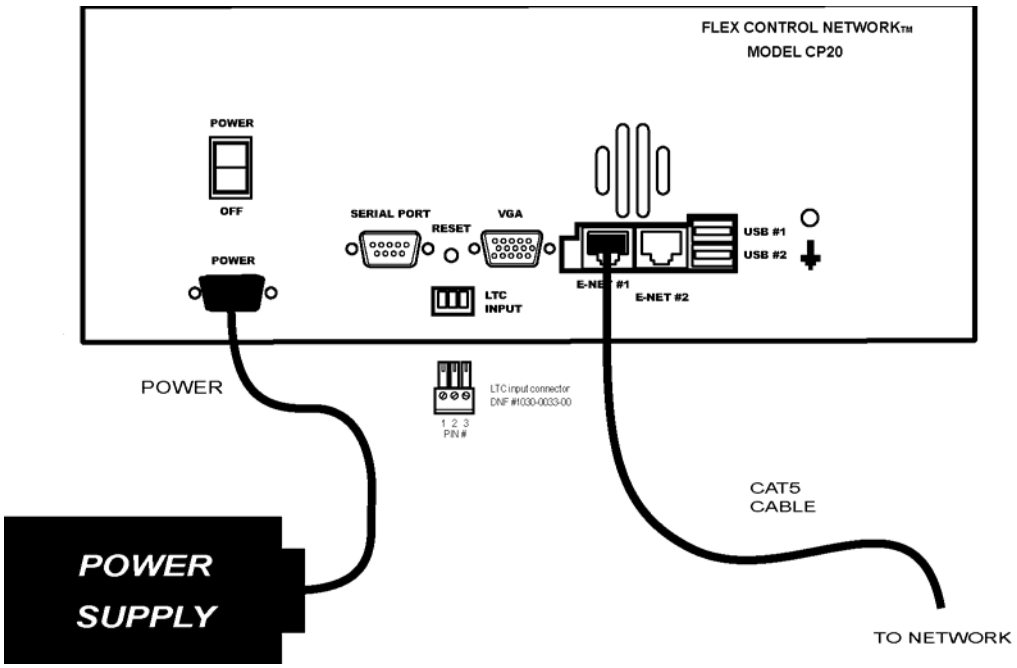
CAUTION

Do NOT apply AC voltage to the power supply, before connecting the power supply to CP20 CONTROL PANEL. component damage may occur.

1) Connect a Cat 5 cable to CP20 CONTROL PANEL connector labeled “E-NET #1”. Connect other end of the Cat 5 cable to customer supplied Ethernet hub.
2) Connect power supply DB9 female connector to ABC DCS CONTROL PANEL connector labeled “POWER“.
3) Connect female side of AC power cable to the supplied power supply.
4) Connect male side of AC power cable to 100 – 240VAC.
5) Push the CONTROL PANEL power switch, located on rear panel, to ON position. “O” on the power switch is the OFF position.
6) When power up and system initialization completes, the front panel display will show Model Number and Software Version. Allow 25 seconds for power up and system initialization to complete.

CAUTION

Do NOT apply AC voltage to power supply, then hot plug the power supply to the ABC DCS CONTROL PANEL. Component damage may occur.



II. Setup

A. Initial setup - using the menu

Press the **[MENU]** key and turn the wheel to select the setup item. Then press a Softkey to choose the option or use the Keypad or attached PC style keyboard to enter a value.

VERSION NUMBER	Shows model number and Software version number.
SYSTEM LABEL	This field shows the control panel name assigned through the browser application.
REC:	LOCKOUT: Record function is disabled. ASSEMBLE: Record function will use ASSEMBLE MODE for recording. CRASH: Record function will use CRASH MODE for recording. INSERT: Record function will use INSERT MODE for recording.
WIND MODE:	LATCH: the fast wind button function will remain active until another motion button is pressed. HOLD: the fast wind button function will cease as soon as the fast wind button is released. SPEED: Press the + or – to set the maximum fast wind speed.
CLEAR CUES:	Select CP20 or DC20 then press the [YES] key to clear all CUE points on the selected unit. Press the [NO] key to not clear the CUE points.
MARK CUES:	CURRENT: The MARKED CUE point will be placed in the current cue number. ADVANCE: The MARKED CUE point will be placed in the next cue number (N+1).
MARK:	Select which time will be used to store into the cue point. IN/OUT POINTS: Will enter only the in and out points CURRENT: Will enter only the current location, even if and in or out point is set.
LOAD KEY:	LOAD: A marked cue will be loaded, only the current channel will be loaded. RECALL: A learned cue will be loaded, with all channels if saved with gang mode on.

IP ADDRESS DISPLAY:	ON: Will display IP address on LCD display. OFF: IP address will not be displayed on LCD screen.
REC KEY:	REC: Only the record key needs to be pressed to start the record function. REC + PLAY: Press PLAY and RECORD key at the same time to start the record function.
PREROLL	Select the VTR channel and press ***{CH}*** key then use the keypad to enter the length of the preroll.
GANG SYNC:	No LTC + Ref Video = The ganged PLAY/REC operation does not use LTC or Ref Vid (Gang is inaccurate). With LTC + Ref Video = The ganged PLAY/REC operation does use LTC or Ref Vid (Use for frame accurate ganged events).
NETWORK DELAY:	Enter a maximum delay of your network (time it takes for command from CP20 to reach the DC20).
GANG NETWORK DELAY:	View the network delay of each ganged channel.
CURRENT IP ADDRESS:	View current IP Address. Press softkey to change the displayed address. Use keypad to enter new address.
CURRENT SUBNET MASK:	View current Subnet Mask. Press softkey to change the displayed mask address. Use keypad to enter new address.
CURRENT GATEWAY:	View current Gateway. Press softkey to change the displayed gateway address. Use keypad to enter new address.
CHANNEL:	To assign channels to the DC20. Press ***{<-}*** or ***{->}*** keys to select the CP20 channel. Press ***{IP}*** to enter the IP address of the DC20. Press ***{CH}*** enter the channel number of the DC20.
CHANNEL ASSIGNMENT TABLE:	BACKUP: Enter a numerical name on the keypad or turn wheel to select file name to save table assignment (if file exist it will be overwritten. RESTORE: Enter a numerical name on the keypad or turn wheel to select a table assignment file name to restore.
LTC SNAPSHOT:	No LTC Signal: there is no LTC signal connected. REFRESH: Press softkey to refresh the reading.

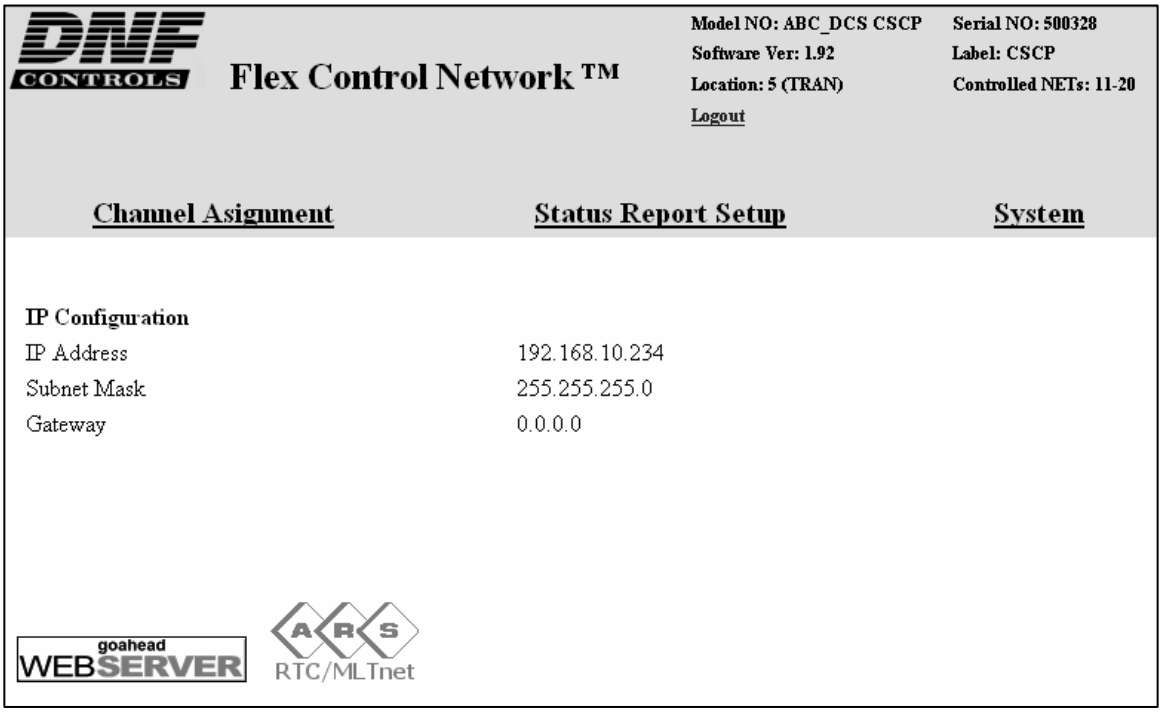
B. Initial setup - using the browser

1. SETUP

   Setup is required after initial installation. This step may be performed at any other time, as required.

