



## NV-M3 Serial Control Protocol

Date 6/11/2007

Revision 0.3

M3 Software Version 1.40

## Table of Contents

1.0	Objective.....	1
2.0	System Description.....	1
3.0	Serial Port Connections .....	1
4.0	Serial Control Data Format .....	2
4.1	Command Example .....	3
5.0	System Commands.....	4
5.1	Get Version Information .....	4
5.2	Toggle M3 Power ON/OFF.....	4
5.3	Query Status .....	5
5.4	Query Status of an Output .....	6
5.5	License Error.....	7
5.6	Play.....	7
5.7	Pause .....	7
5.8	Toggle Play/Pause.....	8
5.9	Skip Forward.....	8
5.10	Skip Back .....	8
5.11	Next Track .....	9
5.12	Previous Track.....	9
5.13	Turn Repeat ON/OFF.....	9
5.14	Turn Shuffle ON/OFF .....	10
6.0	Menu Commands .....	11
6.1	Get Main Menu Items .....	12
6.2	Go To Parent Menu / Enter Main Menu .....	13
6.3	Menu Select.....	14
6.4	Menu Play .....	15
6.5	Keep Menu Active .....	16
6.6	Request Menu Items .....	16
6.7	Exit Menu .....	17
6.8	Menu Navigation Examples .....	18
6.8.1	Example to play an Album .....	18
6.8.2	Example to play a Playlist .....	19
6.8.3	Example to play a Track .....	20

# NV-M3 Serial Control Protocol

## 1.0 Objective

This document describes the NuVo NV-M3 Music Server RS232 Serial Control command and response protocol. This protocol allows a component outside the NuVo NV-M3 system to communicate with the unit to solicit its current state or change operational parameters.

## 2.0 System Description

The NuVo NV-M3 is a Music Server with a perfect marriage of simplicity and full range music accessibility. A single USB connection with any PC allows Windows® Media Player to automatically sync stored music files with the NV-M3's 160 gig hard drive. When the NV-M3 is integrated with the NuVo Grand Concerto browsing music by artist, title, genre and album is as simple as a push of a button.

The particular RS232 commands and their use are described later in this document.

## 3.0 Serial Port Connections

The NuVo NV-M3 connects to an external device via a DB9 connectofr on the back of the unit labeled "**RS232**". On the DB9 male of the NuVo NV-M3, pin-2 is TXD, pin-3 is RXD, and pin-5 is GND. A pass-through cable with DB9 male on one end and DB9 female on the other end is required to connect the NuVo NV-M3 to a PC or most external devices.

### 4.0 Serial Control Data Format

The NuVo NV-M3 serial port is set to 57600 baud, no parity and 1 stop bit. No hardware/software handshaking is required. The commands are simple enough that they may be issued using a terminal emulator like HyperTerminal or Tera Term Pro. The specifics of the protocol are:

- 1) The ISO8859-1 character set is used. Upper or lower case characters may be used. Unicode characters that cannot be represented by this character set are replaced with 0x0F.
- 2) All strings are enclosed in double quotes.
- 3) All strings must be less than 80 characters. Unless a shorter string length is specified, strings longer than 80 characters will be truncated to 80 characters.
- 4) Arguments are delimited by commas.
- 5) All arguments must be specified.
- 6) All numerical fields are coded as ASCII digit characters.
- 7) Each Command string is STARTED with an ASCII "\*" character and terminated by a <CR>.
- 8) Each Response string issued by the NV-M3 will START with an ASCII "#" character and be terminated with a <CR>.
- 9) If a command has an error in it (does not adhere to exact command syntax, the NV-M3 will respond with "#? <CR>".

#### 4.1 *Command Example*

This example will request the version information from the NuVo NV-M3:

CMD	*VER?<CR>
RSP	#OK<CR> followed by #VER, 1.10.0194, 1.10.0156, 1.10.0156, 1.10.0156<CR>

This will be the format for all the commands listed in this manual. The <CR> will not be shown with the commands in this manual but MUST be assumed. Also present but not shown in the following commands is the #OK<CR>. This will be sent as a response to each command followed by the commands results. If an error is encountered with the command then the #?<CR> will be sent.

