

Control Interface Description Document for the Nuvo Concerto Main Unit

Revision A
April 1, 2003

DB9M PORT PINOUTS

Nuvo Transmit to System Controller on pin 2. Receive from System Controller on pin 3.
Ground on pin 5.

SERIAL PORT PARAMETERS

RS232, No Flow Control (RTS/CTS or software NOT required), 9600 baud, 8N1 protocol.

RULES OF PROTOCOL

- (1) For alpha ASCII characters, upper case and lower case can be used interchangeable. In this document, upper case is used and actual characters in a string are presented in **BOLD** type.
- (2) All numerical fields are coded as ASCII digit characters. In this document,
- (3) Each Command string is STARTED with an ASCII "*" character and terminated by a <CR> character (0D hexadecimal). Each response string issued by the Concerto will START with an ASCII "#" and be terminated with a <CR> character (0D hexadecimal). Note: the <CR> will NOT be shown in the examples.
- (4) If a command has an error in it (does not adhere to exact command syntax) or is not recognized for any reason, the Concerto will respond with a "#?<CR>" string.
- (5) Whenever queuing multiple commands to the Concerto, the host program should pause for 50 milliseconds between commands to prevent buffer overruns.

NUVO POWER-ON STATE

- (1) Each zone is OFF until ON command is received.
- (2) Each zone has their lowest enabled source selected.

System Commands

System commands are commands that affect the entire Concerto system.

ALLOFF – Turn all zones off

Syntax: ***ALLOFF**

Response: #**ALLOFF**

VER – Version

Syntax: *VER

Response: #MPU-I8_FWv?.??

SCODE – Change Security Code

Syntax: *SCODE"nnn**n**"

Response: #OK

Source Commands

Source commands are commands that act on all zones that are listening to the specified source. All source commands begin with #Ss (s is the one digit zone number between 1 and 6).

INGAIN – Set the Input Gain for a Source

Syntax: *SsINGAINgg

Response: #OK

Parameters: s 1-6: source number
 gg 0-14: source gain in dB

This command changes the gain associated with a given source. The gain is specified in dB and must be in the range of 0 to 14 with 0 meaning no gain and 14 meaning maximum gain. This is a non-volatile setting that allows all sources to be adjusted to the same volume level.

STR – Display a String

Syntax: *SsSTR" text"

Response: #OK

Parameters: s 1-6: source number
 text String to be displayed. (50 characters maximum)

This command briefly displays a string on the DisplayPads of all zones listening to the specified source.

STR+ – Permanently Display a String

Syntax: *SsSTR+" text"

Response: #OK

Parameters: s 1-6: source number
 text String to be displayed. (50 characters maximum)

This command displays a string on the DisplayPads of all zones listening to the specified source. This string will be displayed for this source until another string is specified either through the RS-232 interface, executing a macro with a permanent display string, or other means.

ZERO – Execute Macro “0”

Syntax: *SZEROn

Response: #SZ0ZERO

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “0” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

ONE – Execute Macro “1”

Syntax: *SZONEn

Response: #SZ0ONE

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “1” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

TWO – Execute Macro “2”

Syntax: *SZTWOn

Response: #SZ0TWO

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “2” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

THREE – Execute Macro “3”

Syntax: *STHREEn

Response: #SZ0THREE

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “3” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

FOUR – Execute Macro “4”

Syntax: *SFOURn

Response: #SZ0FOUR

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “4” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

FIVE – Execute Macro “5”

Syntax: *SFIVEn

Response: #SZ0FIVE

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “5” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

SIX – Execute Macro “6”

Syntax: *SS**SIX**n

Response: #SS**Z0SIX**

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “6” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

SEVEN – Execute Macro “7”

Syntax: *SS**SEVEN**n

Response: #SS**Z0SEVEN**

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “7” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

EIGHT – Execute Macro “8”

Syntax: *SS**EIGHT**n

Response: #SS**Z0EIGHT**

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “8” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

NINE – Execute Macro “9”

Syntax: *SNINEn

Response: #SZ0NINE

Parameters: s 1-6: source number
n 0: display description only; do not execute
1: execute macro

This command executes the macro assigned to the “9” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

FFWD – Execute Macro “▶▶”

Syntax: *SFFWDn

Response: #SZ0FFWD

Parameters: s 1-6: source number
n 0: display description only; do not execute
1: execute macro

