TERMINAL

An often overlooked but very valuable tool for the MediaMatrix® system designer is the **"Terminal"** mode of operation. This can be accessed by anyone with Designer level access by using the pull down menu found under Window.

While in Terminal mode, the designer can find very detailed information regarding the use of DSP space on a chip-by-chip basis, hardware found by the system and Value tables for use in programming serial control (PASHA™). While not necessary information for general use, it can prove invaluable to the system designer.

Once Terminal mode has been selected, the designer will be given further options under the pull down menu **"Terminal"**. Selections available under the Terminal mode are as shown in the figure to the right. While most are self explanatory, a few will be detailed as relating to specific MediaMatrix related functions.
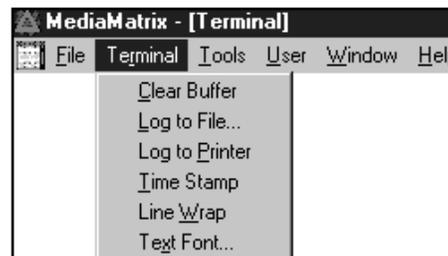
Clear Buffer

When (and as soon as) selected, it will clear Terminal Window and any history which would be viewable using the Terminal Window's scroll bars and it gives you a clean screen. This is particularly handy when you are obtaining DSP usage reports or values on specific controls. After each control is selected you will go to **Terminal** mode, select **Clear Buffer** and then hit **"R"** or **"V"**. This minimizes the confusion factor by having the information on screen for only one device at a time.

> **NOTE:** The Terminal Log to File log file and Terminal Log to Printer are not affected by this command.

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Log to File...

This Terminal Menu item is available to users with Supervisor Privilege or Designer Privilege when the Terminal Window has Input Focus.

Selecting this menu when it is in the unchecked state will bring up a standard file save dialog where the name of the file to be used for logging must be specified. If a non-existent file is specified, it will be created and stored as "terminal.log". If the file specified already exits, the existing contents will be preserved. New log information will be appended to the end of the file.
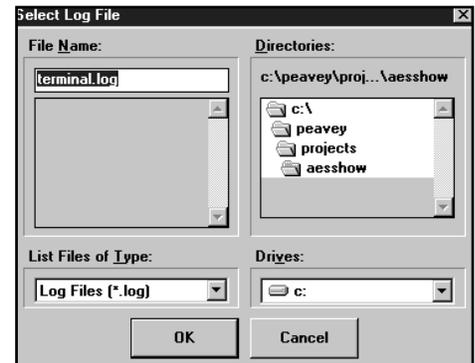
When the menu is checked, anything printed in the Terminal Window will also be appended to the log file. This includes, but is not limited to, such items as:

☞ who logged on, who logged off - and when
☞ failed log on attempts
☞ compile errors
☞ what Break-out-Boxes (BoB) are turned on or turned off
☞ what Break-out-Boxes (BoB) have communications errors
☞ any reported DSP failures, including which chip on which card

The state of this menu is retained when the system is shut-down and re-started. If file logging is enabled when the system is started, the log file will be reopened and log information will be appended to the file.

When it is in the checked state, selecting this menu item will disable file logging and uncheck the logging option.

Printing the Log File

To print the information contained within the Log File, it is necessary to locate the **terminal.log** (typically in c:\Peavey) and rename it to **terminal.txt** or any other file name of your choice. With the ".txt" suffix, it can then be opened with **notepad** if it is not too large. If it is too large, then it can be imported into a word document and opened in that manner. Once it is in text format, it can be easily printed.

> **NOTE:** Terminal Log should not be enabled for long periods as the file can get quite large! If a recurring error is being reported, it can generate a 20 meg file in a number of hours. Use with caution.

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Log to Printer

Selecting this menu item toggles the state of the Log to Printer feature. When the menu is checked, anything printed in the Terminal Window will also be printed on the attached printer.

Printer logging bypasses the Windows Print Manager and prints Terminal Window messages directly to the LPT1: parallel printer port. A PC compatible tractor feed dot matrix line printer, such as those made by Epson, Okidata or IBM, should be attached to LPT1: when this feature is to be used.