## 5.0 System Commands

The commands listed in this section control the overall functionality of the NuVo Music Server.

### 5.1 *Get Version Information*

This command will request the version information from the NuVo NV-M3. There are four separate versions of software in the server. There is one version for the main application and one version for each of the outputs on the server.

<b>CMD</b>	<b>*VER?</b>	
Command Parameters		
<b>RSP</b>	<b>#VER, 1.10.0194, 1.10.0155, 1.10.0156, 1.10.0157</b>	
Response Packet Breakdown		
1.10.0194	The version of the main processor	
1.10.0155	The version of the firmware on output A	
1.10.0156	The version of the firmware on output B	
1.10.0157	The version of the firmware on output C	

### 5.2 *Toggle M3 Power ON/OFF*

This command will toggle power on the server. If the server is on and USB is connected, or the system is initializing, this command will have no effect.

<b>CMD</b>	<b>*ONOFF</b>	
Command Parameters		
<b>RSP</b>	<b>#STATUS, x</b>	
Response Packet Breakdown		
X	OFF, INITIALIZING, NORMAL, or USBCONNECTED	

### 5.3 Query Status

This command will request the status of the server.

<b>CMD</b>	<b>*STATUS?</b>
Command Parameters	
<b>RSP</b>	<b>See section 5.2 "#STATUS,x" for full breakdown of parameters</b>

### 5.4 Query Status of an Output

This command will request the status of a specific output. One thing to remember about this command is that the current stream time (in 1/10<sup>th</sup> seconds) of the currently playing track. This value is not updated in response to the \*Out'<X>'Status? command. However, it is updated whenever this response is received unsolicited. It will be the responsibility of the controller to increment the stream time while the track is playing.

CMD		*OUT' x' STATUS?
Command Parameters		
x=A		Request status of Output A
x=B		Request status of Output B
x=C		Request status of Output C
RSP	#OUT' x' STATUS, <PlayStatus>, <CurrentTrackNumber>, <TotalTracksInList>, <ArtistName>, <AlbumName>, <TrackName>, <SongStreamTime>, <SongDuration>, <ShuffleOnOff>, <RepeatOnOff>	
Response Packet Breakdown		
X		A, B or C
PlayStatus		1 (idle), 2 (playing), 3 (paused), 4 (fast-forwarding), 5 (rewinding), 6 (Play Shuffle), 7 (Play Repeat), 8 (Play Shuffle Repeat)
CurrentTrackNumber		The number of the currently playing track in the current playlist
TotalTracksInList		The total number of tracks in the current playlist
ArtistName		The artist name for the currently playing track
AlbumName		The album name for the currently playing track
TrackName		The track name for the currently playing track
SongStreamTime		The current stream time (in 1/10 <sup>th</sup> seconds) of the currently playing track. This value is not updated in response to the *Out'<X>'Status? command. However, it is updated whenever this response is received unsolicited. It will be the responsibility of the controller to increment the stream time while the track is playing.
SongDuration		The duration of the playing track (in 1/10 <sup>th</sup> seconds)
ShuffleOnOff		0=OFF, 1=ON
RepeatOnOff		0=OFF, 1=ON

### 5.5 License Error

This response will be sent unsolicited and indicates that an error occurred while trying to retrieve the license for DRM content.

<b>RSP</b>	<b>#OUT' x' LICENSEERROR</b>	
Response Packet Breakdown		
x=A	License error on Output A	
x=B	License error on Output B	
x=C	License error on Output C	

### 5.6 Play

This command will switch from pause to play. This command has no effect when the output is not paused.

<b>CMD</b>	<b>*OUT' x' PLAY</b>	
Command Parameters		
x=A	Play Output A	
x=B	Play Output B	
x=C	Play Output C	
<b>RSP</b>	<b>See Section 5.4 "#OUT' x' STATUS" for full breakdown of parameters</b>	

### 5.7 Pause

This command will switch from play to pause. This command has no effect when the output is not playing.

