IntelliGain

User Manual

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REVISION HISTORY

<u>REVISION</u>	DESCRIPTION	DATE
1.0	First Release	Nov 07
1.1	Updated VistaLINK $_{\ensuremath{\mathbb{S}}}$ screenshots to reflect new controls (Hold Time, Audio Source Select).	July 09
1.2	Added "Noise Floor Threshold" parameter	Oct 09

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1. OVERVIEW

IntelliGain[™] is a technology developed by Evertz to control the loudness of audio programs on the fly. More specifically, it calculates the perceived loudness of the input audio and modifies the audio to ensure that the long-term average loudness level is at the target level. IntelliGain[™] works with mono, stereo and multi-channel audio per program and can handle up to 8 programs simultaneously. The objective loudness calculation is based on ITU Recommendation (ITU-R BS.1770), "Algorithms to measure audio program loudness and true-peak audio level". This recommendation provides equations for calculating loudness over mono, stereo and multi-channel audio programs. IntelliGain[™] constantly calculates audio program loudness. When the loudness is over the target level, it reduces the gain; and when the loudness is below the target level, it increases the gain. The gain adjustment smoothness is user-controllable by setting attack and release times.

An important feature that IntelliGain[™] possesses is its ability to automatically detect commercials/promos and normal programs. During commercial/promo periods, it uses one set of attack and release times, and during normal program periods, it uses another set of attack and release times. Both sets of attack and release times are definable by the user. In general, it is desirable to have faster attack/release times for commercial/promo periods and slower attack/release times for normal program periods. The level adjustment at the transition from one program/commercial to the next is almost instant, but it is not audible. While within a program or commercial, the adjustment is slow to maintain the dynamic range of the material.

Features:

- Normalize loudness of audio programs to a target level
- Peak limiting
- Automatic detection of loud commercials or programs
- Relatively constant gain within a program interval to preserve audio dynamic range
- Artifact-free transition between programs and commercials
- Automatic configuration of audio programs according to input Dolby ETM or AC-3TM stream
- Simultaneously process multiple multi-channel programs
- User adjustable attack and release times



2. TOP LEVEL INTELLIGAIN[™] CONFIGURATION

The IntelliGain[™] Configuration tab displays the top-level IntelliGain[™] control interface. There are a number of parameters that control both the Intelligent leveler and the on-board dynamic processor (compressor, expander, limiter).

Table 2-1 provides a brief overview of the top level of the IntelliGain[™] Configuration menu tree. The details of each of the menu items are described in sections 2.1 to 2.8.

Program Configuration Source	Defines how the audio channels are grouped together.			
Commercial Attack Time	Defines the maximum integration time that is applied when loudness increases during a commercial period.			
Commercial Release Time	Defines the maximum integration time that is applied when loudness decreases during a commercial period.			
Program Attack Time	Defines the maximum integration time that is applied when loudness increases during a program period.			
Program Release Time	Defines the maximum integration time that is applied when loudness decreases during a program period.			
Compander Attack Time	Defines how quickly the compander reacts to an increase in the input loudness.			
Compander Release Time	Defines how quickly the compander reacts to a decrease in the input loudness.			
Detected Program Configuration Source	Indicates the detected program configuration by the internal IntelliGain TM program configuration parser.			
Audio Source Select	Defines the audio channels that will be fed into the program audio channels.			



Figure 2-1 shows the IntelliGain[™] Configuration view from the VistaLINK_® NMS.

📟 1.1.1.1, 7800IDA8-3G+IG [11]: Configuration					
Refresh 🧶 1.0 Apply 🎼 🖳					
Faults \ IntelliGain Fault Traps \ IntelliGain Configuration \ Program 1 \ Program 2 \ Program 3 \ Program General \ Video Control \ Audio Control \ Mixer Control Ch 1-4 \ Mix	4 \Program 5 \Program 6 \Progra er Control Ch 5-8 \V Mixer Control (im 7 \ Program 8 \ Preset Control \ Ch 9-12 \ Mixer Control Ch 13-16 \			
IntelliGain Configuration	Audio Source Select				
Program Config Source 5.1	Intelligain Source Select Ch1	Channel 1 🔹			
Commercial Content Attack Time 11 seconds	Intelligain Source Select Ch2	Channel 2 👻			
Commercial Content Release Time 11 seconds	Intelligain Source Select Ch3	Channel 3 👻			
Program Content Attack Time 44 seconds	Intelligain Source Select Ch4	Channel 4			
Program Content Release Time 3 minutes	Intelligain Source Select Ch5	Channel 5			
Compander Attack Time 50 ms	Intelligain Source Select Ch6	Channel 6			
Compander Release Time 💿 50 ms	Intelligain Source Select Ch7	Channel 1			
Detected Program Config Status 5.1 + 2	Intelligain Source Select Ch8	Channel 1			

