

RS-232 Control of TeachLogic Amplifier/Receiver

revision

date

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This document provides the codes to control TeachLogic products using RS-232 commands. Different products have different commands sets set forth below.

The RS-232 communications settings for all products are 9600 baud, 8 data bits, no parity, and one stop bit.

Send commands using hexadecimal numeric values for the ASCII character and end each command with CR (carriage return) (ASCII hex value 0D, decimal value 13).

For example, if the command is **Power:ON**, send these characters representing hexadecimal value (last one is a carriage return): 50 6f 77 65 72 3a 4f 4e 0D

- **P** is 50,
- **o** is 6f,
- **w** is 77 and so forth.

You may use a tool such as <https://www.binaryhexconverter.com/ascii-text-to-hex-converter>.

For further reading also

https://www.cisco.com/c/en/us/td/docs/ios/12_4/cfg_fund/command/reference/cfnapph.html.

Ovation OA-50 Amplifier

<u>Function</u>	<u>ASCII TL Command</u>		
POWER On	TL:Power:ON	54 4c 3a 50 6f 77 65 72 3a 4f 4e	0D
POWER Off	TL:Power:OFF	54 4c 3a 50 6f 77 65 72 3a 4f 46 46	0D
Mic Channel A Up	TL:CH:A:UP	54 4c 3a 43 48 3a 41 3a 55 50	0D
Mic Channel A Down	TL:CH:A:DOWN	54 4c 3a 43 48 3a 41 3a 44 4f 57 4e	0D
Mic Channel A Mute	TL:CH:A:MUTE	54 4c 3a 43 48 3a 41 3a 4d 55 54 45	0D
Mic Channel B Up	TL:CH:B:UP	54 4c 3a 43 48 3a 42 3a 55 50	0D
Mic Channel B Down	TL:CH:B:DOWN	54 4c 3a 43 48 3a 42 3a 44 4f 57 4e	0D
Mic Channel B Mute	TL:CH:B:MUTE	54 4c 3a 43 48 3a 42 3a 4d 55 54 45	0D
DVD Gain Up	TL:Gain:DVD:UP	54 4c 3a 47 61 69 6e 3a 44 56 44 3a 55 50	0D
DVD Gain Down	TL:Gain:DVD:DOWN	54 4c 3a 47 61 69 6e 3a 44 56 44 3a 44 4f 57 4e	0D
DVD Mute	TL:Gain:DVD:MUTE	54 4c 3a 47 61 69 6e 3a 44 56 44 3a 4d 55 54 45	0D
AUX Gain Up	TL:Gain:AUX:UP	54 4c 3a 47 61 69 6e 3a 41 55 58 3a 55 50	0D
AUX Gain Down	TL:Gain:AUX:DOWN	54 4c 3a 47 61 69 6e 3a 41 55 58 3a 44 4f 57 4e	0D
AUX Mute	TL:Gain:AUX:MUTE	54 4c 3a 47 61 69 6e 3a 41 55 58 3a 4d 55 54 45	0D
COMPUTER Gain Up	TL:Gain:COM:UP	54 4c 3a 47 61 69 6e 3a 43 4f 4d 3a 55 50	0D
COMPUTER Gain Down	TL:Gain:COM:DOWN	54 4c 3a 47 61 69 6e 3a 43 4f 4d 3a 44 4f 57 4e	0D
COMPUTER Mute	TL:Gain:COM:MUTE	54 4c 3a 47 61 69 6e 3a 43 4f 4d 3a 4d 55 54 45	0D