This command executes the macro assigned to the “▶▶” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

FRWD – Execute Macro “◀◀”

Syntax: *SFRWDn

Response: #SZ0FRWD

Parameters: s 1-6: source number
n 0: display description only; do not execute
1: execute macro

This command executes the macro assigned to the “◀◀” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

FWD – Execute Macro “▶”

Syntax: *SFWDn

Response: #SZ0FWD

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “▶” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

RWD – Execute Macro “◀”

Syntax: *SRWDn

Response: #SZ0RWD

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “◀” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

PAUSE – Execute Macro “||”

Syntax: *SPAUSEn

Response: #SZ0PAUSE

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “||” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

STOP – Execute Macro “■”

Syntax: *SSTOPn

Response: #SZ0STOP

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “■” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

PLAY – Execute Macro “PLAY”

Syntax: *SPLAYn

Response: #SZ0PLAY

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “PLAY” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

+TEN – Execute Macro “+10”

Syntax: *S+TENn

Response: #SZ0+TEN

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “+10” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

ENTER – Execute Macro “ENT”

Syntax: *SENTERn

Response: #SZ0ENTER

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “ENT” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

CONT – Execute Macro “CONT”

Syntax: *SCONTn

Response: #SZ0CONT

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “CONT” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

SHUF – Execute Macro “SHUF”

Syntax: *SSHUFn

Response: #SZ0SHUF

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “SHUF” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

GRP – Execute Macro “GRP”

Syntax: *SGRPn

Response: #SZ0GRP

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “GRP” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

DISC – Execute Macro “DISC”

Syntax: *SDISCn

Response: #SZ0DISC

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the macro assigned to the “DISC” key on the DisplayPad for the specified source. This has the same effect as pushing the key on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HZERO – Execute Macro HOTKEY-“0”

Syntax: *SHZEROn

Response: #SZ0HZERO

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “0” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “0” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HONE – Execute Macro HOTKEY-“1”

Syntax: *SHONEn

Response: #SZ0HONE

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “1” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “1” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HTWO – Execute Macro HOTKEY-“2”

Syntax: *SHTWOn

Response: #SZ0HTWO

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “2” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “2” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HTHREE – Execute Macro HOTKEY-“3”

Syntax: *SHTHREEn

Response: #SZ0HTHREE

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “3” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “3” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HFOUR – Execute Macro HOTKEY-“4”

Syntax: *SHFOURn

Response: #SZ0HFOUR

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “4” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “4” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HFIVE – Execute Macro HOTKEY-“5”

Syntax: *SHFIVEn

Response: #SZ0HFIVE

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “5” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “5” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HSIX – Execute Macro HOTKEY-“6”

Syntax: *SHSIXn

Response: #SZ0HSIX

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “6” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “6” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HSEVEN – Execute Macro HOTKEY-“7”

Syntax: ***SSHSEVENn**

Response: **#SSZ0HSEVEN**

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “7” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “7” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HEIGHT – Execute Macro HOTKEY-“8”

Syntax: ***SSHEIGHTn**

Response: **#SSZ0HEIGHT**

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “8” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “8” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

HNINE – Execute Macro HOTKEY-“9”

Syntax: ***SSHNINEn**

Response: **#SSZ0HNINE**

Parameters: s 1-6: source number
 n 0: display description only; do not execute
 1: execute macro

This command executes the second macro assigned to the “9” key on the DisplayPad for the specified source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “9” on DisplayPad in a zone which has this source selected. It is not necessary for any zone to have this source active before issuing this command. Issuing this command from RS-232 with n = 0 has no effect.

Zone Commands

Zone commands are commands that act on a specific zone (or related zones that are grouped or slaved together). All zone commands begin with **#Zzz** (zz is the one or two digit zone number between 1 and 20).

STATUS – Zone Status

Syntax: ***ZzzSTATUS**

Response: **#ZzzPWRonoff, SRCs, VOLvvv
#ZzzSLAVETOzmPWRonoff, SRCs, VOLvvv**

Parameters: zz 1-20: zone number
zm 1-20: zone is slave to this zone
onoff ON: zone is on
OFF: zone is off
s 1-6: source number active on specified zone
vvv -00 to -78: current volume
MT: zone is muted
XM: zone is muted through external mute

This command returns the current status of a zone. The status includes whether the zone is on or off, the current source number, and the current volume level. If the zone is slaved to another zone, the zone it is slaved to is also returned.