   Setup is performed using a computer running an off-the-shelf web browser such as “Microsoft Internet Explorer” or “Netscape”. Connect the CAT5 cable from the computer to the same Ethernet hub that the CP20 is connected to.

   After launching the web browser, enter the IP address of the CP20 to be setup. The Home Page will be displayed.

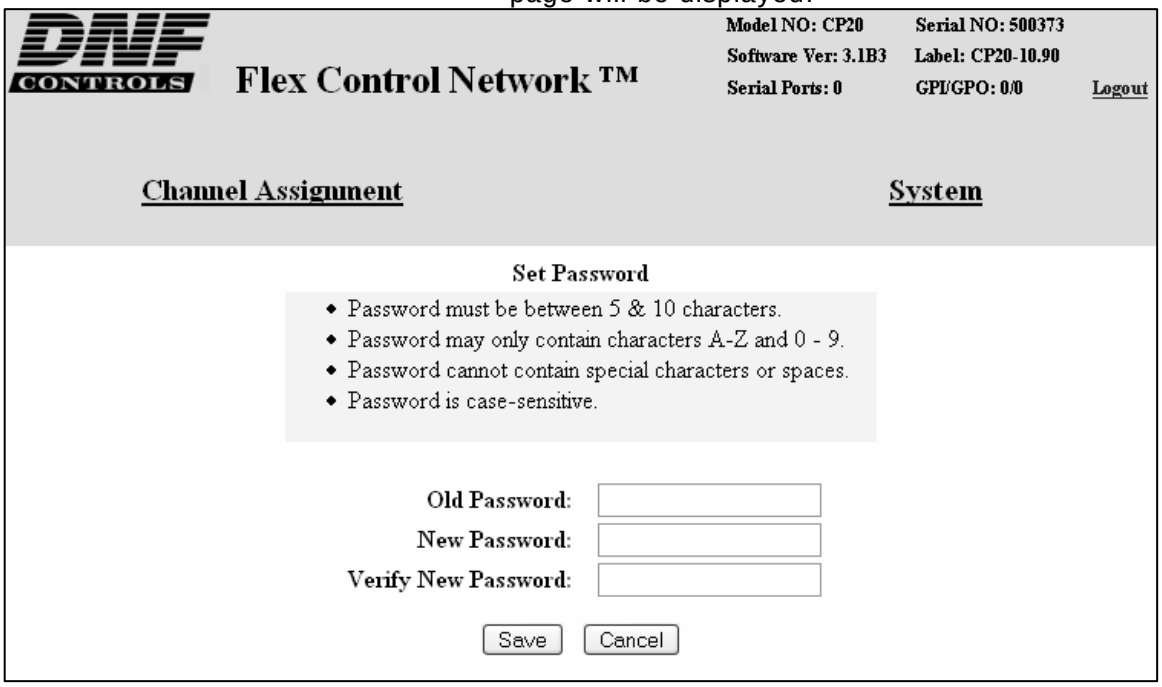


a) Set Password

The default password, when shipped from the factory, is "controls", all lower case. The password is used to access all configuration screens.

Using the web browser-

1) From the Home Page, click on the "System" link. The System page will be displayed.
2) Click on "Set Password". The Set Password page will be displayed.



3) In the "Old password" entry box, enter the current password.

Note- When shipped from the factory, the default password is "controls", all lower case.

4) Enter the new password in the "New Password" entry box.
5) Enter the new password in the "Verify New Password" entry box.
6) Click on "Save" to save the new password.
   OR
   Click on "Cancel" to exit without changing the password.

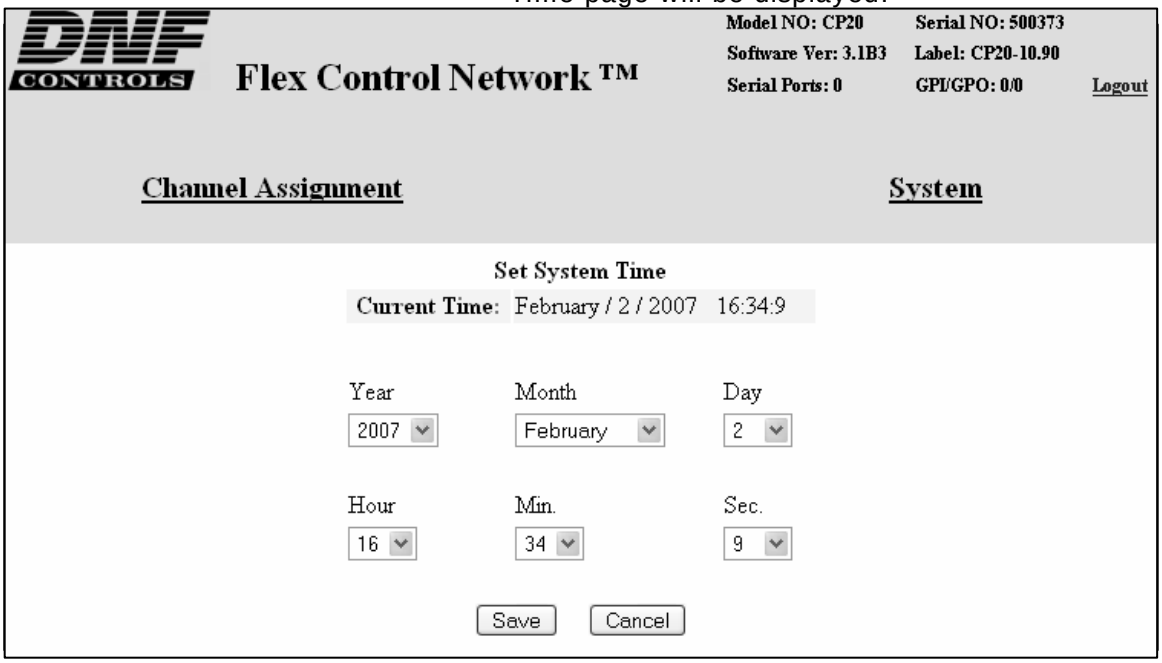
Note- If the "New Password" entry and the "Verify New Password" entry do not match, an error will be displayed.

b) Set System Time

The system time is only used for error and event time stamping.

Using the web browser-

1) From the Home Page, click on the “System” link. The System page will be displayed.
2) Click on “Set System Time”. The Set System Time page will be displayed.



3) Using the drop down menus, set the current date and time.
4) Click on “Save” to save the entered date and time.