Time Stamp

When this menu is checked, each line printed in the Terminal Window is preceded with the current time and date of the form "[mm/dd/yy hh:mm:ss]". The Time Stamp will also appear on the printer and/or in the log file if Log to Printer and/or Log to File are enabled. This feature is typically enabled at all times.

Line Wrap and Text Font

When this menu is checked, Terminal Window lines will be word-wrapped with an 80 character margin.

When this menu is unchecked, lines may reach beyond the right edge of the Terminal Window. The Terminal Window's horizontal scroll bar may be used to view such lines in their entirety.
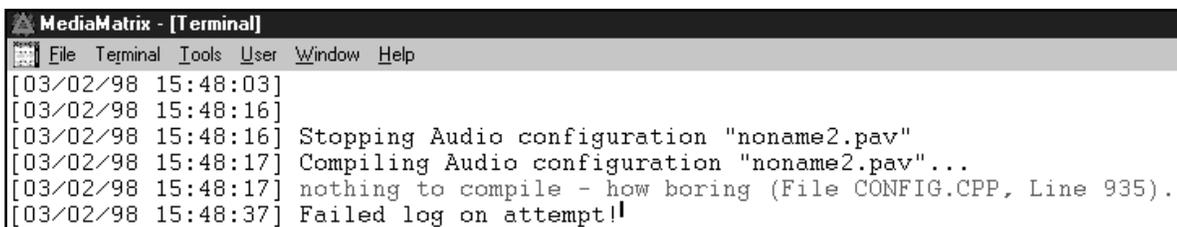
```
MediaMatrix - [Terminal]
 File  Terminal  Tools  User  Window  Help
[03/02/98 15:48:03]
[03/02/98 15:48:16]
[03/02/98 15:48:16] Stopping Audio configuration "noname2.pav"
[03/02/98 15:48:17] Compiling Audio configuration "noname2.pav"...
[03/02/98 15:48:17] nothing to compile - how boring (File CONFIG.CPP, Line 935).
[03/02/98 15:48:37] Failed log on attempt!
```

NOTE: ALERT messages in the Terminal Window are always printed in red. The font color you select affects all other Terminal Window messages.

All of the above items are explained in the MediaMatrix manual and in the MediaMatrix Help file.

The following items are not explained in either of those locations.

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Although the Compile Results window gives a great detail of information, it is given in a "generalized" method. For example, if you put 8 input/output algorithms on screen, wire them and compile, the report will tell you that you need two (2) DSP cards and eight (8) BoBs. It should be obvious that not all the DSP resources have been taken for this design. To verify how much play room or DSP space is available, merely go to the terminal window and hit the "r" key for a report of resource allocation. The information should appear as follows:

```
[03/02/98 16:07:48]
[03/02/98 16:07:48] >======================== BEGIN CONFIGURATION REPORT =======================<
[03/02/98 16:07:48]
[03/02/98 16:07:48] >SampleRate=44100
[03/02/98 16:07:48]  BoardsNeeded=2  BoardsPresent=0 * NOT ENOUGH HARDWARE *
[03/02/98 16:07:48]
[03/02/98 16:07:48] >Features used:
[03/02/98 16:07:48]   No features used.
[03/02/98 16:07:48]
[03/02/98 16:07:48] >Dead algorithms:
[03/02/98 16:07:48]    PARAMEQx5   1,  RMS          1,
[03/02/98 16:07:48]   Dead algorithm count = 2
[03/02/98 16:07:48]
[03/02/98 16:07:48] >Algorithms used:
[03/02/98 16:07:48]    BOBINOUT   8,  INPUT     64,  OUTPUT    64,
[03/02/98 16:07:48]   Live algorithm count = 136
[03/02/98 16:07:48]
[03/02/98 16:07:48] >Individual DSP cycles used:
[03/02/98 16:07:48]   Board  1        totCyc  xfrCyc  algCyc  extMem  intCod  intBuf  intPrm
[03/02/98 16:07:48]     Chip  1A        18.38    0.00   18.38    0.68   15.23    6.25    0.00
[03/02/98 16:07:48]     Chip  1B        18.38    0.00   18.38    0.68   15.23    6.25    0.00
[03/02/98 16:07:48]     Chip  1C        18.38    0.00   18.38    0.68   15.23    6.25    0.00
[03/02/98 16:07:48]     Chip  1D        18.38    0.00   18.38    0.68   15.23    6.25    0.00
[03/02/98 16:07:48]   Board  2        totCyc  xfrCyc  algCyc  extMem  intCod  intBuf  intPrm
[03/02/98 16:07:48]     Chip  2A        18.38    0.00   18.38    0.68   15.23    6.25    0.00
[03/02/98 16:07:48]     Chip  2B        18.38    0.00   18.38    0.68   15.23    6.25    0.00
[03/02/98 16:07:48]     Chip  2C        18.38    0.00   18.38    0.68   15.23    6.25    0.00
[03/02/98 16:07:48]     Chip  2D        18.38    0.00   18.38    0.68   15.23    6.25    0.00
[03/02/98 16:07:48]     TOTAL =        147.03    0.00  147.03    5.44  121.82   50.00    0.00
[03/02/98 16:07:48]
[03/02/98 16:07:48] > I/O useage:
[03/02/98 16:07:48]   INPUT MAP: 64 used
[03/02/98 16:07:48]     1:  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
[03/02/98 16:07:48]    17:  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
[03/02/98 16:07:48]    33:  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
[03/02/98 16:07:48]    49:  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
[03/02/98 16:07:48]   OUTPUT MAP: 64 used
[03/02/98 16:07:48]     1:  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
[03/02/98 16:07:48]    17:  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
[03/02/98 16:07:48]    33:  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
[03/02/98 16:07:48]    49:  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1  1
[03/02/98 16:07:48]   INTERCELLNETS: 0 used
[03/02/98 16:07:48]
[03/02/98 16:07:48] >======================== END CONFIGURATION REPORT =======================<
```