Figure 2-1: IntelliGain™ Configuration Screen

Sections 2.1 to 2.8 provide detailed explanations for each control available in the IntelliGain[™] Configuration Source tab.



2.1. SETTING THE PROGRAM CONFIGURATION SOURCE

IntelliGain Configuration

itemiGain Conngulation				
Program Configuration Source				
5.1+2				
5.1 + 1 + 1				
4 + 4				
4 + 2 + 2				
4 + 2 + 1 + 1				
4 + 1 + 1 + 1 + 1				
2+2+2+2				
2+2+2+1+1				
2+2+1+1+1+1				
2+1+1+1+1+1				
1+1+1+1+1+1+1+1				
5.1				
4 + 2				
4 + 1 + 1				
2+2+2				
2 + 2 + 1 + 1				
2+1+1+1+1				
1+1+1+1+1+1				
4				
2 + 2				
2 + 1 + 1				
1+1+1+1				
7.1				
7.1 Screen				
2 + 5.1				
1 + 1 + 5.1				
2 + 2 + 2 + 2 (p1, p2, p3, p4)				
2 + 2 + 2 + 1 + 1 (p1, p2, p3, p4, p5)				
2 + 2 + 2 (p1, p2, p3)				

This parameter defines how the audio channels are grouped together. Up to eight channels can be grouped together in individual programs, where each program contains its own metadata. IntelliGain[™] uses this parameter to configure multiple internal settings.

This control must be set to define the audio program provided as the input to IntelliGainTM.

If the audio program configuration is defined to be of this type, it is recommended to use this Program Configuration Source.

Table 2-3 provides a list of programs to channel mapping guidelines. For example, configuration 5.1+2, program 1 (P1) is mapped to channel CH1 to CH6 and program 2 (P2) is mapped to channel CH7 to CH8. Table 2-2 provides a list of abbreviations used:

Abbreviations	Description
Ρ	Program
СН	Channel
	Left or left front
R	Right or right front
С	Center or mono
LFE	Low frequency effect
Ls	Left surround
Rs	Right surround
Bsl	Back surround left
Bsr	Back surround right