Maxim and Spectrum IMA-540 and IMA-840

<u>Function</u>	<u>ASCII TL Command</u>	<u>Hex TL Command</u>
POWER On	Power:ON	50 6f 77 65 72 3a 4f 4e 0D
POWER Off	Power:OFF	50 6f 77 65 72 3a 4f 46 46 0D
Mic Channel A Up	CH:A:UP	43 48 3a 41 3a 55 50 0D
Mic Channel A Down	CH:A:DOWN	43 48 3a 41 3a 44 4f 57 4e 0D
Mic Channel A Mute	CH:A:MUTE	43 48 3a 41 3a 4d 55 54 45 0D
Mic Channel B Up	CH:B:UP	43 48 3a 42 3a 55 50 0D
Mic Channel B Down	CH:B:DOWN	43 48 3a 42 3a 44 4f 57 4e 0D
Mic Channel B Mute	CH:B:MUTE	43 48 3a 42 3a 4d 55 54 45 0D
DVD Gain Up	Gain:DVD:UP	47 61 69 6e 3a 44 56 44 3a 55 50 0D
DVD Gain Down	Gain:DVD:DOWN	47 61 69 6e 3a 44 56 44 3a 44 4f 57 4e 0D
DVD Mute	Gain:DVD:MUTE	47 61 69 6e 3a 44 56 44 3a 4d 55 54 45 0D
AUX Gain Up	Gain:AUX:UP	47 61 69 6e 3a 41 55 58 3a 55 50 0D
AUX Gain Down	Gain:AUX:DOWN	47 61 69 6e 3a 41 55 58 3a 44 4f 57 4e 0D
AUX Mute	Gain:AUX:MUTE	47 61 69 6e 3a 41 55 58 3a 4d 55 54 45 0D
COMPUTER Gain Up	Gain:COM:UP	47 61 69 6e 3a 43 4f 4d 3a 55 50 0D
COMPUTER Gain Down	Gain:COM:DOWN	47 61 69 6e 3a 43 4f 4d 3a 44 4f 57 4e 0D
COMPUTER Mute	Gain:COM:MUTE	47 61 69 6e 3a 43 4f 4d 3a 4d 55 54 45 0D
Conferernce Input Gain Up	Gain:CONF-IN:UP	47 61 69 6e 3a 43 4f 4e 46 2d 49 4e 3a 55 50 0D
Conferernce Input Gain Down	Gain:CONF-IN:DOWN	47 61 69 6e 3a 43 4f 4e 46 2d 49 4e 3a 44 4f 57 4e 0D
Conferernce Input Gain Mute	Gain:CONF-IN:MUTE	47 61 69 6e 3a 43 4f 4e 46 2d 49 4e 3a 4d 55 54 45 0D

Matrix IMA-121

Function

Power, toggle on or off	Power:TOGGLE	50 6f 77 65 72 3a 54 4f 47 47 4c 45	0D
Power ON	Power:ON	50 6f 77 65 72 3a 4f 4e	0D
Power OFF	Power:OFF	50 6f 77 65 72 3a 4f 46 46	0D
IR Mic1 (Ch A) Up	CH:A:UP	43 48 3a 41 3a 55 50	0D
IR Mic1 (Ch A) Down	CH:A:DOWN	43 48 3a 41 3a 44 4f 57 4e	0D
IR Mic1 (Ch A) Mute	CH:A:MUTE	43 48 3a 41 3a 4d 55 54 45	0D
IR Mic2 (Ch B) Up	CH:B:UP	43 48 3a 42 3a 55 50	0D
IR Mic2 (Ch B) Down	CH:B:DOWN	43 48 3a 42 3a 44 4f 57 4e	0D
IR Mic2 (Ch B) Mute	CH:B:MUTE	43 48 3a 42 3a 4d 55 54 45	0D
Aux1 Gain Up	Gain:AUX:UP	47 61 69 6e 3a 41 55 58 3a 55 50	0D
Aux1 Gain Down	Gain:AUX:DOWN	47 61 69 6e 3a 41 55 58 3a 44 4f 57 4e	0D
Aux1 Mute	Gain:AUX:MUTE	47 61 69 6e 3a 41 55 58 3a 4d 55 54 45	0D
Aux2 Gain Up	Gain:AUX2:UP	47 61 69 6e 3a 41 55 58 32 3a 55 50	0D
Aux2 Gain Down	Gain:AUX2:DOWN	47 61 69 6e 3a 41 55 58 32 3a 44 4f 57 4e	0D
Aux2 Mute	Gain:AUX2:MUTE	47 61 69 6e 3a 41 55 58 32 3a 4d 55 54 45	0D
Line Out Gain Up	Gain:LEO:UP	47 61 69 6e 3a 4c 45 4f 3a 55 50	0D
Line Out Gain Down	Gain:LEO:DOWN	47 61 69 6e 3a 4c 45 4f 3a 44 4f 57 4e	0D
Line Out Mute	Gain:LEO:MUTE	47 61 69 6e 3a 4c 45 4f 3a 4d 55 54 45	0D