SETSR – Zone Settings Status Request

Syntax: ***ZzzSETSR**

Response: **#ZzzBASsequ, TREbequ, BALbal, Gg, MAXVOLmax, INIVOLini**

Parameters: zz 1-20: zone number
equ -12 to +12: Current bass/treble gain or attenuation
bal C: Balance center
R+n: Balance right n: 1-6
L+n: Balance left n: 1-6
g 0: zone is not a member of a source group
1-4: Group number of zone
max 00-78: Maximum volume allowed for zone
ini 00-78: Initial/Volume reset level for zone

This command returns the current settings of a zone. The settings include the equalization levels, balance, group membership, maximum volume, and initial or volume reset level.

SETAUX – Zone Aux Settings Request

Syntax: ***ZzzSETAUX**

Response: **#Zzz, ABLANKa, VOLRSTv, NOIRi, LCOMPl, OPNSRCo, SMASTs,
 SMENUm**

Parameters: zz 1-20: zone number
 a 0: Auto-blank DisplayPad off
 1: Auto-blank DisplayPad on
 v 0: Volume reset Off
 1: Volume reset On
 i 0: IR enabled
 1: IR pass-through disabled
 2: All IR disabled
 l 0: Loudness compensation off
 1: Loudness compensation on
 o 0: Open source control off
 1: Open source control on
 s 0: Secure master mode off
 1: Secure master mode on
 m 0: Secure advanced menu off
 1: Secure advanced menu on

This command returns the current auxiliary settings of a zone. The auxiliary settings include the Auto-Blank, Volume Reset, IR Handling, Loudness Compensation, Open Source Control, Secure Master, and Secure menu.

ONOFF – Toggle Zone On/Off

Syntax: ***ZzzONOFF**

Response: (see STATUS)

Parameters: zz 1-20: zone number

This command toggles the specified zone on and off. This is the same as pushing the “PWR” button on the DisplayPad.

ON – Turn Zone On

Syntax: ***ZzzON**

Response: (see STATUS)

Parameters: zz 1-20: zone number

This command turns the specified zone on if it is not already on.

OFF – Turn Zone Off

Syntax: ***ZzzOFF**

Response: (see STATUS)

Parameters: zz 1-20: zone number

This command turns the specified zone off if it is not already off.

SRC – Change the Source for a Zone

Syntax: ***ZzzSRCs**

Response: (see STATUS)

Parameters: zz 1-20: zone number
 s 1-6: source number

This command changes the source for a zone to the specified source.

SRC+ – Cycle the Source for a Zone

Syntax: ***ZzzSRC+**

Response: (see STATUS)

Parameters: zz 1-20: zone number

This command cycles through each of the available sources for a zone. When the last source is reached, the next source is the first available source. This is the same as pushing the “SOURCE” button on the DisplayPad.

VOL – Change the Volume for a Zone

Syntax: ***ZzzVOLvv**

Response: (see STATUS)

Parameters: zz 1-20: zone number
 vv 00-78: new volume level (0=loudest, 78=quietest)

This command changes the volume for a zone to the specified volume.

VOL+ – Increment the Volume for a Zone

Syntax: ***ZzzVOL+**

Response: (see STATUS)

Parameters: zz 1-20: zone number

This command increases the volume for a zone. The number in the response will get smaller. This is the same as pushing the “VOL+” button on the DisplayPad.

VOL- – Decrement the Volume for a Zone

Syntax: ***Z_{zz}VOL-**

Response: (see STATUS)

Parameters: **zz** 1-20: zone number

This command decreases the volume for a zone. The number in the response will get larger. This is the same as pushing the “VOL-” button on the DisplayPad.

VOL++ – Ramp Up the Volume for a Zone

Syntax: ***Z_{zz}VOL++**

Response: (see STATUS) (repeated each time the volume changes)

Parameters: **zz** 1-20: zone number

This command initiates a volume ramp. The volume will steadily increase until the maximum is reached or the VHLD command is issued.

VOL-- – Ramp Down the Volume for a Zone

Syntax: ***Z_{zz}VOL--**

Response: (see STATUS) (repeated each time the volume changes)

Parameters: **zz** 1-20: zone number

This command initiates a volume ramp. The volume will steadily decrease until the mute is reached or the VHLD command is issued.