<b>CMD</b>	<b>*OUT' x' PAUSE</b>	
Command Parameters		
x=A	Pause Output A	
x=B	Pause Output B	
x=C	Pause Output C	
<b>RSP</b>	<b>See Section 5.4 "#OUT' x' STATUS" for full breakdown of parameters</b>	

### 5.8 Toggle Play/Pause

This command will toggle between play and pause. This command has no effect when the output is idle.

<b>CMD</b>	<b>*OUT' x' PLAYPAUSE</b>	
Command Parameters		
x=A	Play / Pause Output A	
x=B	Play / Pause Output B	
x=C	Play / Pause Output C	
<b>RSP</b>	<b>See Section 5.4 "#OUT' x' STATUS" for full breakdown of parameters</b>	

### 5.9 Skip Forward

This command will cause the currently playing song to skip ahead the number of specified 1/10<sup>th</sup> seconds.

<b>CMD</b>	<b>*OUT' x' SKIPFORWARD, y</b>	
Command Parameters		
x=A	Skip forward on Output A	
x=B	Skip forward on Output B	
x=C	Skip forward on Output C	
Y	Number of 1/10 <sup>th</sup> seconds to skip forward	
<b>RSP</b>	<b>See Section 5.4 "#OUT' x' STATUS" for full breakdown of parameters</b>	

### 5.10 Skip Back

This command will cause the currently playing song to skip back the number of specified 1/10<sup>th</sup> seconds.

<b>CMD</b>	<b>*OUT' x' SKIPBACK, y</b>	
Command Parameters		
x=A	Skip backwards on Output A	
x=B	Skip backwards on Output B	
x=C	Skip backwards on Output C	
Y	Number of 1/10 <sup>th</sup> seconds to skip backward	
<b>RSP</b>	<b>See Section 5.4 "#OUT' x' STATUS" for full breakdown of parameters</b>	

### 5.11 Next Track

This command will skip to the next track in the list and begin playing.

<b>CMD</b>	<b>*OUT' x' NEXTTRACK</b>	
Command Parameters		
x=A	Skip to next track on Output A	
x=B	Skip to next track on Output B	
x=C	Skip to next track on Output C	
<b>RSP</b>	<b>See Section 5.4 "#OUT' x' STATUS" for full breakdown of parameters</b>	

### 5.12 Previous Track

This command will skip to the previous track in the list and begin playing.

<b>CMD</b>	<b>*OUT' x' PREVIOUSTRACK</b>	
Command Parameters		
x=A	Skip to previous track on Output A	
x=B	Skip to previous track on Output B	
x=C	Skip to previous track on Output C	
<b>RSP</b>	<b>See Section 5.4 "#OUT' x' STATUS" for full breakdown of parameters</b>	

### 5.13 Turn Repeat ON/OFF

This command will turn the repeat ON or OFF.

<b>CMD</b>	<b>*OUT' x' REPEAT, y</b>	
Command Parameters		
x=A	Enable/disable repeat on Output A	
x=B	Enable/disable repeat on Output B	
x=C	Enable/disable repeat on Output C	
Y	0=OFF, 1=ON	
<b>RSP</b>	<b>See Section 5.4 "#OUT' x' STATUS" for full breakdown of parameters</b>	

### 5.14 Turn Shuffle ON/OFF

This command will turn the shuffle ON or OFF.

<b>CMD</b>	<b>*OUT' x' SHUFFLE, y</b>	
Command Parameters		
x=A	Enable/disable shuffle on Output A	
x=B	Enable/disable shuffle on Output B	
x=C	Enable/disable shuffle on Output C	
Y	0=OFF, 1=ON	
<b>RSP</b>	<b>See Section 5.4 "#OUT' x' STATUS" for full breakdown of parameters</b>	

### 6.0 Menu Commands

The commands listed in this section control the menu functionality of the NuVo Music Server. The menus are generated dynamically so one must traverse them in order to make the correct selections. One cannot just issue a command like \*OUT'A'MENUPLAY,5,1,0 and expect the server to start playing the first song of the Playlist. The top level menu must be entered first. Then one must navigate to the desired selection and perform the selection.

Refer to section 6.8 for examples using the menu commands.