Dead Algorithms ← (points to Dead algorithms section)

DSP cycles ← (points to Individual DSP cycles section)

There is an enormous amount of information in the above report once you know how to interpret. Some of this information is contained in the Compile Results window, but details such as Dead Algorithms (2), Algorithms Used (136), and the Individual DSP cycles used (TOTAL=147.03) are not.

Each DSP is capable of using up to 100.00 total cycles (totCyc) for a total of 400 totCyc for each DSP card. In the above example, 800 totCyc is available, meaning the Designer has 643 cycles available (800 minus 147.03). This equates to approximately 6 and _ DSP chips of space available for other processing functions. Remember, the front screen reported two full cards used.

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The hardware present in a MediaMatrix system can be verified by depressing the letter key "h". The system will give a status of how many DSP cards it found present in the system (which may differ from how many you see), how many BoBs it found attached to those DSP cards and to which ports. It also verifies which EPROM version is installed in each of those BoBs.

A hardware report will appear as follows:

Number of DSP cards and BoBs found

DSP card address

BoB EPROM version

```
[03/04/98 16:48:03] >======================= BEGIN HARDWARE REPORT =======================<
[03/04/98 16:48:03] Sample frequency = 44100 Hz
[03/04/98 16:48:03] Hardware present: 4 boards, 2 BoBs
[03/04/98 16:48:03] BOARDS:
[03/04/98 16:48:03]    1). address 0xd8000, revision 2.0
[03/04/98 16:48:03]    BOBS:
[03/04/98 16:48:03]       1 port 1 status 'active', version 0x714 using 0x714; Ok.
[03/04/98 16:48:03]       2 port 2 status 'active', version 0x714 using 0x714; Ok.
[03/04/98 16:48:03]       3 port 3 status 'error or not found'
[03/04/98 16:48:03]       4 port 4 status 'error or not found'
[03/04/98 16:48:03]    2). address 0xd8400, revision 2.0
[03/04/98 16:48:03]    BOBS:
[03/04/98 16:48:03]       5 port 1 status 'error or not found'
[03/04/98 16:48:03]       6 port 2 status 'error or not found'
[03/04/98 16:48:03]       7 port 3 status 'error or not found'
[03/04/98 16:48:03]       8 port 4 status 'error or not found'
[03/04/98 16:48:03]    3). address 0xd8800, revision 2.0
[03/04/98 16:48:03]    BOBS:
[03/04/98 16:48:03]       9 port 1 status 'not found'
[03/04/98 16:48:03]      10 port 2 status 'error or not found'
[03/04/98 16:48:03]      11 port 3 status 'error or not found'
[03/04/98 16:48:03]      12 port 4 status 'error or not found'
[03/04/98 16:48:03]    4). address 0xd8c00, revision 2.0
[03/04/98 16:48:03]    BOBS:
[03/04/98 16:48:03]      13 port 1 status 'error or not found'
[03/04/98 16:48:03]      14 port 2 status 'error or not found'
[03/04/98 16:48:03]      15 port 3 status 'error or not found'
[03/04/98 16:48:03]      16 port 4 status 'error or not found'
[03/04/98 16:48:03]
[03/04/98 16:48:03] >======================= END HARDWARE REPORT =======================<
```