VHLD – Hold the Volume for a Zone

Syntax: ***Z_{zz}VHLD**

Response: (see STATUS)

Parameters: **zz** 1-20: zone number

This command stops a volume ramp.

MUTE – Toggle the Mute State of a Zone

Syntax: ***Z_{zz}MUTE**

Response: (see STATUS)

Parameters: **zz** 1-20: zone number

This command turns the mute on and off for a zone. This is the same as pushing the “MUTE” button on the DisplayPad.

MTON – Mute a Zone

Syntax: ***ZzzMTON**

Response: (see STATUS)

Parameters: zz 1-20: zone number

This command turns the mute on for a zone.

MTOFF – Un-Mute a Zone

Syntax: ***ZzzMTOFF**

Response: (see STATUS)

Parameters: zz 1-20: zone number

This command turns off the mute for a zone.

BASS – Bass Equalization Setting

Syntax: ***ZzzBASSbbb**

Response (see SETSR)

Parameters: zz 1-20: zone number
 bbb +12,+10,+8,+6,+4,+2,0,-2,-4,-6,-8,-10,-12: Bass setting

This command changes the bass equalization for a zone. This is a non-volatile setting.

TREB – Treble Equalization Setting

Syntax: ***ZzzTREBttt**

Response (see SETSR)

Parameters: zz 1-20: zone number
 ttt +12,+10,+8,+6,+4,+2,0,-2,-4,-6,-8,-10,-12: Treble setting

This command changes the treble equalization for a zone. This is a non-volatile setting.

BALC – Balance Center

Syntax: ***ZzzBALC**

Response (see SETSR)

Parameters: zz 1-20: zone number

This command changes the balance to center for a zone. This is a non-volatile setting.

BALL – Balance Left

Syntax: *ZzzBALLn

Response (see SETSR)

Parameters: zz 1-20: zone number
 n 1-6: Balance setting

This command changes the balance to the left for a zone. This is a non-volatile setting.

BALR – Balance Right

Syntax: *ZzzBALRn

Response (see SETSR)

Parameters: zz 1-20: zone number
 n 1-6: Balance setting

This command changes the balance to the right for a zone. This is a non-volatile setting.

MAXVOL – Maximum Volume

Syntax: *ZzzMAXVOLvv

Response (see SETSR)

Parameters: zz 1-20: zone number
 vv 00-78: Maximum volume allowed

This command changes the maximum volume for a zone. This is a non-volatile setting.

INIVOL – Initial Volume

Syntax: *ZzzINIVOLvv

Response (see SETSR)

Parameters: zz 1-20: zone number
 vv 00-78: Initial volume or volume reset level

This command changes the initial volume for a zone. This is a non-volatile setting.

ABLANK – Set Auto-Blank

Syntax: *Zzz**ABLANK**v

Response (see SETAUX)

Parameters: zz 1-20: zone number
 v 0: Off
 1: On

This command changes the auto-blank auxiliary setting for a zone. This is a non-volatile setting.

VRST – Set Volume Reset

Syntax: *Zzz**VRST**v

Response (see SETAUX)

Parameters: zz 1-20: zone number
 v 0: Off
 1: On

This command changes the volume reset auxiliary setting for a zone. This is a non-volatile setting.

NOIR – Set No-IR

Syntax: *Zzz**NOIR**v

Response (see SETAUX)

Parameters: zz 1-20: zone number
 v 0: IR enabled
 1: IR pass-through disabled
 2: All IR disabled

This command changes the no-IR auxiliary setting for a zone. This is a non-volatile setting.

SMASST – Set Secure Master

Syntax: *Zzz**SMASST**v

Response (see SETAUX)

Parameters: zz 1-20: zone number
 v 0: Off
 1: On

This command changes the secure master auxiliary setting for a zone. This is a non-volatile setting.

SMENU – Set Secure Advanced Menu

Syntax: ***ZzzSMENUv**

Response (see SETAUX)

Parameters: zz 1-20: zone number
 v 0: Off
 1: On

This command changes the secure advanced menu auxiliary setting for a zone.
This is a non-volatile setting.

OPNSRC – Set Open Source Control

Syntax: ***ZzzOPNSRCv**

Response (see SETAUX)

Parameters: zz 1-20: zone number
 v 0: Off
 1: On

This command changes the open source control auxiliary setting for a zone. This is a non-volatile setting.