## NV-M3 Serial Control Protocol

### 6.1 Get Main Menu Items

This command can be used to retrieve the menu items from the server and incorporate them into a pre-existing top-level menu. This command only returns the main menu items. It does not change menu control if the menu is being navigated thru the serial port.

If incorporating these menu items into your own top-level menu, be sure to use a menu ID of 0xFFFFFFFF when sending the \*Out'<X>'MenuPlay and \*Out'<X>'MenuSelect commands from your top-level menu to the server.

CMD	*OUT' x' MAINMENU?
Command Parameters	
x=A	Get main menu items for Output A
x=B	Get main menu items for Output B
x=C	Get main menu items for Output C
RSP	<pre>#OK #OUT'A'MENU,4294967295,"Main Menu",6,0,6,0 #OUT'A'MENUITEM,2,"Albums",1 #OUT'A'MENUITEM,3,"Artists",1 #OUT'A'MENUITEM,4,"Genres",1 #OUT'A'MENUITEM,6,"Tracks",1 #OUT'A'MENUITEM,5,"Playlists",1 #OUT'A'MENUITEM,7,"Options",1 or #OUT'A'MENUUNAVAILABLE</pre>
Response Packet Breakdown	
<b>MENU</b>	Menu Selected
4294967295	ID of the menu (4294967295 = Top level menu ID)
"Main Menu"	Text string name that describes the menu
6	The total number of items in the menu
0	The index of the first item in this menu
6	The number of items returned for this request (20 maximum)
0	The index of the currently active item
<b>MENUITEM</b>	List of items in the menu (can be up to 20 items)
2	The ID of the menu item
"Albums"	Text string name that describes the menu
1	Menu item type bitmask:
	Bit 0 - 'select' will bring up another sub-menu
	Bit 1 - 'play' will behave differently than 'select'
	Bit 2 - disabled item (do not allow select or play)
	Bit 3 - display checkmark in front of this item
<b>MENUUNAVAILABLE</b>	Error: menu already in use or invalid menu command was sent

### 6.2 Go To Parent Menu / Enter Main Menu

This command is used to navigate to the parent-menu of the current menu, or to enter the top-level menu if not in a menu. If pressed in the top-level of the menu, the response will be MENUEXIT. This is the same as the menu button on the front panel.

<b>CMD</b>	<b>*OUT' x' MENUUP, &lt;MenuID&gt;, &lt;ItemID&gt;, &lt;ItemIndex&gt;</b>	
Command Parameters		
x=A	Menu up on Output A	
x=B	Menu up on Output B	
x=C	Menu up on Output C	
MenuID	The ID of the menu from which the item was selected. If the desired operation is to enter the top-level menu of the server, then a menu ID of 0 should be used.	
ItemID	The ID of the active menu item	
ItemIndex	The index of the active menu item	
<b>RSP</b>	<b>See Section 6.1 #OUT' x' MENU/MENUITEM for full breakdown of parameters or #OUT' A' MENUUNAVAILABLE</b>	

### 6.3 Menu Select

This command is used to retrieve the sub-menu for the passed menu ID. This command is equivalent to pressing the select on a menu item from the front panel. MenuSelect does not always return a submenu, sometimes it puts a checkmark on an item, and sometimes it plays an item. This command can also navigate to a submenu and sometimes they play the selected item.

<b>CMD</b>	<b>*OUT' x' MENUSELECT, &lt;MenuID&gt;, &lt;ItemID&gt;, &lt;ItemIndex&gt;</b>
Command Parameters	
x=A	Select menu item on Output A
x=B	Select menu item on Output B
x=C	Select menu item on Output C
MenuID	The ID of the menu from which the item was selected
ItemID	The ID of the active menu item
ItemIndex	The index of the active menu item
<b>RSP</b>	<b>See Section 6.1 #OUT' x' MENU/MENUITEM for full breakdown of parameters or #OUT' x' MENUUNAVAILABLE</b>

### 6.4 Menu Play

This command is used to play the sub-menu item for the passed menu ID. This command is equivalent to pressing the play on a menu item from the front panel. MenuPlay does not always return a submenu, sometimes it puts a checkmark on an item, and sometimes it plays an item. This command can also navigate to a submenu and sometimes they play the selected item.