Maxim III, Spectrum III (IMA-520, IMA-820)

TL Command set only in 2.11 and later; 2.11 also contains Original (ver 2.10) commands at right.

2.11 Command Set

Function	ASCII Command	Hex Command
POWER On	Power:ON	50 6f 77 65 72 3a 4f 4e 0D
POWER Off	Power:OFF	50 6f 77 65 72 3a 4f 46 46 0D
Mic Channel A Up	CH:A:UP	43 48 3a 41 3a 55 50 0D
Mic Channel A Down	CH:A:DOWN	43 48 3a 41 3a 44 4f 57 4e 0D
Mic Channel A Mute	CH:A:MUTE	43 48 3a 41 3a 4d 55 54 45 0D
Mic Channel B Up	CH:B:UP	43 48 3a 42 3a 55 50 0D
Mic Channel B Down	CH:B:DOWN	43 48 3a 42 3a 44 4f 57 4e 0D
Mic Channel B Mute	CH:B:MUTE	43 48 3a 42 3a 4d 55 54 45 0D
DVD Gain Up	Gain:DVD:UP	47 61 69 6e 3a 44 56 44 3a 55 50 0D
DVD Gain Down	Gain:DVD:DOWN	47 61 69 6e 3a 44 56 44 3a 44 4f 57 4e 0D
DVD Mute	Gain:DVD:MUTE	47 61 69 6e 3a 44 56 44 3a 4d 55 54 45 0D
AUX Gain Up	Gain:AUX:UP	47 61 69 6e 3a 41 55 58 3a 55 50 0D
AUX Gain Down	Gain:AUX:DOWN	47 61 69 6e 3a 41 55 58 3a 44 4f 57 4e 0D
AUX Mute	Gain:AUX:MUTE	47 61 69 6e 3a 41 55 58 3a 4d 55 54 45 0D
COMPUTER Gain Up	Gain:COM:UP	47 61 69 6e 3a 43 4f 4d 3a 55 50 0D
COMPUTER Gain Down	Gain:COM:DOWN	47 61 69 6e 3a 43 4f 4d 3a 44 4f 57 4e 0D
COMPUTER Mute	Gain:COM:MUTE	47 61 69 6e 3a 43 4f 4d 3a 4d 55 54 45 0D
MP3 Gain Up	Gain:MP3:UP	47 61 69 6e 3a 4d 50 33 3a 55 50 0D
MP3 Gain Down	Gain:MP3:DOWN	47 61 69 6e 3a 4d 50 33 3a 44 4f 57 4e 0D
MP3 Mute	Gain:MP3:MUTE	47 61 69 6e 3a 4d 50 33 3a 4d 55 54 45 0D