LCOMP – Set Loudness Compensation

Syntax: ***ZzzLCOMPv**

Response (see SETAUX)

Parameters: zz 1-20: zone number
 v 0: Off
 1: On

This command changes the loudness compensation auxiliary setting for a zone.
This is a non-volatile setting.

G – Set Source Group Membership

Syntax: ***ZzzGg**

Response (see SETAUX)

Parameters: zz 1-20: zone number
 g 0: no source group
 1-4: Member of specified source group

This command changes the source group membership auxiliary setting for a zone. This is a non-volatile setting.

MASTER – Turn On or Off System Master

Syntax: ***ZzzMASTERv**

Response (see STATUS)

Parameters: zz 1-20: zone number
 v 0: Off
 1: On

This command makes the specified zone the system master or releases it from being the system master. Only one zone can be the system master and any time.

MSTRT – Toggle System Master

Syntax: ***ZzzMSTRT**

Response (see STATUS)

Parameters: zz 1-20: zone number

This command toggles the specified zone between being system master and removing system master. Only one zone can be the system master and any time. This is the same as pushing the “MASTER” (HOTKEY-“SHUF”) button on the DisplayPad.

DND – Turn On or Off Do-Not-Disturb

Syntax: ***ZzzDNDv**

Response (see STATUS)

Parameters: zz 1-20: zone number
 v 0: Off
 1: On

This command turns on or off the zones do-not-disturb indicator.

DNDT – Toggle Do-Not-Disturb

Syntax: ***ZzzDNDT**

Response (see STATUS)

Parameters: zz 1-20: zone number

This command toggles on and off the zones do-not-disturb indicator. This is the same as pushing the “DND” (HOTKEY-“CONT”) button on the DisplayPad.

LOCK – Turn On or Off Zone Lock

Syntax: *ZzzLOCKv

Response (see STATUS)

Parameters: zz 1-20: zone number
 v 0: Off
 1: On

This command turns on or off the zones lock.

LOCKT – Toggle Zone Lock

Syntax: *ZzzLOCKT

Response (see STATUS)

Parameters: zz 1-20: zone number

This command toggles on and off the zones lock. This is the same as pushing the “LOCK” (HOTKEY-“GRP”) button on the DisplayPad.

STR – Display a String

Syntax: *ZzzSTR“text”

Response: #OK

Parameters: zz 1-20: zone number
 text String to be displayed. (50 characters maximum)

This command briefly displays a string on the DisplayPad of the specified zone.

STR+ – Permanently Display a String

Syntax: *ZzzSTR+“text”

Response: #OK

Parameters: zz 1-20: zone number
 text String to be displayed. (50 characters maximum)

This command displays a string on the DisplayPad of the specified zone. This string will be displayed for this source until another string is specified either through the RS-232 interface, executing a macro with a permanent display string, or other means.

ZERO – Execute Macro “0”

Syntax: *ZzzZEROn

Response: #SsZzzZERO

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “0” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

ONE – Execute Macro “1”

Syntax: *ZzzONEn

Response: #SsZzzONE

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “1” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

TWO – Execute Macro “2”

Syntax: *ZzzTWOn

Response: #SsZzzTWO

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “2” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

THREE – Execute Macro “3”

Syntax: *ZzzTHREEn

Response: #SsZzzTHREE

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “3” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

FOUR – Execute Macro “4”

Syntax: *ZzzFOURn

Response: #SsZzzFOUR

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “4” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

FIVE – Execute Macro “5”

Syntax: *ZzzFIVEn

Response: #SsZzzFIVE

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “5” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

SIX – Execute Macro “6”

Syntax: ***Z_{zz}SIX_n**

Response: #**S_sZ_{zz}SIX**

Parameters: **zz** 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “6” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with **n** = 0 has no effect.

SEVEN – Execute Macro “7”

Syntax: ***Z_{zz}SEVEN_n**

Response: #**S_sZ_{zz}SEVEN**

Parameters: **zz** 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “7” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with **n** = 0 has no effect.

EIGHT – Execute Macro “8”

Syntax: ***Z_{zz}EIGHT_n**

Response: #**S_sZ_{zz}EIGHT**

Parameters: **zz** 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “8” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with **n** = 0 has no effect.