Table 2-2: Abbreviations



Program Configuration	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8
5.1+2	P1-L	P1-R	P1-C	P1-LFE	P1-Ls	P1-Rs	P2-L	P2-R
5.1 + 1 + 1	P1-L	P1-R	P1-C	P1-LFE	P1-Ls	P1-Rs	P2-C	P3-C
4 + 4	P1-L	P1-R	P1-C	P1-S	P2-C	P2-S	P2-L	P2-R
4 + 2 + 2	P1-L	P1-R	P1-C	P1-S	P3-L	P3-R	P2-L	P2-R
4 + 2 + 1 + 1	P1-L	P1-R	P1-C	P1-S	P3-C	P4-C	P2-L	P2-R
4 + 1 + 1 + 1 + 1	P1-L	P1-R	P1-C	P1-S	P4-C	P5-C	P2-C	P3-C
2 + 2 + 2 + 2	P1-L	P1-R	P3-L	P3-R	P4-L	P4-R	P2-L	P2-R
2 + 2 + 2 + 1 + 1	P1-L	P1-R	P3-L	P3-R	P4-C	P5-C	P2-L	P2-R
2 + 2 + 1 + 1 + 1 + 1	P1-L	P1-R	P3-C	P4-C	P5-C	P6-C	P2-L	P2-R
2 + 1 + 1 + 1 + 1 + 1	P1-L	P1-R	P4-C	P5-C	P6-C	P7-C	P2-C	P3-C
1 + 1 + 1 + 1 + 1 + 1 + 1 + 1	P1-C	P2-C	P3-C	P4-C	P5-C	P6-C	P7-C	P8-C
5.1	P1-L	P1-R	P1-C	P1-LFE	P1-Ls	P1-Rs	None	None
4 + 2	P1-L	P1-R	P1-C	P1-S	None	None	P2-L	P2-R
4 + 1 + 1	P1-L	P1-R	P1-C	P1-S	None	None	P2-C	P3-C
2 + 2 + 2	P1-L	P1-R	P3-L	P3-R	None	None	P2-L	P2-R
2 + 2 + 1 + 1	P1-L	P1-R	P3-C	P4-C	None	None	P2-L	P2-R
2 + 1 + 1 + 1 + 1	P1-L	P1-R	P4-C	P5-C	None	None	P2-C	P3-C
1+1+1+1+1+1	P1-C	P2-C	P3-C	P4-C	P5-C	P6-C	None	None
4	P1-L	P1-R	P1-C	P1-S	None	None	None	None
2 + 2	P1-L	P1-R	None	None	None	None	P2-L	P2-R
2 + 1 + 1	P1-L	P1-R	None	None	None	None	P2-C	P3-C
1+1+1+1	P1-C	P2-C	P3-C	P4-C	None	None	None	None
7.1	P1-L	P1-R	P1-C	P1-LFE	P1-Ls	P1-Rs	P1-Bsl	P1-Bsr
7.1 Screen	P1-L	P1-R	P1-C	P1-LFE	P1-Ls	P1-Rs	P1-Le	P1-Re
2 + 5.1	P1-L	P1-R	P2-L	P2-R	P2-C	P2-LFE	P2-Ls	P2-Rs
1 + 1 + 5.1	P1-C	P2-C	P2-L	P2-R	P2-C	P2-LFE	P2-Ls	P2-Rs
2 + 2 + 2 + 2 (p1, p2, p3, p4)	P1-L	P1-R	P2-L	P2-R	P3-L	P3-R	P4-L	P4-R
2 + 2 + 2 + 1 + 1 (p1, p2, p3,	P1-L	P1-R	P2-L	P2-R	P3-L	P3-R	P4-C	P5-C
p4, p5)								
2 + 2 + 2 (p1, p2, p3)	P1-L	P1-R	P2-L	P2-R	P3-L	P3-R	None	None

 Table 2-3: Relationship between Audio Programs and Audio Channels



2.2. SETTING THE COMMERCIAL ATTACK TIME

l	IntelliGain Configuration						
	Commercial Attack Time						
	Less than 1 second						
	Less than 2 seconds						
	Less than 3 seconds						
	Less than 6 seconds						
	11 seconds						
	22 seconds						
	44 seconds						
	88 seconds						
	3 minutes						
	6 minutes						
	12 minutes						
	24 minutes						

The *Commercial Attack Time* defines the maximum integration time that is applied when loudness increases during a commercial period. The actual integration time is content dependent. For more responsive results set the attack time to a smaller value.

2.3. SETTING THE COMMERCIAL RELEASE TIME

IntelliGain Configuration
Commercial Release Time
Less than 1 second
Less than 2 seconds
Less than 3 seconds
Less than 6 seconds
11 seconds
22 seconds
44 seconds
88 seconds
3 minutes
6 minutes
12 minutes
24 minutes

The *Commercial Release Time* defines the maximum integration time that is applied when loudness decreases during a commercial period. The actual integration time is content dependent. For more responsive results set the release time to a smaller value.

2.4. SETTING THE PROGRAM ATTACK TIME

IntelliGain Configuration			
F	Program Attack Time		
	Less than 1 second		
	Less than 2 seconds		
	Less than 3 seconds		
	Less than 6 seconds		
	11 seconds		
	22 seconds		
	44 seconds		
	88 seconds		
	3 minutes		
	6 minutes		
	12 minutes		
	24 minutes		

The *Program Attack Time* defines the maximum integration time that is applied when loudness increases during a program period. The actual integration time is content dependent. For more responsive results set the attack time to a smaller value.