   OR

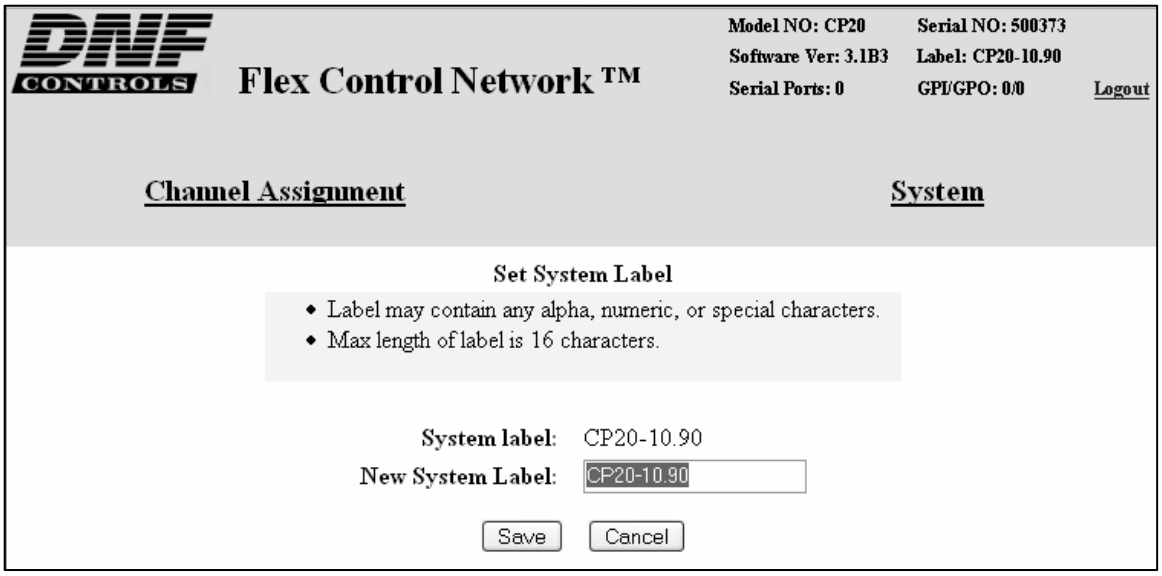
   Click on “Cancel” to exit without saving.

c) Set System Label

The System Label is used to uniquely identify a CP20. This name is associated with the IP address.

Using the web browser-

1) From the Home Page, click on the “System” link. The System page will be displayed.
2) Click on “Set System Label”. The Set System Label page will be displayed.



3) Enter any name made up of letters, numbers, or special characters, up to 16 characters.
4) Click on “Save” to save the name entered in step 3).

OR

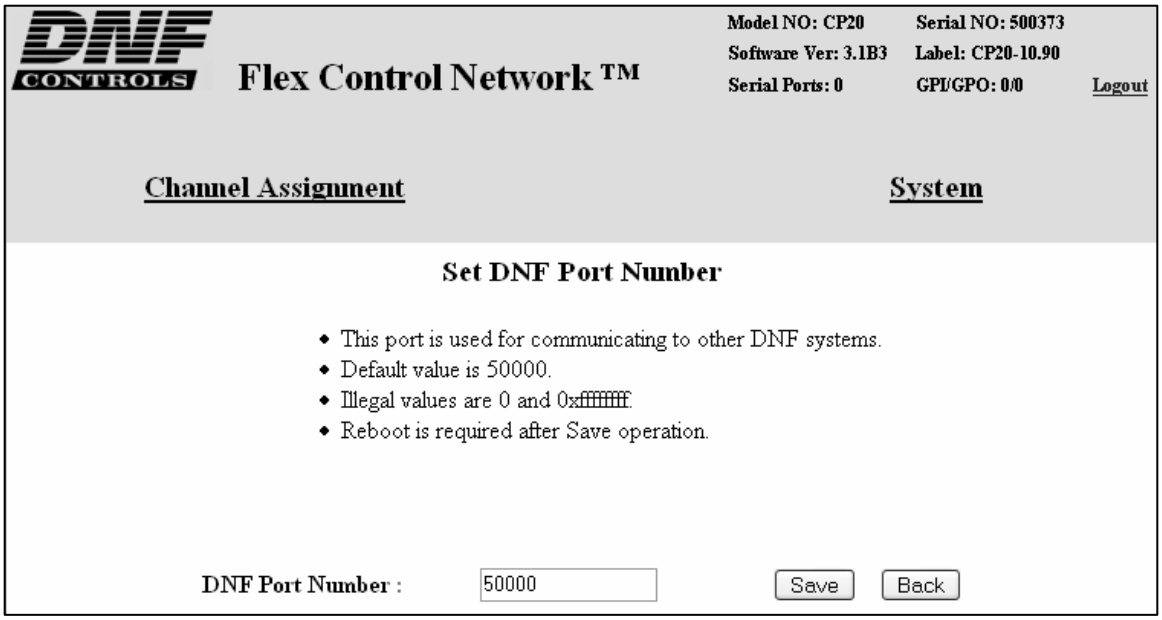
Click on “Cancel” to exiting without changing the System Label.

d) Set DNF Port Number

The DNF Port Number is only used if there are multiple systems running on the same NETWORK. It is normally not necessary to change this setting.

Using the web browser-

1) From the Home Page, click on the "System" link. The System page will be displayed.
2) Click on "Set DNF Port Number". The Set DNF Port Number page will be displayed.



3) Enter a valid number corresponding to the current system.
4) Click on "Save" to save the entered DNF port number.

OR

Click on "Back" to exit without saving.

e) Additional Setups

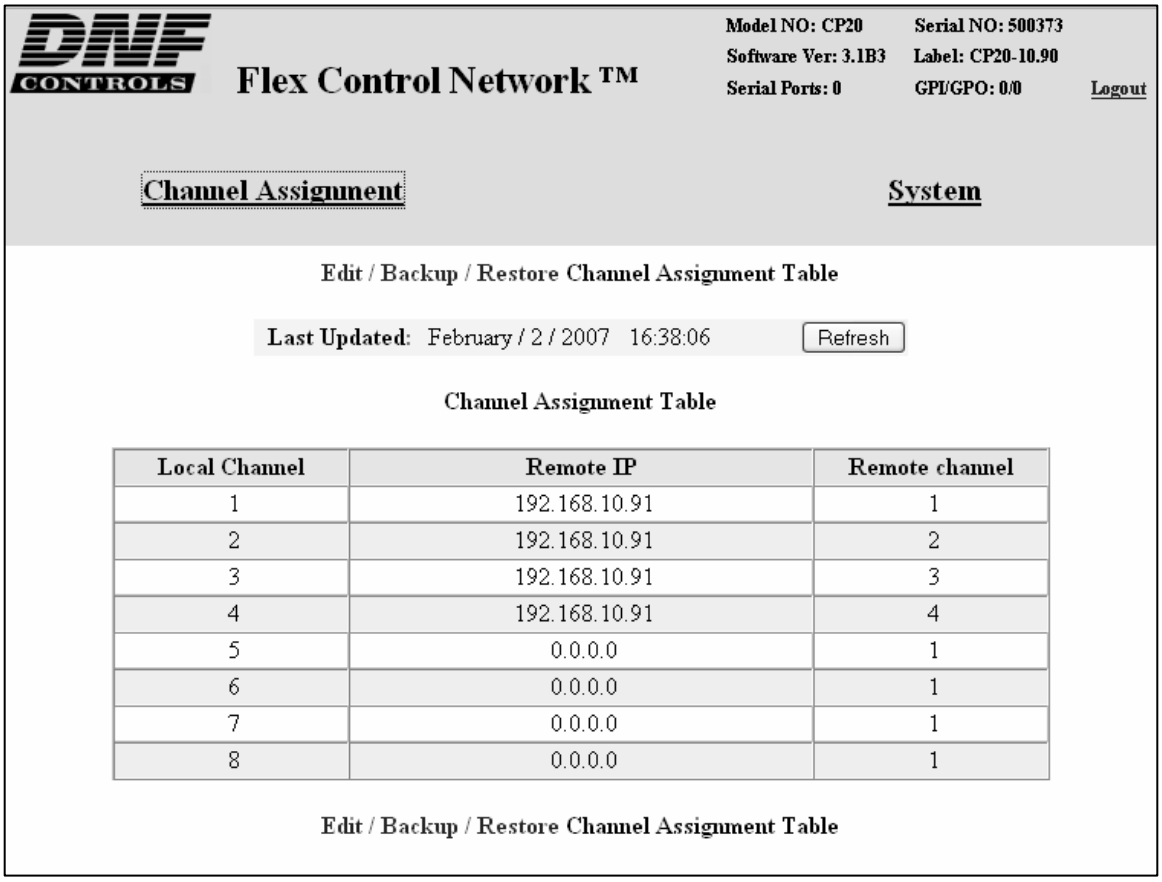
No additional setups are required in "System Maintenance" for normal operation.