Only command set in s/w ver 2.10 and earlier

Original, 2.10 Command Set

Function	ASCII Command	Hex Command
POWER On	Linkx:Power:ON	4c 69 6e 6b 78 3a 50 6f 77 65 72 3a 4f 4e 0D
POWER Off	Linkx:Power:OFF	4c 69 6e 6b 78 3a 50 6f 77 65 72 3a 4f 46 46 0D
Mic Channel A Mute	Linkx:CH:A:MUTE	43 48 3a 41 3a 4d 55 54 45 0D
Mic Channel B Mute	Linkx:CH:B:MUTE	43 48 3a 42 3a 4d 55 54 45 0D
DVD Gain Up	Linkx:Gain:AUX:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 41 55 58 3a 55 50 0D
DVD Gain Down	Linkx:Gain:AUX:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 41 55 58 3a 44 4f 57 4e 0D
DVD Mute	Linkx:Gain:AUX:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 41 55 58 3a 4d 55 54 45 0D
AUX Gain Up	Linkx:Gain:MIC:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4d 69 43 3a 55 50 0D
AUX Gain Down	Linkx:Gain:MIC:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4d 69 43 3a 44 4f 57 4e 0D
AUX Mute	Linkx:Gain:MIC:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4d 69 43 3a 4d 55 54 45 0D
COMPUTER Gain Up	Linkx:Gain:DVD:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 44 56 44 3a 55 50 0D
COMPUTER Gain Down	Linkx:Gain:DVD:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 44 56 44 3a 44 4f 57 4e 0D
COMPUTER Mute	Linkx:Gain:DVD:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 44 56 44 3a 4d 55 54 45 0D
MP3 Gain Up	Linkx:Gain:MP3:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4d 50 33 3a 55 50 0D
MP3 Gain Down	Linkx:Gain:MP3:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4d 50 33 3a 44 4f 57 4e 0D
MP3 Mute	Linkx:Gain:MP3:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4d 50 33 3a 4d 55 54 45 0D

Mic Channel A/B Up/Down only in REV4 and later hardware.

In late-2020 the company began shipping IMA-232, IMA-520 and IMA-820 amplifiers with revised new command sets and additional controls, but these products will continue to support the prior command set as well. The newer command set (Command Set 2.11) is in products with firmware numbered 2.11 and higher; products with no firmware version label, or firmware 2.10 and prior use the original/prior command sets (Command Set 2.10). If firmware version is unknown, and the second two characters of the product serial number are 14, 15, 16, 17, 18 or 19, then the products uses Command Set 2.10.

FORUM 232 (IMA-232)

TL Command set only in 2.11 and later; 2.11 also contains Original (ver 2.10) commands at right.

2.11 Command Set

<u>Function</u>	<u>ASCII Command</u>	<u>Hex Command</u>
POWER On	Power:ON	50 6f 77 65 72 3a 4f 4e 0D
POWER Off	Power:OFF	50 6f 77 65 72 3a 4f 46 46 0D
Mic Channel A Up	CH:A:UP	43 48 3a 41 3a 55 50 0D
Mic Channel A Down	CH:A:DOWN	43 48 3a 41 3a 44 4f 57 4e 0D
Mic Channel A Mute	CH:A:MUTE	43 48 3a 41 3a 4d 55 54 45 0D
Mic Channel B Up	CH:B:UP	43 48 3a 42 3a 55 50 0D
Mic Channel B Down	CH:B:DOWN	43 48 3a 42 3a 44 4f 57 4e 0D
Mic Channel B Mute	CH:B:MUTE	43 48 3a 42 3a 4d 55 54 45 0D
DVD Gain Up	Gain:DVD:UP	47 61 69 6e 3a 44 56 44 3a 55 50 0D
DVD Gain Down	Gain:DVD:DOWN	47 61 69 6e 3a 44 56 44 3a 44 4f 57 4e 0D
DVD Mute	Gain:DVD:MUTE	47 61 69 6e 3a 44 56 44 3a 4d 55 54 45 0D
COMP/AUX Gain Up	Gain:AUX:UP	47 61 69 6e 3a 41 55 58 3a 55 50 0D
COMP/AUX Gain Down	Gain:AUX:DOWN	47 61 69 6e 3a 41 55 58 3a 44 4f 57 4e 0D
COMP/AUX Mute	Gain:AUX:MUTE	47 61 69 6e 3a 41 55 58 3a 4d 55 54 45 0D