2.5. SETTING THE PROGRAM RELEASE TIME

I	IntelliGain Configuration			
	Program Release Time			
	Less than 1 second			
	Less than 2 seconds			
	Less than 3 seconds			
	Less than 6 seconds			
	11 seconds			
	22 seconds			
	44 seconds			
	88 seconds			
	3 minutes			
	6 minutes			
	12 minutes			
	24 minutes			

The *Program Release Time* defines the maximum integration time that is applied when loudness decreases during program period. The actual integration time is content dependent. For more responsive results set the release time to a smaller value.

2.6. SETTING THE COMPANDER ATTACK TIME

- 1	IntelliGain Configuration		
	Compander Attack Time		
		10ms to 2000ms (2 seconds)	

The *Compander Attack Time* control defines how quickly the compander reacts to an increase in the input loudness.

2.7. SETTING THE COMPANDER RELEASE TIME

IntelliGain Configuration	
---------------------------	--

Compander Release Time

10ms to 2000ms (2 seconds)

The *Compander Release Time* control defines how quickly the compander reacts to a decrease in the input loudness. The compander release time should be larger than or equal to the *Compander Attack Time*.



2.8. SETTING THE DETECTED PROGRAM CONFIGURATION SOURCE

IntelliGain Configuration Detected Program Config Source 5.1 + 25.1 + 1 + 1 4 + 44 + 2 + 24 + 2 + 1 + 14 + 1 + 1 + 1 + 12 + 2 + 2 + 22+2+2+1+12 + 2 + 1 + 1 + 1 + 12 + 1 + 1 + 1 + 1 + 11 + 1 + 1 + 1 + 1 + 1 + 1 + 15.1 4 + 24 + 1 + 12 + 2 + 22 + 2 + 1 + 12+1+1+1+11 + 1 + 1 + 1 + 1 + 14 2+2 2 + 1 + 11 + 1 + 1 + 17.1 7.1 Screen 2 + 5.11 + 1 + 5.12 + 2 + 2 + 2 (p1, p2, p3, p4) 2 + 2 + 2 + 1 + 1 (p1, p2, p3, p4, p5) 2 + 2 + 2 (p1, p2, p3)

This is a reader only control to indicate the detected program configuration by the internal IntelliGain[™] program configuration parser.

2.9. SETTING THE AUDIO SOURCE CHANNELS

1	IntelliGain Configuration		
	Audio Source Select		
		Ir	telligain Source Select Channel 1
			Channel 1 - 16

This control sets the channel mappings for the audio program configuration. This audio configuration then feeds the program configuration sources. For simplicity only Channel 1 is shown.



3. INTELLIGAIN[™] CONFIGURATION BY AUDIO PROGRAM

IntelliGain[™] can individually process up to eight audio programs independently. An audio program defines how the audio is grouped together.

For example, a 5.1+2 program configuration mode is defined to have 2 audio programs. The first audio program is 5.1 and the second is 2.

Table 3-1 outlines the relationship between the program configuration mode and the number of audio programs.

Program Configuration	Number of Programs
5.1 + 2	2
5.1 + 1 + 1	3
4 + 4	2
4 + 2 + 2	3
4 + 2 + 1 + 1	4
4 + 1 + 1 + 1 + 1	5
2+2+2+2	4
2+2+2+1+1	5
2+2+1+1+1+1	6
2+1+1+1+1+1	6
1+1+1+1+1+1+1+1	8
4	1
2 + 2	2
2 + 1 + 1	3
1 + 1 + 1 + 1	4
7.1	1
7.1 Screen	1
2 + 5.1	2
1 + 1 + 5.1	3
2 + 2 + 2 + 2 (p1, p2, p3, p4)	4
2 + 2 + 2 + 1 + 1 (p1, p2, p3, p4, p5)	5
2 + 2 + 2 (p1, p2, p3)	3

Table 3-1: Relationship between Program Configuration Mode and Audio Programs

The internal IntelliGain[™] engine will analyze the value of the *Detected Program Config Source*. This value will determine how many Program VistaLINK_® tabs are to be accessible.