<b>CMD</b>	<b>*OUT'x'MENUPLAY,&lt;MenuID&gt;,&lt;ItemID&gt;,&lt;ItemIndex&gt;</b>
Command Parameters	
x=A	Play menu item on Output A
x=B	Play menu item on Output B
x=C	Play menu item on Output C
MenuID	The ID of the menu from which the item was selected
ItemID	The ID of the active menu item
ItemIndex	The index of the active menu item
<b>RSP</b>	<b>*OUT'A'MENUPLAY,5,1,0 ← Play "My Favorites" Playlist menu item</b> <b>#OK</b> <b>#OUT'A'MENUEXIT or #OUT'A'ADDEDTOLIST</b> <b>#OUT'A'STATUS,2,1,26,"Artist","Album","Song",0,2477,0,0</b> <b>or</b> <b>#OUT'A'MENUUNAVAILABLE</b>
Response Packet Breakdown	
<b>#OK</b>	Command successful
<b>MENUEXIT</b>	The menu was exited by the server
<b>ADDEDTOLIST</b>	The highlighted item was added to the now playing list (Jukebox mode only)
<b>STATUS</b>	<b>See Section 5.4 "#OUT'x'STATUS" for full breakdown of parameters</b>

### 6.5 Keep Menu Active

This command is should be used to indicate that the menu is still being browsed and that the server should not issue a timeout on the menu. The active menu will not timeout as long as the server is actively receiving MenuSelect, MenuPlay, Menu, and MenuRequest commands. This command should be used when there is no activity visible to the server but the user is still actively using the menu. A situation where this command could be used would be when the user is scrolling up and down in a list of menu items that has already been retrieved from the server.

<b>CMD</b>	<b>*OUT' x' MENUACTIVE, &lt;MenuID&gt;</b>	
Command Parameters		
x=A	Keep menu active on Output A	
x=B	Keep menu active on Output B	
x=C	Keep menu active on Output C	
MenuID	The ID of the current menu	
<b>RSP</b>	<b>#OK</b>	
Response Packet Breakdown		
<b>#OK</b>	Command successful	

### 6.6 Request Menu Items

When using this command, the menu ID supplied must be the same as the last menu ID that was received from the server (i.e. the currently active menu). This command should be used when the active menu has more items than the maximum number of items in a menu block.

<b>CMD</b>	<b>*OUT' x' MENUREQUEST, &lt;MenuID&gt;, &lt;StartIndex&gt;</b>	
Command Parameters		
x=A	Request menu items on Output A	
x=B	Request menu items on Output B	
x=C	Request menu items on Output C	
MenuID	The ID of the current menu	
StartIndex	The starting index of the block being requested	
<b>RSP</b>	<b>See Section 6.1 #OUT' x' MENU/MENUITEM for full breakdown of parameters Or #OUT' x' MENUUNAVAILABLE</b>	

### 6.7 *Exit Menu*

This command will cause the server to exit the current menu. It is also issued unsolicited when a menu timeout occurs. The context associated with the menu is lost when this response is issued; therefore the controller should exit its menu whenever this response is received.

<b>CMD</b>	<b>*OUT' x' MENUEXIT</b>	
Command Parameters		
x=A	Exit menu on Output A	
x=B	Exit menu on Output B	
x=C	Exit menu on Output C	
<b>RSP</b>	<b>#OK</b>	

## 6.8 Menu Navigation Examples

Due to the complexity of the menu system this example is provided to aid in the understanding of it use. NuVo can provide simple Windows application to further aid in understanding. Please contact technical support for further assistance.