NINE – Execute Macro “9”

Syntax: *ZzzNINEn

Response: #SsZzzNINE

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “9” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

FFWD – Execute Macro “▶▶”

Syntax: *ZzzFFWDn

Response: #SsZzzFFWD

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “▶▶” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

FRWD – Execute Macro “◀◀”

Syntax: *ZzzFRWDn

Response: #SsZzzFRWD

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “◀◀” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

FWD – Execute Macro “▶”

Syntax: *ZzzFWDn

Response: #SsZzzFWD

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “▶” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

RWD – Execute Macro “◀”

Syntax: *ZzzRWDn

Response: #SsZzzRWD

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “◀” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

PAUSE – Execute Macro “||”

Syntax: *ZzzPAUSEn

Response: #SsZzzPAUSE

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “||” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

STOP – Execute Macro “■”

Syntax: *ZzzSTOPn

Response: #SsZzzSTOP

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “■” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

PLAY – Execute Macro “PLAY”

Syntax: *ZzzPLAYn

Response: #SsZzzPLAY

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “PLAY” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

+TEN – Execute Macro “+10”

Syntax: *Zzz+TENn

Response: #SsZzz+TEN

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “+10” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

ENTER – Execute Macro “ENT”

Syntax: *ZzzENTERn

Response: #SsZzzENTER

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “ENT” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

CONT – Execute Macro “CONT”

Syntax: *ZzzCONTn

Response: #SsZzzCONT

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “CONT” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

SHUF – Execute Macro “SHUF”

Syntax: *ZzzSHUFn

Response: #SsZzzSHUF

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “SHUF” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

GRP – Execute Macro “GRP”

Syntax: *ZzzGRPn

Response: #SsZzzGRP

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “GRP” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

DISC – Execute Macro “DISC”

Syntax: *ZzzDISCn

Response: #SsZzzDISC

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the macro assigned to the “DISC” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the key on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HZERO – Execute Macro HOTKEY-“0”

Syntax: *ZzzHZEROn

Response: #SsZzzHZERO

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “0” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “0” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HONE – Execute Macro HOTKEY-“1”

Syntax: *ZzzHONEn

Response: #SsZzzHONE

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “1” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “1” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HTWO – Execute Macro HOTKEY-“2”

Syntax: *ZzzHTWOn

Response: #SsZzzHTWO

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “2” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “2” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HTHREE – Execute Macro HOTKEY-“3”

Syntax: *ZzzHTHREEn

Response: #SsZzzHTHREE

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “3” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “3” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HFOUR – Execute Macro HOTKEY-“4”

Syntax: *ZzzHFOURn

Response: #SsZzzHFOUR

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “4” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “4” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HFIVE – Execute Macro HOTKEY-“5”

Syntax: *ZzzHFIVEn

Response: #SsZzzHFIVE

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “5” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “5” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HSIX – Execute Macro HOTKEY-“6”

Syntax: *ZzzHSIXn

Response: #SsZzzHSIX

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “6” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “6” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HSEVEN – Execute Macro HOTKEY-“7”

Syntax: *ZzzHSEVENn

Response: #SsZzzHSEVEN

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “7” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “7” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HEIGHT – Execute Macro HOTKEY-“8”

Syntax: *ZzzHEIGHTn

Response: #SsZzzHEIGHT

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “8” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “8” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

HNINE – Execute Macro HOTKEY-“9”

Syntax: *ZzzHNINEn

Response: #SsZzzHNINE

Parameters: zz 1-20: zone number
 n 0: display description only; do not execute
 1: execute macro
 s 1-6: source number active on specified zone

This command executes the second macro assigned to the “9” key on the DisplayPad in the specified zone for the active source. This has the same effect as pushing the HOTKEY (Menu) key followed by the “9” on DisplayPad in the zone. Issuing this command from RS-232 with n = 0 has no effect.

Group Commands

Group commands are commands that act on all zones that are members of the specified group. All group commands begin with #Gg (g is the one digit group number between 1 and 4).

STR – Display a String

Syntax: *GgSTR" text"

Response: #OK

Parameters: g 1-4: group number
 text String to be displayed. (50 characters maximum)

This command briefly displays a string on the DisplayPads of all zones belonging to the specified group.

STR+ – Permanently Display a String

Syntax: *GgSTR+" text"

Response: #OK

Parameters: g 1-6: source number
 text String to be displayed. (50 characters maximum)

This command displays a string on the DisplayPads of all zones belonging to the specified group. This string will be displayed for this source until another string is specified either through the RS-232 interface, executing a macro with a permanent display string, or other means.