On all other ports, the BoB port message ìerror or not foundî is indicated. This means several things depending upon the actual hardware present. In this case it means that the algorithm was not seen on screen when compiled and did not find a BoB attached to that port. This is OK in this instance because both of those cases were true. However, it could have been one of the following:

Scenario 1) BoB input/output algorithm is on screen and compiled, the message will read as above but means: **a)** BoB cable not connected or bad or **b)** BoB not turned on or is not communicating for some other reason. Report below due to BoB being turned OFF then ON.

```
[03/04/98 16:48:59] failed to respond on Bob 1 connected to local DSP 2 on DPU board 1 (File PCACHE.
CC, Line 138).
[03/04/98 16:49:01] loss of power or internal fault on Bob 1 connected to local DSP 2 on DPU board 1
(File PCACHE.CC, Line 280).
```

Scenario 2) BoB is attached to port but input/output algorithm is **NOT** on screen or compiled, or **IS** on screen **BUT NOT** compiled - same error message for all the above.

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It is important to note that if the input/output algorithm is on screen and compiled **AND** a BoB **IS** attached to the port, then it will indicate it has been found and it will display the version found. The versions shipped to date will be displayed as:

Version	CSUM	Hardware Report
V1.2	390A	VERSION 0x311 USING 0x311
V1.3	3CBA	VERSION 0x513 USING 0x513
V1.4	3735	VERSION 0x713 USING 0x713
V1.5	3EC9	VERSION 0x714 USING 0x714

In should be pointed out that, no matter which version you have (even mixed), all BoB's are the same. The difference is in the information reported back to a view file and works in conjunction with the MWare version installed. No need to worry!

The following information should be read in conjunction with the white paper - **"EXTERNAL CONTROL OF MediaMatrix® VIA SERIAL COMMUNICATIONS"**. As required by external control, the letter key **"v"** can be used to find the 256 hex steps of any control device. This can be extremely useful for any programmer responsible for interfacing MediaMatrix with serial control devices such as those manufactured by AMX, Crestron or Alcorn McBride.

While the paper described above includes several of these value tables for the most common devices (such as -100dB to 0dB faders, -100 to +12dB faders and ON/OFF switches), there are many other devices which do not fit the norm. It should be noted here that you only need to get the values of a particular item once because it will be the same value for all other devices of that same type. However, many devices have user definable parameters which makes using them even more interesting.

For example, the -100dB to 0dB fader outlined above will always be 100 divided by 256 and shown as a hex value. If you "speak fluent hex," then this is not a problem. But if you are "hex illiterate," then this tool becomes invaluable as the tables are only a keystroke away.

What would you do, however, if you wanted to control a sine generator frequency control knob, or you have assigned a Level Control with Trim device to have a total range of 12dB? The hard way to get the values would be to do the math on a hexa-decimal calculator. The easy way is:

☞ Go to "control" mode
☞ Select the device you wish to get the values of
☞ Exercise (or move) that control
☞ Go to Windows, then Terminal
☞ Clear buffer
☞ Hit the letter "v"

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The result will be a hexadecimal table that looks like the following:

values for 10 thru 22kHz tone generator

===Value table for id=0x00001301, type Frequency			
0x00: 10.0Hz,	0x01: 10.3Hz,	0x02: 10.6Hz,	0x03: 10.9Hz,
0x04: 11.3Hz,	0x05: 11.6Hz,	0x06: 12.0Hz,	0x07: 12.4Hz,
0x08: 12.7Hz,	0x09: 13.1Hz,	0x0a: 13.5Hz,	0x0b: 13.9Hz,
with all 255 steps through to the following:			
0xf4: 15.8kHz,	0xf5: 16.3kHz,	0xf6: 16.8kHz,	0xf7: 17.3kHz,
0xf8: 17.8kHz,	0xf9: 18.4kHz,	0xfa: 18.9kHz,	0xfb: 19.5kHz,
0xfc: 20.1kHz,	0xfd: 20.7kHz,	0xfe: 21.3kHz,	0xff: 22.0kHz,