For example, if IntelliGainTM detects a program configuration source of 5.1 + 2, then 2 program configuration tabs will be user accessible. However, if IntelliGainTM detects a program configuration source of 1 + 1 + 1 + 1 then 4 program configuration tabs will be accessible.



Figure 3-1 identifies up to eight program configuration tabs that are accessible via the VistaLINK® NMS.

🖼 1.1.1.1, 7800IDA8-3G+IG [2]: Configuration		r s X
Refresh 🦣 🧶 1.0 Apply 🎩 🖳		
Faults \ IntelliGain Fault Traps \		Program 7 V Program 9 V Propot Control V
General Video Control V Audio Control V Mixer Control Ch 1-4	Aixer Control Ch 5-8 \ Mixer C	ontrol Ch 9-12 Mixer Control Ch 13-16
Program 1 IntelliGain State	Program 1 Monitor	
IntelliGain State Enable	Input Loudness	50 dB
Program 1 Leveler	Gain Applied	50 dB
Leveler State Enable	Output Loudness	50 dB
Target Loudness -15 dB		
Maximum Gain 40 dB	Program 1 IntelliGain Thresh	old 1
Noise Floor Threshold -40		√ -1 dB
Hold Time 15 secs		50 secs
	Clear Duration \square	50 secs
Program 1 Compander	Program 1 IntelliGain Thresh	old 2
Compander State Enable	Gain Level 📃	-1 dB
Compander Profile Film Standard 🗸	Fault Duration	50 secs
Makeup Gain 20 dB	Clear Duration	50 secs
Program 1 Peak Limiter	└ ┌Program 1 IntelliGain Thresh	old 3
Peak Limit -1 dB	Gain Level	
	Fault Duration	50 secs
	Clear Duration	50 secs

Figure 3-1: Program 1 Configuration View

3.1. PROGRAM CONFIGURATION CONTROL

As IntelliGainTM detects valid audio programs, the VistaLINK_® program configuration tabs will become activated. The user interface and program configuration tabs are identical.

Sections 3.1.1 to 3.1.16 provide detailed explanations for each control available in the Program Configuration tab. Since each program configuration interface is identical, only Program 1 will be described.

3.1.1. Setting the IntelliGain[™] State

Program 1		
IntelliGain State		
		Enable
		Disable

This control is the master switch for the IntelliGainTM processor, which is used for the given audio program. Set this control to *Enable* to initiate IntelliGainTM processing.



3.1.2. Setting the Leveler State

Program 1	This control is used to activate the IntelliGain [™] audio leveler. The
Leveler State	leveler is used to level each individual audio channel to the target
Enable Disable	loudness level. Set this control to <i>Enable</i> to activate the IntelliGain [™] audio leveler.

3.1.3. Setting the Target Loudness

F	Program 1		
	Target Loudness		
	–35 dBFs to –15dBFs		

This control is used to set the target loudness level for the given audio program. The IntelliGain™ processor will level the audio to this value. Note that if the compander is enabled, it is desirable to set the target loudness parameter to the range (-31 dB to -26 dB) and use Makeup Gain control to reach the final desired target loudness level.

3.1.4. Setting the Maximum Gain

F	Program 1
	Maximum Gain
	10 to 40 dBFs

The Maximum Gain control is the total amount of gain that the IntelliGain[™] engine will apply. For example, setting this control to 10 dBFS indicates that IntelliGain[™] is not to add anymore than 10 dB of gain to the audio program, even if the audio program requires more gain to reach the target loudness level.

3.1.5. Setting the Noise Floor Threshold

F	Program 1		
	1	Noise Floor Threshold	
		–70 dBFs to –40 dBFs	

This control is used to set the threshold level for IntelliGain™ processing. Levels below this value will not have IntelliGain™ processing applied.

3.1.6. Setting the Hold Time

Ρ	rogram 1
	Hold Time
-	Immediate
	1 second – 14 seconds
	Adaptive

This control is used to set the hold time for the given audio program. The IntelliGain[™] processor will wait this period of time to add/remove gain once the level goes below/above the target loudness. The adaptive setting will apply a faster hold time for levels further away from the target loudness, and a slower hold time for levels closer to the target loudness.