### 6.8.1 Example to play an Album

- 1) Request top level menu from the 'A' server.

```

CMD: *OUT'A'MENUUP,0,0,0
RSP: #OK
      #OUT'A'MENU,4294967295,"Main Menu",6,0,6,0 ← 6 Menu Items
      #OUT'A'MENUITEM,2,"Albums",1
      #OUT'A'MENUITEM,3,"Artists",1
      #OUT'A'MENUITEM,4,"Genres",1
      #OUT'A'MENUITEM,6,"Tracks",1
      #OUT'A'MENUITEM,5,"Playlists",1
      #OUT'A'MENUITEM,7,"Options",1
    
```

- 2) Now request the Artists menu from the 'A' server using the menu ID **4294967295** and the item ID **3** "Artists".

```

CMD: *OUT'A'MENUSELECT,4294967295,3,1
RSP: #OK
      #OUT'A'MENU,3,"Artists",15,0,15,0 ← 15 Menu Items
      #OUT'A'MENUITEM,15,"1",1
      #OUT'A'MENUITEM,2,"Adam's Rib",1
      #OUT'A'MENUITEM,14,"BarlowGirl",1
      #OUT'A'MENUITEM,8,"Beer for Dolphins",1
      #OUT'A'MENUITEM,3,"Crash Kelly",1
      #OUT'A'MENUITEM,4,"Dig Deeper",1
      #OUT'A'MENUITEM,16,"Eoghan Heaslip",1
      #OUT'A'MENUITEM,6,"Galore",1
      #OUT'A'MENUITEM,7,"Lodown",1
      #OUT'A'MENUITEM,9,"Mike Keneally Band",1
      #OUT'A'MENUITEM,10,"One-900",1
      #OUT'A'MENUITEM,13,"Sanctus Real",1
      #OUT'A'MENUITEM,11,"Supernal",1
      #OUT'A'MENUITEM,12,"Unknown",1
      #OUT'A'MENUITEM,5,"drift",1
    
```

- 3) Now request the "Sanctus Real" item ID 13 from the 'A' server using the menu ID **3** and the item ID **13** "Sanctus Real".

```

CMD: *OUT'A'MENUSELECT,3,13,11
RSP: #OK
      #OUT'A'MENU,2,"Albums",1,0,1,0 ← Albums under artist
      #OUT'A'MENUITEM,13,"The Face of Love",1 ← Title of album
    
```

## NV-M3 Serial Control Protocol

- 4) Now play the "Sanctus Real" item ID 13 on the 'A' server.

```
CMD: *OUT'A'MENUPLAY,2,13,0
RSP: #OK
      #OUT'A'MENUEXIT
      #OUT'A'STATUS,2,1,1,"Sanctus Real","Love","Alright",0,2477,0,0
```

### 6.8.2 Example to play a Playlist

- 1) Request top level menu from the 'A' server.

```
CMD: *OUT'A'MENUUP,0,0,0
RSP: #OK
      #OUT'A'MENU,4294967295,"Main Menu",6,0,6,0 ← 6 Menu Items
      #OUT'A'MENUITEM,2,"Albums",1
      #OUT'A'MENUITEM,3,"Artists",1
      #OUT'A'MENUITEM,4,"Genres",1
      #OUT'A'MENUITEM,6,"Tracks",1
      #OUT'A'MENUITEM,5,"Playlists",1
      #OUT'A'MENUITEM,7,"Options",1
```

- 2) Now request the Playlists menu from the 'A' server using the menu ID 4294967295 and the item ID 5 "Playlists".

```
CMD: *OUT'A'MENUSELECT,4294967295,5,4
RSP: #OK
      #OUT'A'MENU,5,"Playlists",1,0,1,0 ← 1 Menu Item
      #OUT'A'MENUITEM,1,"My Favorites",1
```

- 3) Now play the "My Favorites" menu ID 5 item ID 1 on the 'A' server.

```
CMD: *OUT'A'MENUPLAY,5,1,0
RSP: #OK
      #OUT'A'MENUEXIT
      #OUT'A'STATUS,2,1,1,"Sanctus Real","Love","Alright",0,2477,0,0
```

## 6.8.3 Example to play a Track

- 1) Request top level menu from the 'A' server.

```
CMD: *OUT'A'MENUUP,0,0,0
RSP: #OK
#OUT'A'MENU,4294967295,"Main Menu",6,0,6,0 ← 6 Menu Items
#OUT'A'MENUITEM,2,"Albums",1
#OUT'A'MENUITEM,3,"Artists",1
#OUT'A'MENUITEM,4,"Genres",1
#OUT'A'MENUITEM,6,"Tracks",1
#OUT'A'MENUITEM,5,"Playlists",1
#OUT'A'MENUITEM,7,"Options",1
```