The following two tables on pages 8 and 9 show the exact same level control device, but with the minimum and maximum range settings set differently. In table #1, the range of the potentiometer is from -12dB to +12dB for a 24dB overall range. In table #2 the range of the potentiometer is from -6B to +6B for a 12 overall range.

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TABLE #1

==== Value table for id=0x00001404, type GainLin

0x00: -12.0dB,	0x01: -11.9dB,	0x02: -11.8dB,	0x03: -11.7dB,	0x04: -11.6dB,
0x05: -11.5dB,	0x06: -11.4dB,	0x07: -11.3dB,	0x08: -11.2dB,	0x09: -11.2dB,
0x0a: -11.1dB,	0x0b: -11.0dB,	0x0c: -10.9dB,	0x0d: -10.8dB,	0x0e: -10.7dB,
0x0f: -10.6dB,	0x10: -10.5dB,	0x11: -10.4dB,	0x12: -10.3dB,	0x13: -10.2dB,
0x14: -10.1dB,	0x15: -10.0dB,	0x16: -9.93dB,	0x17: -9.84dB,	0x18: -9.74dB,
0x19: -9.65dB,	0x1a: -9.55dB,	0x1b: -9.46dB,	0x1c: -9.36dB,	0x1d: -9.27dB,
0x1e: -9.18dB,	0x1f: -9.08dB,	0x20: -8.99dB,	0x21: -8.89dB,	0x22: -8.80dB,
0x23: -8.71dB,	0x24: -8.61dB,	0x25: -8.52dB,	0x26: -8.42dB,	0x27: -8.33dB,
0x28: -8.24dB,	0x29: -8.14dB,	0x2a: -8.05dB,	0x2b: -7.95dB,	0x2c: -7.86dB,
0x2d: -7.77dB,	0x2e: -7.67dB,	0x2f: -7.58dB,	0x30: -7.48dB,	0x31: -7.39dB,
0x32: -7.29dB,	0x33: -7.20dB,	0x34: -7.11dB,	0x35: -7.01dB,	0x36: -6.92dB,
0x37: -6.82dB,	0x38: -6.73dB,	0x39: -6.64dB,	0x3a: -6.54dB,	0x3b: -6.45dB,
0x3c: -6.35dB,	0x3d: -6.26dB,	0x3e: -6.16dB,	0x3f: -6.07dB,	0x40: -5.98dB,
0x41: -5.88dB,	0x42: -5.79dB,	0x43: -5.69dB,	0x44: -5.60dB,	0x45: -5.51dB,
0x46: -5.41dB,	0x47: -5.32dB,	0x48: -5.22dB,	0x49: -5.13dB,	0x4a: -5.04dB,
0x4b: -4.94dB,	0x4c: -4.85dB,	0x4d: -4.75dB,	0x4e: -4.66dB,	0x4f: -4.56dB,
0x50: -4.47dB,	0x51: -4.38dB,	0x52: -4.28dB,	0x53: -4.19dB,	0x54: -4.09dB,
0x55: -4.00dB,	0x56: -3.91dB,	0x57: -3.81dB,	0x58: -3.72dB,	0x59: -3.62dB,
0x5a: -3.53dB,	0x5b: -3.44dB,	0x5c: -3.34dB,	0x5d: -3.25dB,	0x5e: -3.15dB,
0x5f: -3.06dB,	0x60: -2.96dB,	0x61: -2.87dB,	0x62: -2.78dB,	0x63: -2.68dB,
0x64: -2.59dB,	0x65: -2.49dB,	0x66: -2.40dB,	0x67: -2.31dB,	0x68: -2.21dB,
0x69: -2.12dB,	0x6a: -2.02dB,	0x6b: -1.93dB,	0x6c: -1.84dB,	0x6d: -1.74dB,
0x6e: -1.65dB,	0x6f: -1.55dB,	0x70: -1.46dB,	0x71: -1.36dB,	0x72: -1.27dB,