3.1.7. Setting the Compander State



This control is used to activate the on-board compressor/expander, otherwise known as the compander. The use of the compander allows audio signals with a large dynamic range to be transmitted over facilities that have a smaller dynamic range capability. The compander works by compressing or expanding the dynamic range of the audio signal.



3.1.8. Setting the Compander Profile

Program 1 Compander Profile	The compander profiles are used to define the dynamic range control of the compander. There are 5 default profiles and 3 custom profiles.
Film Standard Film Light Speech Music Standard Music Light Custom 1 Custom 2 Custom 3	The <i>Film Standard</i> profile is used to compress/expand sporting events, and movies with a large dynamic range. Max Boost: 6 dB (below -43 dB) Boost Range: -43 to -31 dB (2:1 ratio) Null Band Width: 5 dB (-31 to -26 dB) Early Cut Range: -26 to -16 dB (2:1 ratio) Cut Range: -16 to +4 dB (20:1 ratio)
	The <i>File Light</i> profile is used to compress/expand light movies or program content such as dramas or content with less dynamic range. Max Boost: 6 dB (below –53 dB) Boost Range: –53 to –41 dB (2:1 ratio) Null Band Width: 20 dB (–41 to –21 dB) Early Cut Range: –26 to –11 dB (2:1 ratio) Cut Range: –11 to +4 dB (20:1 ratio)
	The <i>Speech</i> profile is used to compress/expand content such as news, documentaries or "talking head" type content. Max Boost: 15 dB (below –50 dB) Boost Range: –50 to –31 dB (5:1 ratio) Null Band Width: 5 dB (–31 to –26 dB) Early Cut Range: –26 to –16 dB (2:1 ratio) Cut Range: –16 to +4 dB (20:1 ratio)
	The <i>Music Standard</i> profile is used in most typical music environments such as concerts, music videos and music content with a wide dynamic range. Max Boost: 12 dB (below –55 dB) Boost Range: –55 to –31 dB (2:1 ratio) Null Band Width: 5 dB (–31 to –26 dB) Early Cut Range: –26 to –16 dB (2:1 ratio) Cut Range: –16 to +4 dB (20:1 ratio)
	The <i>Music Light</i> profile is used to compress/expand music content with a narrow dynamic range. Max Boost: 12 dB (below –65 dB) Boost Range: –65 to –41 dB (2:1 ratio) Null Band Width: 20 dB (–41 to –21 dB) Cut Range: –21 to +9 dB (2:1 ratio).
	There are 3 custom compander profiles that are currently not available for use. These profiles will be enabled in a future release.



3.1.9. Setting the Makeup Gain

Pro	ogram 1
	Makeup Gain
	0 to 20 dBFs

The *Makeup Gain* is used to add additional gain to the audio program. This control would be used if the final desired target loudness has not been reached.

3.1.10. Setting the Peak Limit

Program 1	
Peak Limit	
-15 to -1 dBEs	

The *Peak Limit* is used within the audio program chain to provide an upper limit to peak program levels. Sometimes referred to as a "brick-wall" limiter. This control is used to maintain the upper limit of the peak levels.

3.1.11. Monitoring the Input Loudness

F	Program 1
	Input Loudness
	Read Only Monitor

The *Input Loudness* control will provide a real time value of the calculated input loudness value. This control is used for monitoring purposes only.

3.1.12. Monitoring the Gain Applied

Gain Applied	Program 1
	Gain Applied
Read Only Monitor	Read Only Monitor

The *Gain Applied* control will provide a real time value indicating the amount of gain being applied by the IntelliGain[™] system. Values can be either negative, indicating a gain reduction, or positive, indicating gain is being applied.

3.1.13. Monitoring the Output Loudness

Pro	ogram 1
(Output Loudness
	Read Only Monitor

The *Output Loudness* control will provide a real time value of the calculated output loudness value. This control is used for monitoring purposes only. It is used to provide confidence monitoring.