2. CHANNEL ASSIGNMENT

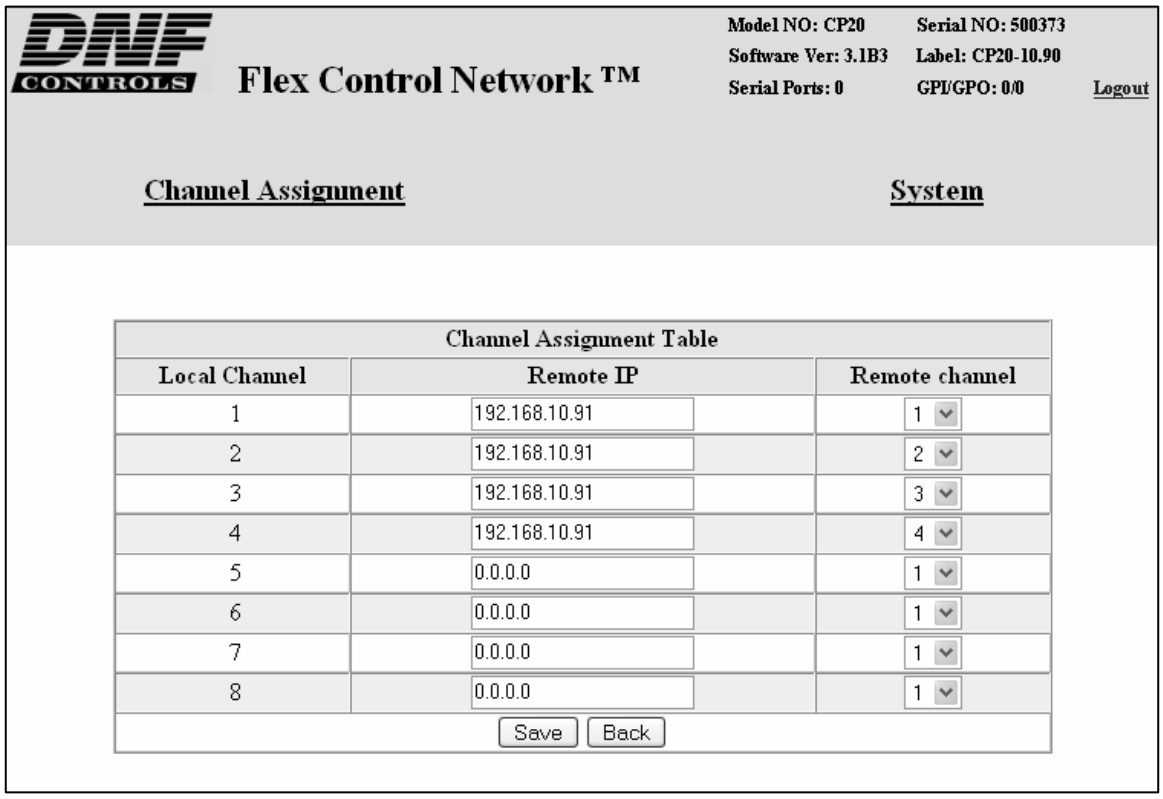
The Channel Assignment Table Setup is performed using a computer running an off-the-shelf web browser such as "Microsoft Internet Explorer" or "Netscape". Connect the CAT5 cable from the computer to the same Ethernet hub that the CONTROL PANEL is connected to.

a) After launching the web browser, enter the IP address of the CP20 to be setup. The Home Page will be displayed.

b) Click on the "Channel Assignment Table" link at the top of the page. The Channel Assignment Table will be displayed.



c) Click on the “Edit Channel Assignment Table” link at the bottom of the page. The Edit Channel Assignment Table will be displayed.



d) Click in the Remote IP address field and enter the IP address of the DC20 device controller to which this control panel is to communicate.

e) Click on “Save” to save the entered IP address.

OR

Click on “Back” to exit without saving.

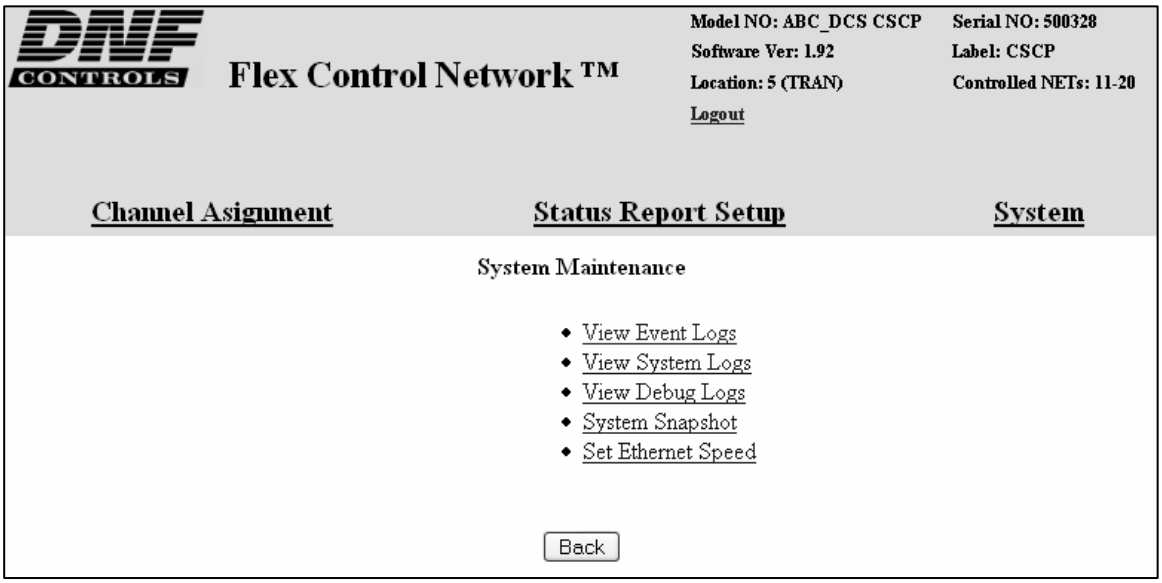
3. SYSTEM MAINTENANCE

a) VIEW EVENT LOGS

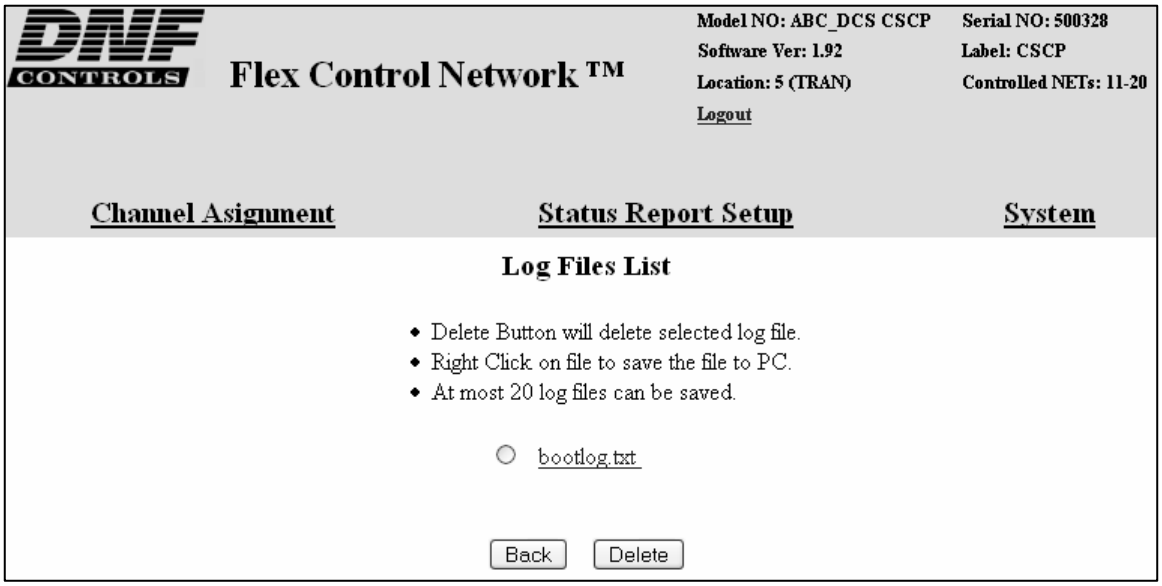
The default password, when shipped from the factory, is "controls", all lower case. The password is used to access all configuration screens.