0x73: -1.18dB,	0x74: -1.08dB,	0x75: -0.99dB,	0x76: -0.89dB,	0x77: -0.80dB,
0x78: -0.71dB,	0x79: -0.61dB,	0x7a: -0.52dB,	0x7b: -0.42dB,	0x7c: -0.33dB,
0x7d: -0.24dB,	0x7e: -0.14dB,	0x7f: -0.05dB,	0x80: +0.05dB,	0x81: +0.14dB,
0x82: +0.24dB,	0x83: +0.33dB,	0x84: +0.42dB,	0x85: +0.52dB,	0x86: +0.61dB,
0x87: +0.71dB,	0x88: +0.80dB,	0x89: +0.89dB,	0x8a: +0.99dB,	0x8b: +1.08dB,
0x8c: +1.18dB,	0x8d: +1.27dB,	0x8e: +1.36dB,	0x8f: +1.46dB,	0x90: +1.55dB,
0x91: +1.65dB,	0x92: +1.74dB,	0x93: +1.84dB,	0x94: +1.93dB,	0x95: +2.02dB,
0x96: +2.12dB,	0x97: +2.21dB,	0x98: +2.31dB,	0x99: +2.40dB,	0x9a: +2.49dB,
0x9b: +2.59dB,	0x9c: +2.68dB,	0x9d: +2.78dB,	0x9e: +2.87dB,	0x9f: +2.96dB,
0xa0: +3.06dB,	0xa1: +3.15dB,	0xa2: +3.25dB,	0xa3: +3.34dB,	0xa4: +3.44dB,
0xa5: +3.53dB,	0xa6: +3.62dB,	0xa7: +3.72dB,	0xa8: +3.81dB,	0xa9: +3.91dB,
0xaa: +4.00dB,	0xab: +4.09dB,	0xac: +4.19dB,	0xad: +4.28dB,	0xae: +4.38dB,
0xaf: +4.47dB,	0xb0: +4.56dB,	0xb1: +4.66dB,	0xb2: +4.75dB,	0xb3: +4.85dB,
0xb4: +4.94dB,	0xb5: +5.04dB,	0xb6: +5.13dB,	0xb7: +5.22dB,	0xb8: +5.32dB,
0xb9: +5.41dB,	0xba: +5.51dB,	0xbb: +5.60dB,	0xbc: +5.69dB,	0xbd: +5.79dB,
0xbe: +5.88dB,	0xbf: +5.98dB,	0xc0: +6.07dB,	0xc1: +6.16dB,	0xc2: +6.26dB,
0xc3: +6.35dB,	0xc4: +6.45dB,	0xc5: +6.54dB,	0xc6: +6.64dB,	0xc7: +6.73dB,
0xc8: +6.82dB,	0xc9: +6.92dB,	0xca: +7.01dB,	0xcb: +7.11dB,	0xcc: +7.20dB,
0xcd: +7.29dB,	0xce: +7.39dB,	0xcf: +7.48dB,	0xd0: +7.58dB,	0xd1: +7.67dB,
0xd2: +7.77dB,	0xd3: +7.86dB,	0xd4: +7.95dB,	0xd5: +8.05dB,	0xd6: +8.14dB,
0xd7: +8.24dB,	0xd8: +8.33dB,	0xd9: +8.42dB,	0xda: +8.52dB,	0xdb: +8.61dB,
0xdc: +8.71dB,	0xdd: +8.80dB,	0xde: +8.89dB,	0xdf: +8.99dB,	0xe0: +9.08dB,
0xe1: +9.18dB,	0xe2: +9.27dB,	0xe3: +9.36dB,	0xe4: +9.46dB,	0xe5: +9.55dB,
0xe6: +9.65dB,	0xe7: +9.74dB,	0xe8: +9.84dB,	0xe9: +9.93dB,	0xea: +10.0dB,
0xeb: +10.1dB,	0xec: +10.2dB,	0xed: +10.3dB,	0xee: +10.4dB,	0xef: +10.5dB,
0xf0: +10.6dB,	0xf1: +10.7dB,	0xf2: +10.8dB,	0xf3: +10.9dB,	0xf4: +11.0dB,
0xf5: +11.1dB,	0xf6: +11.2dB,	0xf7: +11.2dB,	0xf8: +11.3dB,	0xf9: +11.4dB,
0xfa: +11.5dB,	0xfb: +11.6dB,	0xfc: +11.7dB,	0xfd: +11.8dB,	0xfe: +11.9dB,
0xff: +12.0dB,				