Only command set in s/w ver 2.10 and earlier

Original, 2.10 Command Set

<u>Function</u>	<u>ASCII Command</u>	<u>Hex Command</u>
POWER On	Linkx:Power:ON	4c 69 6e 6b 78 3a 50 6f 77 65 72 3a 4f 4e 0D
POWER Off	Linkx:Power:OFF	4c 69 6e 6b 78 3a 50 6f 77 65 72 3a 4f 46 46 0D
Mic Channel A Mute	Linkx:CH:A:MUTE	43 48 3a 41 3a 4d 55 54 45 0D
Mic Channel B Mute	Linkx:CH:B:MUTE	43 48 3a 42 3a 4d 55 54 45 0D
DVD Gain Up	Linkx:Gain:AUX:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 41 55 58 3a 55 50 0D
DVD Gain Down	Linkx:Gain:AUX:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 41 55 58 3a 44 4f 57 4e 0D
DVD Mute	Linkx:Gain:AUX:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 41 55 58 3a 4d 55 54 45 0D
COMP/AUX Gain Up	Linkx:Gain:DVD:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 44 56 44 3a 55 50 0D
COMP/AUX Gain Down	Linkx:Gain:DVD:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 44 56 44 3a 44 4f 57 4e 0D
COMP/AUX Mute	Linkx:Gain:DVD:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 44 56 44 3a 4d 55 54 45 0D

Mic Channel A/B Up/Down only in REV3 and later hardware.

Matrix

IMA-120

<u>Function</u>	<u>ASCII Command</u>	<u>Hex Command</u>
Power, toggle on or off	Linkx:Power:TOGGLE	4c 69 6e 6b 78 3a 50 6f 77 65 72 3a 54 4f 47 47 4c 45 0D
Power ON	Linkx:Power:ON	4c 69 6e 6b 78 3a 50 6f 77 65 72 3a 4f 4e 0D
Power OFF	Linkx:Power:OFF	4c 69 6e 6b 78 3a 50 6f 77 65 72 3a 4f 46 46 0D
IR Mic1 (Ch A) Up	Linkx:Gain:ACH:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 41 43 48 3a 55 50 0D
IR Mic1 (Ch A) Down	Linkx:Gain:ACH:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 41 43 48 3a 44 4f 57 4e 0D
IR Mic1 (Ch A) Mute	Linkx:Gain:ACH:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 41 43 48 3a 4d 55 54 45 0D
IR Mic2 (Ch B) Up	Linkx:Gain:BCH:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 42 43 48 3a 55 50 0D
IR Mic2 (Ch B) Down	Linkx:Gain:BCH:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 42 43 48 3a 44 4f 57 4e 0D
IR Mic2 (Ch B) Mute	Linkx:Gain:BCH:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 42 43 48 3a 4d 55 54 45 0D
Aux1 Gain Up	Linkx:Gain:LI1:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4c 49 31 3a 55 50 0D
Aux1 Gain Down	Linkx:Gain:LI1:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4c 49 31 3a 44 4f 57 4e 0D
Aux1 Mute	Linkx:Gain:LI1:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4c 49 31 3a 4d 55 54 45 0D
Aux2 Gain Up	Linkx:Gain:LI2:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4c 49 32 3a 55 50 0D
Aux2 Gain Down	Linkx:Gain:LI2:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4c 49 32 3a 44 4f 57 4e 0D
Aux2 Mute	Linkx:Gain:LI2:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4c 49 32 3a 4d 55 54 45 0D
Line Out Gain Up	Linkx:Gain:LEO:UP	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4c 45 4f 3a 55 50 0D
Line Out Gain Down	Linkx:Gain:LEO:DOWN	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4c 45 4f 3a 44 4f 57 4e 0D
Line Out Mute	Linkx:Gain:LEO:MUTE	4c 69 6e 6b 78 3a 47 61 69 6e 3a 4c 45 4f 3a 4d 55 54 45 0D