Using the web browser-

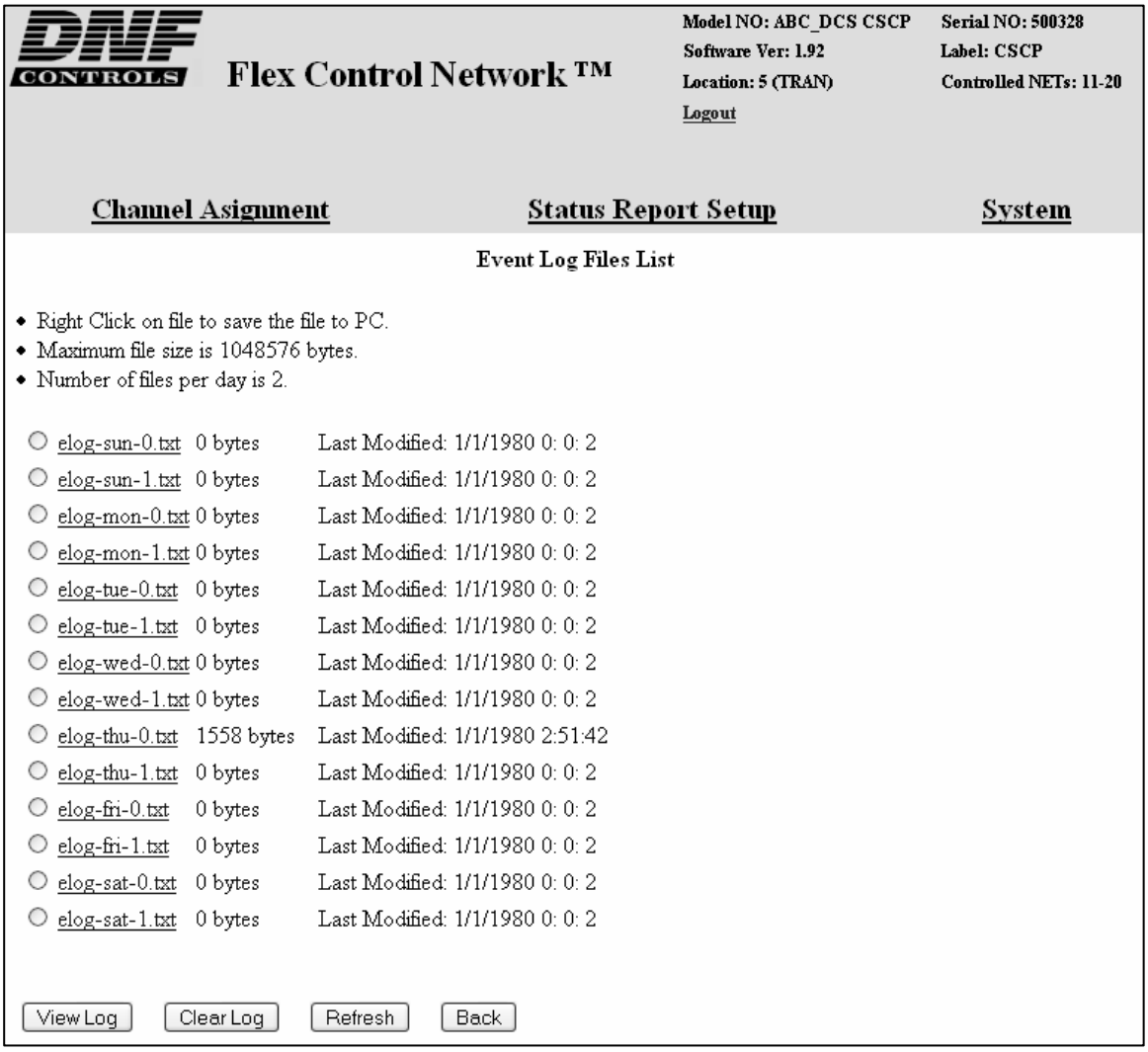
1) From the Home Page, click on the "System" link. The System page will be displayed.
2) Click on "System Maintenance" Link, the System Maintenance page will be displayed.



3) Click on "View Event Logs" Link, the Event Logs File List page will be displayed.



4) Click on a radio button to select the Event File to view. Then click on the “View Log” button to display the file.
5) Right click on the file name to “Save As” the file to the PC. The file will be saved as a standard “CSV” (coma separated value) format.
6) Click on the Back button to exit the page.



VIEW SYSTEM LOGS

The default password, when shipped from the factory, is “controls”, all lower case. The password is used to access all configuration screens.

Using the web browser-

1) From the Home Page, click on the “System” link. The System page will be displayed.
2) Click on “System Maintenance” Link, the System Maintenance page will be displayed.
3) Click on “View System Logs” Link, the System Logs File List page will be displayed.
4) Double click on the file name to view the file.
5) Right click on the file name to “Save As” the file to the PC.
6) Click on any menu link to exit the View Page Mode.
7) Click on the radio button to select the file for deletion. Then click the Delete button to delete the selected file.
8) Click on the Back button to exit without deleting the file

b) SYSTEM SNAPSHOT

The default password, when shipped from the factory, is “controls”, all lower case. The password is used to access all configuration screens.

Using the web browser-

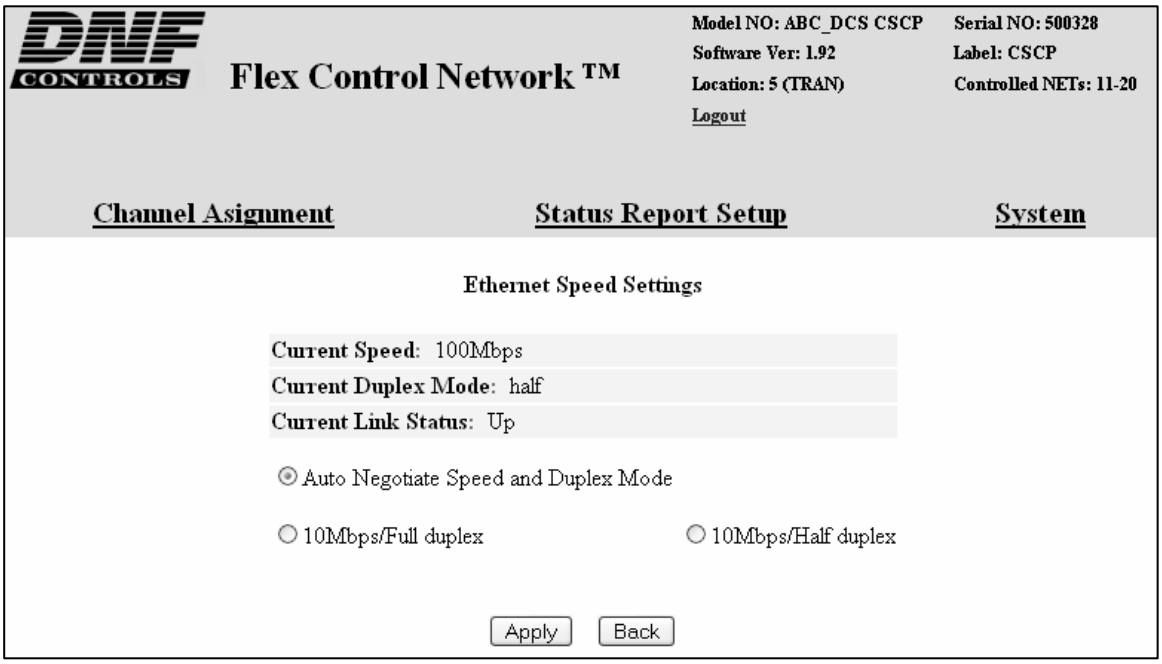
1) From the Home Page, click on the “System” link. The System page will be displayed.
2) Click on “System Maintenance” Link, the System Maintenance page will be displayed.
3) Click on “System Snapshot” Link, the View System Snapshot page will be displayed.
4) Click the “Display on Screen” radio button or “Send to File” radio button Then click on the submit button to perform the selected function. The display will show various facts about the system. This is primarily for diagnostic purposes.

c) SET ETHERNET SPEED

The default password, when shipped from the factory, is "controls", all lower case. The password is used to access all configuration screens.

Using the web browser-

1) From the Home Page, click on the "System" link. The System page will be displayed.
2) Click on "System Maintenance" Link, the System Maintenance page will be displayed.
3) Click on "Set Ethernet Speed" Link, the Ethernet Speed Setting page will be displayed.