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TABLE #2

==== Value table for id=0x00001404, type GainLin

0x00: -12.0dB,	0x01: -12.0dB,	0x02: -11.9dB,	0x03: -11.9dB,	0x04: -11.8dB,
0x05: -11.8dB,	0x06: -11.7dB,	0x07: -11.7dB,	0x08: -11.6dB,	0x09: -11.6dB,
0x0a: -11.5dB,	0x0b: -11.5dB,	0x0c: -11.4dB,	0x0d: -11.4dB,	0x0e: -11.3dB,
0x0f: -11.3dB,	0x10: -11.2dB,	0x11: -11.2dB,	0x12: -11.2dB,	0x13: -11.1dB,
0x14: -11.1dB,	0x15: -11.0dB,	0x16: -11.0dB,	0x17: -10.9dB,	0x18: -10.9dB,
0x19: -10.8dB,	0x1a: -10.8dB,	0x1b: -10.7dB,	0x1c: -10.7dB,	0x1d: -10.6dB,
0x1e: -10.6dB,	0x1f: -10.5dB,	0x20: -10.5dB,	0x21: -10.4dB,	0x22: -10.4dB,
0x23: -10.4dB,	0x24: -10.3dB,	0x25: -10.3dB,	0x26: -10.2dB,	0x27: -10.2dB,
0x28: -10.1dB,	0x29: -10.1dB,	0x2a: -10.0dB,	0x2b: -9.98dB,	0x2c: -9.93dB,
0x2d: -9.88dB,	0x2e: -9.84dB,	0x2f: -9.79dB,	0x30: -9.74dB,	0x31: -9.69dB,
0x32: -9.65dB,	0x33: -9.60dB,	0x34: -9.55dB,	0x35: -9.51dB,	0x36: -9.46dB,
0x37: -9.41dB,	0x38: -9.36dB,	0x39: -9.32dB,	0x3a: -9.27dB,	0x3b: -9.22dB,
0x3c: -9.18dB,	0x3d: -9.13dB,	0x3e: -9.08dB,	0x3f: -9.04dB,	0x40: -8.99dB,
0x41: -8.94dB,	0x42: -8.89dB,	0x43: -8.85dB,	0x44: -8.80dB,	0x45: -8.75dB,
0x46: -8.71dB,	0x47: -8.66dB,	0x48: -8.61dB,	0x49: -8.56dB,	0x4a: -8.52dB,
0x4b: -8.47dB,	0x4c: -8.42dB,	0x4d: -8.38dB,	0x4e: -8.33dB,	0x4f: -8.28dB,
0x50: -8.24dB,	0x51: -8.19dB,	0x52: -8.14dB,	0x53: -8.09dB,	0x54: -8.05dB,
0x55: -8.00dB,	0x56: -7.95dB,	0x57: -7.91dB,	0x58: -7.86dB,	0x59: -7.81dB,
0x5a: -7.76dB,	0x5b: -7.72dB,	0x5c: -7.67dB,	0x5d: -7.62dB,	0x5e: -7.58dB,
0x5f: -7.53dB,	0x60: -7.48dB,	0x61: -7.44dB,	0x62: -7.39dB,	0x63: -7.34dB,
0x64: -7.29dB,	0x65: -7.25dB,	0x66: -7.20dB,	0x67: -7.15dB,	0x68: -7.11dB,
0x69: -7.06dB,	0x6a: -7.01dB,	0x6b: -6.96dB,	0x6c: -6.92dB,	0x6d: -6.87dB,
0x6e:: -6.82dB,	0x6f: -6.78dB,	0x70: -6.73dB,	0x71: -6.68dB,	0x72: -6.64dB,
0x73: -6.59dB,	0x74: -6.54dB,	0x75: -6.49dB,	0x76: -6.45dB,	0x77: -6.40dB,
0x78: -6.35dB,	0x79: -6.31dB,	0x7a: -6.26dB,	0x7b: -6.21dB,	0x7c: -6.16dB,