3.1.14. Setting the Output Level Threshold (1, 2, 3)

F	Program	n 1	
	Outpu	ut Level	
	Thres	shold (1,2,3)	
	-650	dBFs to –1dBFs	

The *Output Level Threshold* control is used for real time monitoring and SNMP trap alarming. By defining the output level, the IntelliGainTM system will send an SNMP alarm to VistaLINK_® if the output loudness level exceeds the defined output level. For example, by setting this control to -18 dBFs, if the calculated output loudness level exceeds -18 dBFS (for the specified fault duration) then an alarm will be sent to VistaLINK_® for immediate operator notification. There are 3 levels of alarm thresholds. These can be setup as minor, major and critical alarming thresholds.



3.1.15. Setting the Fault Duration

Program 1	
Fault Duration	
0.5 to 240 seconds	

The *Fault Duration* control defines the amount of time that the IntelliGainTM system detects the output level has been exceeded. For example, if this control is set to 25 seconds; this means that the output level has to be exceeded for a minimum of 25 seconds before an SNMP trap alarm is sent to VistaLINK_®.

3.1.16. Setting the Clear Duration

Pro	ogram 1	
(Clear Duration	
	0.5 to 240 seconds	

The *Clear Duration* defines the amount of time that the IntelliGainTM system must be corrected to before a correction SNMP trap is sent to VistaLINK_®. For example, if this control is set to 10 seconds; this means that the IntelliGainTM output level fault must be corrected for a minimum of 10 seconds before a correction alarm is sent to VistaLINK_®. This control is primarily used to smooth out alarming for audio with a very wide dynamic range.



4. INTELLIGAIN[™] FAULT TRAPS

The IntelliGain[™] system can provide real time analysis and confidence monitoring with SNMP trap alarm notification. These alarms can be enabled and disabled on an individual audio program basis using the IntelliGain[™] Fault Traps configuration tab.

To enable or disable an SNMP alarm notification, either check or un-check the defined control.

The system also provides real time trap status information. If a trap is sent by the IntelliGain[™] system, the trap status box will change state indicating the real time value for that trap. For example, if the trap status box is the colour green, then the trap has not been sent. However, if the status box is the colour red, then the fault is in a current state of alarm. Once corrected, the status box will turn back to the colour green.

Table 4-1 identifies the VistaLINK_® configuration view for the IntelliGain[™] Fault Traps.

**** 1.1.7	🎟 1.1.7.40, 7746FSE-IG-HD [2]: Configuration 📂 🖬 🗹				
Refresh	Refresh 🧶 🧶 1.0 Apply 🂵 🐺				
Progra	/ Program 4 \ Program 5 \ Program 6 \ Program 7 \ Program 8 \ IntelliGain Fault Traps \				
Genera	I 🕻 Video 🕻 Audio 🕻 Audio Channels	(Thumbnail \Fault Traps \AFD Control \Line Blank \IntelliGain Configuration \Program 1 \Program 2 \Program	3)		
[Progra	m 1 Trap Enable	Program 1 Trap Status			
v	Loudness Level Threshold 1	Loudness Level 1 Within Limit			
V	Loudness Level Threshold 2	Loudness Level 2 Within Limit			
V	Loudness Level Threshold 3	Loudness Level 3 Within Limit			
Progra	m 2 Trap Enable	Program 2 Trap Status			
	Loudness Level Threshold 1	Loudness Level 1 Within Limit			
	Loudness Level Threshold 2	Loudness Level 2 Within Limit			
	Loudness Level Threshold 3	Loudness Level 3 Within Limit			
Progra	m 3 Trap Enable	Program 3 Trap Status			
	Loudness Level Threshold 1	Loudness Level 1 Within Limit			
	Loudness Level Threshold 2	Loudness Level 2 Within Limit			
	Loudness Level Threshold 3	Loudness Level 3 Within Limit			
Progra	m 4 Trap Enable	Program 4 Trap Status			
	Loudness Level Threshold 1	Loudness Level 1 Within Limit			
	Loudness Level Threshold 2	Loudness Level 2 Within Limit			
	Loudness Level Threshold 3	Loudness Level 3 Within Limit			
Progra	m 5 Trap Enable	Program 5 Trap Status			
	Loudness Level Threshold 1	Loudness Level 1 Within Limit			
	Loudness Level Threshold 2	Loudness Level 2 Within Limit			

Table 4-1: IntelliGain™ Fault Traps



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