4) Click on the Radio button to select the Ethernet speed, and then click on the Apply button.

   OR

5) Click on the Back button to exit without making any changes.

III. VTR mode

A. Play

NOTE: TAPE MUST BE LOADED MANUALLY ON THE VTR.

1. OPTIONAL:

   Set an IN Point and OUT Point.

   Jog/Shuttle to the desired IN point. Press [IN].

   Jog/Shuttle to the desired OUT point. Press [OUT].

   OR

   Press [SHIFT] + [IN]. Manually enter the IN time on the numeric keypad. Press [ENTER].

   Press [SHIFT] + [OUT]. Manually enter the OUT time on the numeric keypad. Press [ENTER].

2. Press [PLAY]. The tape will play from its current time to the OUT point, and then stop. If OUT point is not set then it will play to end of TAPE.

B. Recue

1. Press [GOTO]. The tape will cue to the IN point. If no in point is entered: will do nothing.

C. Loop

1. Set an IN Point and OUT Point.

   Jog/Shuttle to the desired IN Point. Press [IN].

   Jog/Shuttle to the desired OUT Point. Press [OUT].

   OR

   Press [SHIFT] + [IN]. Manually enter the IN time on the numeric keypad. Press [ENTER].

   Press [SHIFT] + [OUT]. Manually enter the OUT time on the numeric keypad. Press [ENTER].

2. Press [SHIFT] + [PLAY]. The clip will immediately start looping.

D. Mark a Cue point

NOTE: TAPE MUST BE LOADED MANUALLY ON THE VTR.

1. Press VTR [1], [2], [3], [4], [5], [6], [7] or [8].

2. OPTIONAL

   Use the transport functions to view the clip.

   Press [IN] to mark an IN point. The IN LED will turn on.

   Press [OUT] to mark an OUT point. The OUT LED will turn on.

   To delete an IN or OUT point, press and hold [DEL], then press [IN] or [OUT]. The IN/OUT LED will turn off.

If no IN point is marked, the current location of the clip will be MARKED as the IN point.

3. Select the desired Cue Point by pressing [NEXT CUE], [LAST CUE] or by manually entering the Cue Point using the numeric keypad, followed by [ENTER].

The selected Cue Point number is shown on the bottom part of the display.

4. Press [MARK] to create the Cue point.

5. NOTE: MARK will overwrite the previous contents of the Cue Point.

6. Press [ESC] at anytime to escape without MARKing.

E. Learn Cue point

NOTE: TAPE MUST BE LOADED MANUALLY ON THE VTR.

1. Press VTR [1], [2], [3], [4], [5], [6], [7] or [8].

2. OPIONAL:

   (1) Use the transport functions to view the clip.

   (2) Press [IN] to mark an IN point. The IN LED will turn on.

   (3) Optional- Press [OUT] to mark an OUT point. The OUT LED will turn on.

   (4) To delete an IN or OUT point, press and hold [DEL], then press [IN] or [OUT]. The IN/OUT LED will turn off.

   (5) If no IN point is marked, the current location of the clip will be learned as the IN point.

   (6) For GANG, repeat steps D.1, 2(1) and 2(2) for each channel. Then, press the [SHIFT] + any [VTR] key enter the GANG mode.

   Press VTR [1], [2], [3], [4], [5], [6], [7] or [8] to add the VTR to the GANG. The VTR LED will turn on.

   Press the VTR key again to remove it from the gang. The VTR LED will turn off.

   Press [ENTER] to complete the GANG mode. The LED of all GANGed VTRs will turn on. The primary VTR's LED will flash.

3. Select the desired Cue Point by pressing [NEXT CUE], [LAST CUE] or by manually entering the Cue Point using the numeric keypad, followed by [ENTER].

   The selected Cue Point number is shown on the bottom part of the display.

4. Press [SHIFT] + [MARK] to initiate the Learn.

   The display will show: “Select VTRs to learn: --------”

5. Select the VTRs to be learned by pressing VTR keys [1], [2], [3], [4], [5], [6], [7] and/or [8].

6. Press [MARK] to complete the Learn process.

7. NOTE: Learn will overwrite the previous contents of the Cue Point.

8. Press [ESC] at anytime to escape without LEARNing.

F. Gang

1. Press the [SHIFT] key + any VTR key to start the gang dialogue.

2. Press VTR [1], [2], [3], [4], [5], [6], [7] or [8] to add the VTR to the GANG. The VTR LED will turn on.

   Press the VTR key again to remove it from the gang. The VTR LED will turn off.

3. Press [SHIFT] to complete the GANG mode. The LEDs of all GANGed VTRs will turn on and the selected VTR LED will flash.

G. Set IN and OUT points

1. Set an IN Point and/or OUT Point.

   Jog/Shuttle to the desired IN Point. Press [IN].

   Jog/Shuttle to the desired OUT Point. Press [OUT].

2. Press [IN] to mark an IN point. The IN LED will turn on. Optional- Press [OUT] to mark an OUT point. The OUT LED will turn on.

   Press [SHIFT] + [IN]. Manually enter the IN time on the numeric keypad. Press [ENTER].

   Press [SHIFT] + [OUT]. Manually enter the OUT time on the numeric keypad. Press [ENTER].

3. To delete an IN or OUT point, press and hold [DEL], then press [IN] or [OUT]. The IN/OUT LED will turn off.

H. Load a Cue Point

1. Press [NEXT] or [LAST] key or enter cue number and press [ENTER] on the keypad

2. Press the [LOAD] key. The VTR will be cued to the marked in point.

3. OR

4. If the Cue was saved as a "LEARN" then:

5. Press [SHIFT] + [LOAD] key. All the VTRs that were learned will be loaded and cued to their in points as well as the learned GANG states.

I. Recue

1. Press [GOTO]. If an IN Point is marked (the IN indicator is on), the clip will RECUE to the IN Point.

J. Search to

1. Press [SHIFT] + [GOTO] then enter the search point on the keypad and press [ENTER] to cue to the entered time.

2. Press [SHIFT] + [IN] then [GOTO] will cue to the in point.

3. Press [SHIFT] + [OUT] then [GOTO] will cue to the out point.

K. Preroll

1. Press [PREROLL] to cue to the amount preset in the menu before the current position. If an in point was set it will cue to the preset amount before the in point.

IV. CLIP mode

A. Load a clip

1. Select a VTR by pressing VTR [1], [2], [3], [4], [5], [6], [7] or [8].

2. Press [CLIP LIST] to view the list of CLIP IDs that are resident on the Video Server. The CLIP LIST indicator will turn on. Turn the Wheel clockwise to scroll forward, or counter-clockwise to scroll backward, through the list of available CLIPs. Backward scrolling is limited to the last 10 screens of CLIP IDs viewed.

3. OR

4. Manually enter a CLIP ID using the CP20 numeric keypad, or PC keyboard.

5. Press [LOAD] to load the entered CLIP ID for playout.

6. Repeat steps 1 thru 5 to load clips on desired VTRs.

7. Set the Gang Mode, if required. See “GANG SETUP” in “FUNCTION TABLE” section.

B. Play a clip

1. OPTIONAL:

   Set an IN Point and OUT Point.

   Jog/Shuttle to the desired IN point. Press [IN].

   Jog/Shuttle to the desired OUT point. Press [OUT].

   OR

   Press [SHIFT] + [IN]. Manually enter the IN time on the numeric keypad. Press [ENTER].

   Press [SHIFT] + [OUT]. Manually enter the OUT time on the numeric keypad. Press [ENTER].Press [PLAY]. The clip will play from its current time to the OUT point, and then stop. If OUT point is not set then it will play to end of clip.

2. Press [PLAY], the clip will play from its current position to the out point, then stop. If out point is not set, then play to the end of the clip.

C. Recue

1. Press [GOTO]. The clip will cue to the IN point

D. Loop

1. Load the clip using CLIP LIST, or recall a cue point.

2. OPTIONAL:

   Set an IN Point and/or OUT Point.

Jog/Shuttle to the desired IN Point. Press [IN].

Jog/Shuttle to the desired OUT Point. Press [OUT].

OR

Press [SHIFT] + [IN]. Manually enter the IN time on the numeric keypad. Press [ENTER].

Press [SHIFT] + [OUT]. Manually enter the OUT time on the numeric keypad. Press [ENTER].