0x7d: -6.12dB,	0x7e: -6.07dB,	0x7f: -6.02dB,	0x80: -5.98dB,	0x81: -5.93dB,
0x82: -5.88dB,	0x83: -5.84dB,	0x84: -5.79dB,	0x85: -5.74dB,	0x86: -5.69dB,
0x87: -5.65dB,	0x88: -5.60dB,	0x89: -5.55dB,	0x8a: -5.51dB,	0x8b: -5.46dB,
0x8c: -5.41dB,	0x8d: -5.36dB,	0x8e: -5.32dB,	0x8f: -5.27dB,	0x90: -5.22dB,
0x91: -5.18dB,	0x92: -5.13dB,	0x93: -5.08dB,	0x94: -5.04dB,	0x95: -4.99dB,
0x96: -4.94dB,	0x97: -4.89dB,	0x98: -4.85dB,	0x99: -4.80dB,	0x9a: -4.75dB,
0x9b: -4.71dB,	0x9c: -4.66dB,	0x9d: -4.61dB,	0x9e: -4.56dB,	0x9f: -4.52dB,
0xa0: -4.47dB,	0xa1: -4.42dB,	0xa2: -4.38dB,	0xa3: -4.33dB,	0xa4: -4.28dB,
0xa5: -4.24dB,	0xa6: -4.19dB,	0xa7: -4.14dB,	0xa8: -4.09dB,	0xa9: -4.05dB,
0xaa: -4.00dB,	0xab: -3.95dB,	0xac: -3.91dB,	0xad: -3.86dB,	0xae: -3.81dB,
0xaf: -3.76dB,	0xb0: -3.72dB,	0xb1: -3.67dB,	0xb2: -3.62dB,	0xb3: -3.58dB,
0xb4: -3.53dB,	0xb5: -3.48dB,	0xb6: -3.44dB,	0xb7: -3.39dB,	0xb8: -3.34dB,
0xb9: -3.29dB,	0xba: -3.25dB,	0xbb: -3.20dB,	0xbc: -3.15dB,	0xbd: -3.11dB,
0xbe: -3.06dB,	0xbf: -3.01dB,	0xc0: -2.96dB,	0xc1: -2.92dB,	0xc2: -2.87dB,
0xc3: -2.82dB,	0xc4: -2.78dB,	0xc5: -2.73dB,	0xc6: -2.68dB,	0xc7: -2.64dB,
0xc8: -2.59dB,	0xc9: -2.54dB,	0xca: -2.49dB,	0xcb: -2.45dB,	0xcc: -2.40dB,
0xcd: -2.35dB,	0xce: -2.31dB,	0xcf: -2.26dB,	0xd0: -2.21dB,	0xd1: -2.16dB,
0xd2: -2.12dB,	0xd3: -2.07dB,	0xd4: -2.02dB,	0xd5: -1.98dB,	0xd6: -1.93dB,
0xd7: -1.88dB,	0xd8: -1.84dB,	0xd9: -1.79dB,	0xda: -1.74dB,	0xdb: -1.69dB,
0xdc: -1.65dB,	0xdd: -1.60dB,	0xde: -1.55dB,	0xdf: -1.51dB,	0xe0: -1.46dB,
0xe1: -1.41dB,	0xe2: -1.36dB,	0xe3: -1.32dB,	0xe4: -1.27dB,	0xe5: -1.22dB,
0xe6: -1.18dB,	0xe7: -1.13dB,	0xe8: -1.08dB,	0xe9: -1.04dB,	0xea: -0.99dB,
0xeb: -0.94dB,	0xec: -0.89dB,	0xed: -0.85dB,	0xee: -0.80dB,	0xef: -0.75dB,
0xf0: -0.71dB,	0xf1: -0.66dB,	0xf2: -0.61dB,	0xf3: -0.57dB,	0xf4: -0.52dB,
0xf5: -0.47dB,	0xf6: -0.42dB,	0xf7: -0.38dB,	0xf8: -0.33dB,	0xf9: -0.28dB,
0xfa: -0.24dB,	0xfb: -0.19dB,	0xfc: -0.14dB,	0xfd: -0.09dB,	0xfe: -0.05dB,
0xff: +0.00dB,				

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