- 2) Now request the Tracks menu from the 'A' server using the menu ID **4294967295** and the item ID **6** "Tracks".

```
CMD: *OUT'A'MENUSELECT,4294967295,6,3
RSP: #OK
#OUT'A'MENU,6,"Tracks",39,0,20,65535 ← 39 Menu Items showing 1st 20
#OUT'A'MENUITEM,6226,"21-07",0
#OUT'A'MENUITEM,4690,"5 Minutes of Fame",0
#OUT'A'MENUITEM,7816,"All I Want To Do",0
#OUT'A'MENUITEM,3349,"Benjamin",0
#OUT'A'MENUITEM,1176,"Century",0
#OUT'A'MENUITEM,1844,"Colour Fades Away",0
#OUT'A'MENUITEM,2650,"Don't Give Up",0
#OUT'A'MENUITEM,583,"Edge of Tomorrow",0
#OUT'A'MENUITEM,2150,"Eloquent",0
#OUT'A'MENUITEM,3984,"Enough",0
#OUT'A'MENUITEM,2300,"Fly",0
#OUT'A'MENUITEM,5347,"For the Beauty of the Earth",0
#OUT'A'MENUITEM,3540,"Grey",0
#OUT'A'MENUITEM,302,"Hang out Where You Matter",0
#OUT'A'MENUITEM,110,"High",0
#OUT'A'MENUITEM,3789,"I Need You to Love Me",0
#OUT'A'MENUITEM,5855,"I Need You to Love Me [Acoustic Vers]",0
#OUT'A'MENUITEM,6,"I'm Not Alright",0
#OUT'A'MENUITEM,3657,"Let Go",0
#OUT'A'MENUITEM,1339,"Live in Japan",0
```

- 3) Now request the next 20 tracks in the "Tracks" menu on the 'A' server.

```
CMD: *OUT'A'MENUREQUEST,6,20
RSP: #OK
#OUT'A'MENU,6,"Tracks",39,20,19,65535 ← Next 19 starting at 20th
#OUT'A'MENUITEM,2838,"Magnetic",0
#OUT'A'MENUITEM,5144,"Never Alone [Acoustic Version]",0
#OUT'A'MENUITEM,6039,"Never Alone [Radio Edit]",0
#OUT'A'MENUITEM,5001,"No One Like You",0
#OUT'A'MENUITEM,5493,"On My Own [Acoustic Version]",0
```

## NV-M3 Serial Control Protocol

```
#OUT'A'MENUITEM,4148,"Porcelain Heart",0
#OUT'A'MENUITEM,5665,"Porcelain Heart [Acoustic Version]",0
#OUT'A'MENUITEM,3035,"Possibilities",0
#OUT'A'MENUITEM,4513,"Psalm 73",0
#OUT'A'MENUITEM,1031,"Sad Because It's Summer",0
#OUT'A'MENUITEM,1554,"Splane",0
#OUT'A'MENUITEM,1690,"Standing Still",0
#OUT'A'MENUITEM,1989,"Sweep 20-20000",0
#OUT'A'MENUITEM,4333,"Take Me Away",0
#OUT'A'MENUITEM,429,"Talk Show",0
#OUT'A'MENUITEM,901,"The Amanda Effect",0
#OUT'A'MENUITEM,2476,"The Face of Love",0
#OUT'A'MENUITEM,4806,"Thoughts of You",0
#OUT'A'MENUITEM,3191,"Where We Belong",0
```

- 4) Now play the menu ID **6** item ID **4513** "Psalm 73" on the 'A' server.

```
CMD: *OUT'A'MENUPLAY,6,4513,28
RSP: #OK
#OUT'A'MENUEXIT
#OUT'A'STATUS,2,1,1,"BarlowGirl","Journal","Psalm 73",0,2400,0,0
```