3. NOTE: To loop the whole clip, do not enter IN/OUT.

4. Press [SHIFT] + [PLAY]. The clip will immediately start looping.

5. NOTE: If the clip ID ends with an asterisk ("*"), it will automatically loop when [PLAY] is pressed.

E. Mark a Cue point

1. Press VTR [1], [2], [3], [4], [5], [6], [7] or [8].

2. Load a clip on the selected channel. See section LOAD A CLIP.

3. OPTIONAL

   Use the transport functions to view the clip.

   Press [IN] to mark an IN point. The IN LED will turn on. On recall, the clip will cue to the IN time, not the beginning of the clip.

   Press [OUT] to mark an OUT point. The OUT LED will turn on. On recall, the clip will play to the OUT point then stop.

   To delete an IN or OUT point, press and hold [DEL], then press [IN] or [OUT]. The IN/OUT LED will turn off.

   If no IN point is marked, the current location of the clip will be MARKED as the IN point.

4. Select the desired Cue Point by pressing [NEXT CUE], [LAST CUE] or by manually entering the Cue Point using the numeric keypad, followed by [ENTER].

   The selected Cue Point number is shown on the bottom part of the display.

5. Press [MARK] to create the Cue point.

6. NOTE: MARK will overwrite the previous contents of the Cue Point.

7. Press [ESC] at anytime to escape without MARKing.

F. Learn a Cue point

1. Press VTR [1], [2], [3], [4], [5], [6], [7] or [8].

2. Load a clip on the selected channel. See section LOAD A CLIP.

3. OPIONAL:

   (1) Use the transport functions to view the clip.

   (2) Press [IN] to mark an IN point. The IN LED will turn on. On recall, the clip will cue to the IN time, not the beginning of the clip.

   (3) Optional- Press [OUT] to mark an OUT point. The OUT LED will turn on. On recall, the clip will play to the OUT point then stop.

   (4) To delete an IN or OUT point, press and hold [DEL], then press [IN] or [OUT]. The IN/OUT LED will turn off.

   (5) If no IN point is marked, the current location of the clip will be learned as the IN point.

   (6) For GANG, repeat steps a., b. and c. for each channel. Then, press the [SHIFT] + any [VTR] key enter the GANG mode.

   Press VTR [1], [2], [3], [4], [5], [6], [7] or [8] to add the VTR to the GANG. The VTR LED will turn on.

   Press the VTR key again to remove it from the gang. The VTR LED will turn off.

   Press [ENTER] to complete the GANG mode. The LED of all GANGed VTRs will turn on. The primary VTR's LED will flash.

4. Select the desired Cue Point by pressing [NEXT CUE], [LAST CUE] or by manually entering the Cue Point using the numeric keypad, followed by [ENTER].

   The selected Cue Point number is shown on the bottom part of the display.

5. Press [SHIFT] + [MARK] to initiate the Learn.

   The display will show: “Select VTRs to learn: --------”

6. Select the VTRs to be learned by pressing VTR keys [1], [2], [3], [4], [5], [6], [7] and/or [8].

7. Press [MARK] to complete the Learn process.

8. NOTE: Learn will overwrite the previous contents of the Cue Point.

9. Press [ESC] at anytime to escape without LEARNing.

G. Gang

1. Press the [SHIFT] key + any VTR key to start the gang dialogue.

2. Press VTR [1], [2], [3], [4], [5], [6], [7] or [8] to add the VTR to the GANG. The VTR LED will turn on.

   Press the VTR key again to remove it from the gang. The VTR LED will turn off.

3. Press [SHIFT] to complete the GANG mode. The LEDs of all GANGed VTRs will turn on and the selected VTR LED will flash.

H. Mark IN and OUT points

1. Set an IN Point and/or OUT Point.

   Jog/Shuttle to the desired IN Point. Press [IN].

   Jog/Shuttle to the desired OUT Point. Press [OUT].

2. Press [IN] to mark an IN point. The IN LED will turn on. On recall, the clip will cue to the IN time, not the beginning of the clip.

   Optional- Press [OUT] to mark an OUT point. The OUT LED will turn on. On recall, the clip will play to the OUT point then stop.

   Press [SHIFT] + [IN]. Manually enter the IN time on the numeric keypad. Press [ENTER].

   Press [SHIFT] + [OUT]. Manually enter the OUT time on the numeric keypad. Press [ENTER].

3. To delete an IN or OUT point, press and hold [DEL], then press [IN] or [OUT]. The IN/OUT LED will turn off.

I. Load a Cue Point

1. Press [NEXT] or [LAST] key or enter cue number and press [ENTER] on the keypad

2. Press the [LOAD] key. The VTR will be loaded with the clip and cued to the beginning of clip or marked in point.

3. OR

4. If the Cue was saved as a "LEARN" then:

5. Press [SHIFT] + [LOAD] key. All the VTRs that were learned will be loaded and cued to their in points as well as the learned GANG states.

J. Recue

1. Press [GOTO]. If an IN Point is marked (the IN indicator is on), the clip will RECUE to the IN Point.

   If the IN point is not marked, the clip will RECUE to the start of the clip.

K. Search to

1. Press [SHIFT] + [GOTO] then enter the search point on the keypad to cue to the entered time.

2. Press [SHIFT] + [IN] then [GOTO] will cue to the in point.

3. Press [SHIFT] + [OUT] then [GOTO] will cue to the out point.

L. Preroll

1. Press [PREROLL] to cue to the amount preset in the menu before the current position. If an in point was set it will then cue to the preset amount before the in point.

M. Create a clip

1. Press [CLIP LIST].

2. Press [CREATE]. The display will show the default CLIP ID.

3. Press [LOAD] to accept the default CLIP ID.

   OR

   Manually enter an ID with a maximum of 8 characters from the CP20 numeric keypad.

   OR

Manually enter an ID with a maximum of 8 characters from a PC keyboard.

4. Press [LOAD]. The clip will be created and loaded. If the entered CLIP ID already exists, a warning message will be displayed.

5. To load the existing clip, press [ENTER].

6. Press {REC] or [REC] + [PLAY} keys to start the record process.
   OR

7. Press [ESC] to exit without loading the existing clip.

V. Function Table

Function	Key Press	**Description**
CLIP LIST	[CLIP LIST]	Press the **[CLIP LIST]** key to access the clip list on the server.
FFWD	[FFWD]	Press and HOLD to shuttle. Release key to stop. Set WIND Speed in MENU.
GANG RE-SYNC	[SHIFT] + [STOP]	Press and hold the **[SHIFT]** key and press the [STOP] key. This will reestablish the time offset to the ganged channels. After multiple play/stop, jog or shuttle operations the offset between the ganged channels can be off by several frames.
GANG SETUP	[SHIFT] + [any VTR key]	Individually press the VTR keys to be included in the gang. The LED above the key will turn on. Press the VTR key again to remove from gang. The LED above the key will turn off. Press **[ESC]** to exit. Upon exiting, all members of the gang will have their VTR LEDs turned on. The flashing LED shows which VTR is currently selected.
GOTO ENTERED TIME	[SHIFT] + [GOTO]	Search the VTR to the manually entered time. Use the CP20 numeric keypad. Press **[ENTER]** or **[GOTO]**.
GOTO IN POINT	[IN] + [GOTO]	If IN point is marked, cue to the IN point.
GOTO OUT POINT	[OUT] + [GOTO]	If OUT point is marked, cue to the OUT point.
JOG	[JOG]	Select JOG mode and enable Wheel.
LAST CUE	[LAST]	Step to the previous Cue Point Location.
LOOP	[SHIFT] + [PLAY]	Plays the currently loaded clip in a continuous loop.
MENU	[MENU]	Press the **[MENU]** key to access the menu items.
NEXT CUE	[NEXT]	Step to the next Cue Point Location.
PLAY	[PLAY]	If an OUT point is marked, play to the OUT point and stop. If not OUT point is marked, play normally.
RECORD	[REC]	Places VTR into the Record mode selected by RECORD MODE in the SETUP MENU. Press **[SHIFT]** + **[RECORD]**.
RECUE	[GOTO]	If the IN point is marked, cue to the IN point. No action occurs if the IN point is not marked.
REWIND	[RWD]	Press and HOLD to shuttle. Release key to stop. Set WIND Speed in MENU.
SET IN POINT	[IN]	Press the **[IN]** key to set the in point to the current position.
SET OUT POINT	[OUT]	Press the **[OUT]** key to set the out point to the current position.
SHUTTLE	[SHUT]	Select SHUTTLE mode and enable Wheel.
SLO-MO SPEED PRESET	[SHIFT] + [SLOMO]	For WHEEL **ONLY**: Press **[SHIFT]** + **[SLOMO]** to preset the slo-mo speed. Turn the Wheel to select desired speed. Press [ESC] or any transport key to exit.
SLOW MOTION	[SLOMO]	Press the **[SLOMO]** key to start play at speed set by wheel or by **[SHIFT]** + **[SLOMO]**. If slomo set to zero then still frame. press any transport key to exit SLOMO.
STOP	[STOP]	Press once to STILL frame VTR. Press again to put VTR into STOP mode.

Function	Key Press	**Description**
TIME MODE SELECT	[TIME MODE]	Press to toggle between Timecode (TC), VITC (VT) or Tape Timer (TM) display modes.
TSO -	[PLAY] + [RWD]	Press the and hold the play key and press the **[RWD]** to play at less than play speed (speed set in menu, max 25%).
TSO +	[PLAY] + [FFWD]	Press the and hold the play key and press the **[FFWD]** to play at higher than play speed (speed set in menu, max 25%).

VI. Specifications

Power: 90 VAC - 240 VAC power supply, APX #4108, supplied with IEC connector

Size: (H.W.D.) Front 2 in. Rear 3 3/4 in. X 12 1/4 in. x 7 in.

Weight: 7 lbs

Front Panel Display: 2 line x 20 character fluorescent display.

Front Panel Keyboard: 47 keys + Wheel.

Serial Port: D9M connector Not Used

LTC: 3 pin Phoenix Connector

Balanced:
Pin 1 = LTC HI
Pin 2 = LTC LOW
Pin 3 = Common/Shield

Unbalanced:
Pin 1 = LTC HI
Pin 2 = Tie to Pin 3
Pin 3 = Shield

VGA Port: D15HDF connector

E – Net #1: RJ45 Connector

E – Net #2: RJ45 Connector Not Used

USB #1: USB "A" socket Connector Not Used

USB #2: USB "A" socket Connector Not Used

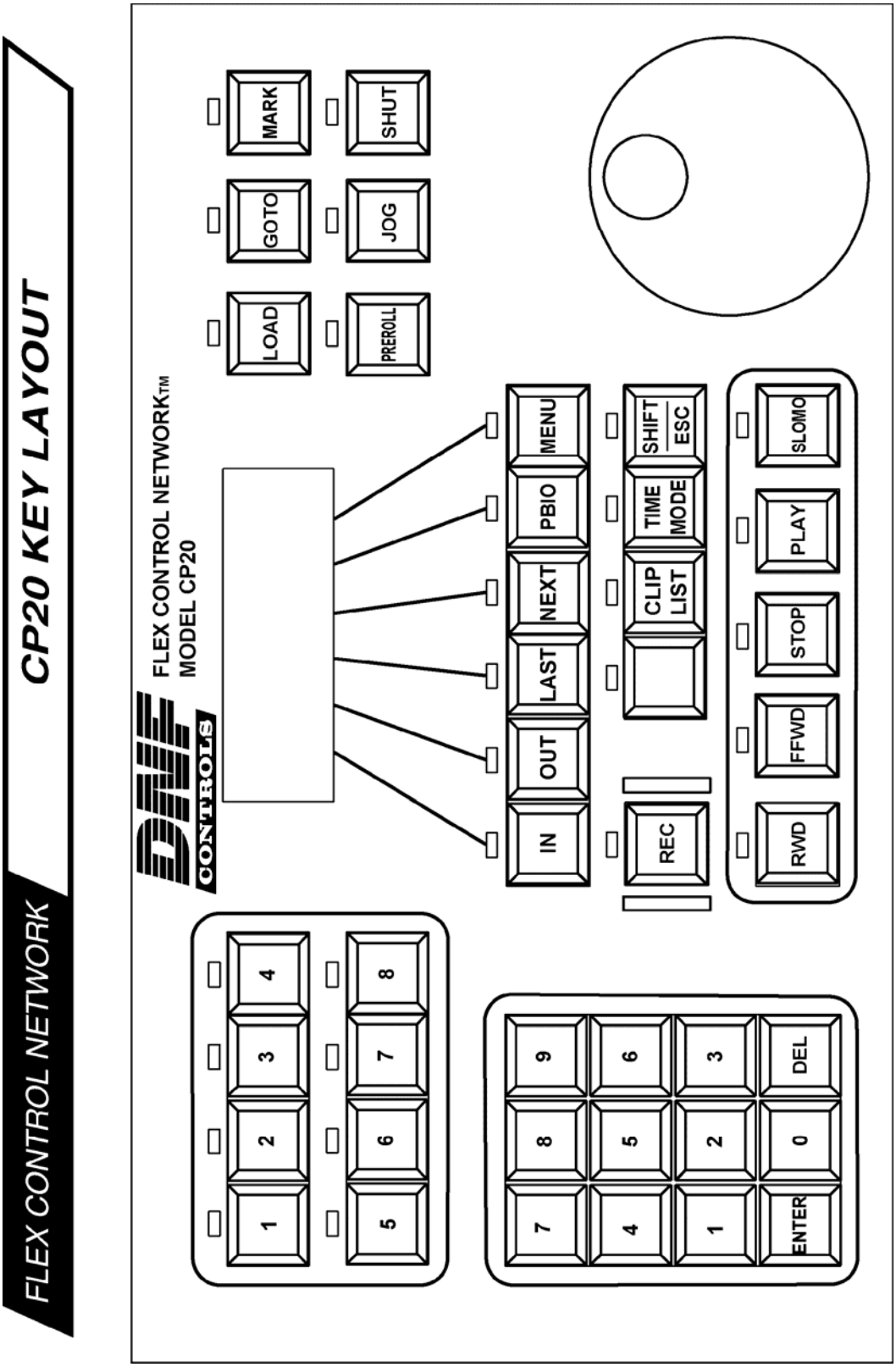
Power Connector: 9-Pin Male (D9M)

Pin #	Function	Pin #	Function
1	+5vdc	6	+5vdc
2	+5vdc	7	Ground
3	Ground	8	Ground
4	+12vdc	9	Ground
5	-12vdc		

Serial Port: 9-Pin Female (D9F) Not Used

Pin #	Function	Pin #	Function
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	Ground		

VII. Keyboard layout



VIII. DNF Controls Limited Warranty

DNF Controls warrants its product to be free from defects in material and workmanship for a period of one (1) year from the date of sale to the original purchaser from DNF Controls.

In order to enforce the rights under this warranty, the customer must first contact DNF's Customer Support Department to afford the opportunity of identifying and fixing the problem without sending the unit in for repair. If DNF's Customer Support Department cannot fix the problem, the customer will be issued a Returned Merchandise Authorization number (RMA). The customer will then ship the defective product prepaid to DNF Controls with the RMA number clearly indicated on the customer's shipping document. The merchandise is to be shipped to:

DNF Controls
12843 Foothill Blvd., Suite D
Sylmar, CA 91342
USA

Failure to obtain a proper RMA number prior to returning the product may result in the return not being accepted, or in a charge for the required repair.

DNF Controls, at its option, will repair or replace the defective unit. DNF Controls will return the unit prepaid to the customer. The method of shipment is at the discretion of DNF Controls, principally UPS Ground for shipments within the United States of America. Shipments to international customers will be sent via air. Should a customer require the product to be returned in a more expeditious manner, the return shipment will be billed to their freight account.

This warranty will be considered null and void if accident, misuse, abuse, improper line voltage, fire, water, lightning or other acts of God damaged the product. All repair parts are to be supplied by DNF Controls, either directly or through its authorized dealer network. Similarly, any repair work not performed by either DNF Controls or its authorized dealer may void the warranty.

After the warranty period has expired, DNF Controls offers repair services at prices listed in the DNF Controls Price List. DNF Controls reserves the right to refuse repair of any unit outside the warranty period that is deemed non-repairable.

DNF Controls shall not be liable for direct, indirect, incidental, consequential or other types of damage resulting from the use of the product.

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