IntelliGain™

User Manual

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REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Release	Nov 2007
1.1	Updated VistaLINK® screenshots to reflect new controls (Hold Time, Audio Source Select).	July 2009
1.2	Added “Noise Floor Threshold” parameter	Oct 2009
1.2.1	Updated features	Oct 2010
1.3	Changed dBFS references to LKFS, added recommended defaults	Dec 2010
1.3.1	Updated product features	Jan 2011
1.4	Updated VLPRO sections	Dec 2012
1.5	Updated “Relationship between Audio Programs and Audio Channels” table	Feb 2013
1.6	Updates throughout	June 2013

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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 16 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.

Features:

- Normalize loudness of audio programs to a target level
- Supports up to 16 programs and 16 channels
- Relatively constant gain within a program interval to preserve audio dynamic range
- Simultaneously process multiple multi-channel programs
- User adjustable attack and release times
- Applied loudness algorithm ITU-R BS. 1770
- Peak limiting
- LKFS calculations
- Momentary, short term and integrated loudness measurements

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).

Recommended default settings are underlined.

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.
Leveler Attack Mode	Defines the maximum integration time that is applied when loudness increases during a program period.
Leveler Release Mode	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.
Audio Source Select	Defines the audio channels that will be fed into the program audio channels.

Table 2-1: IntelliGain™ Configuration Options

Figure 2-1 shows the IntelliGain™ Configuration view from the VistaLINK® NMS.

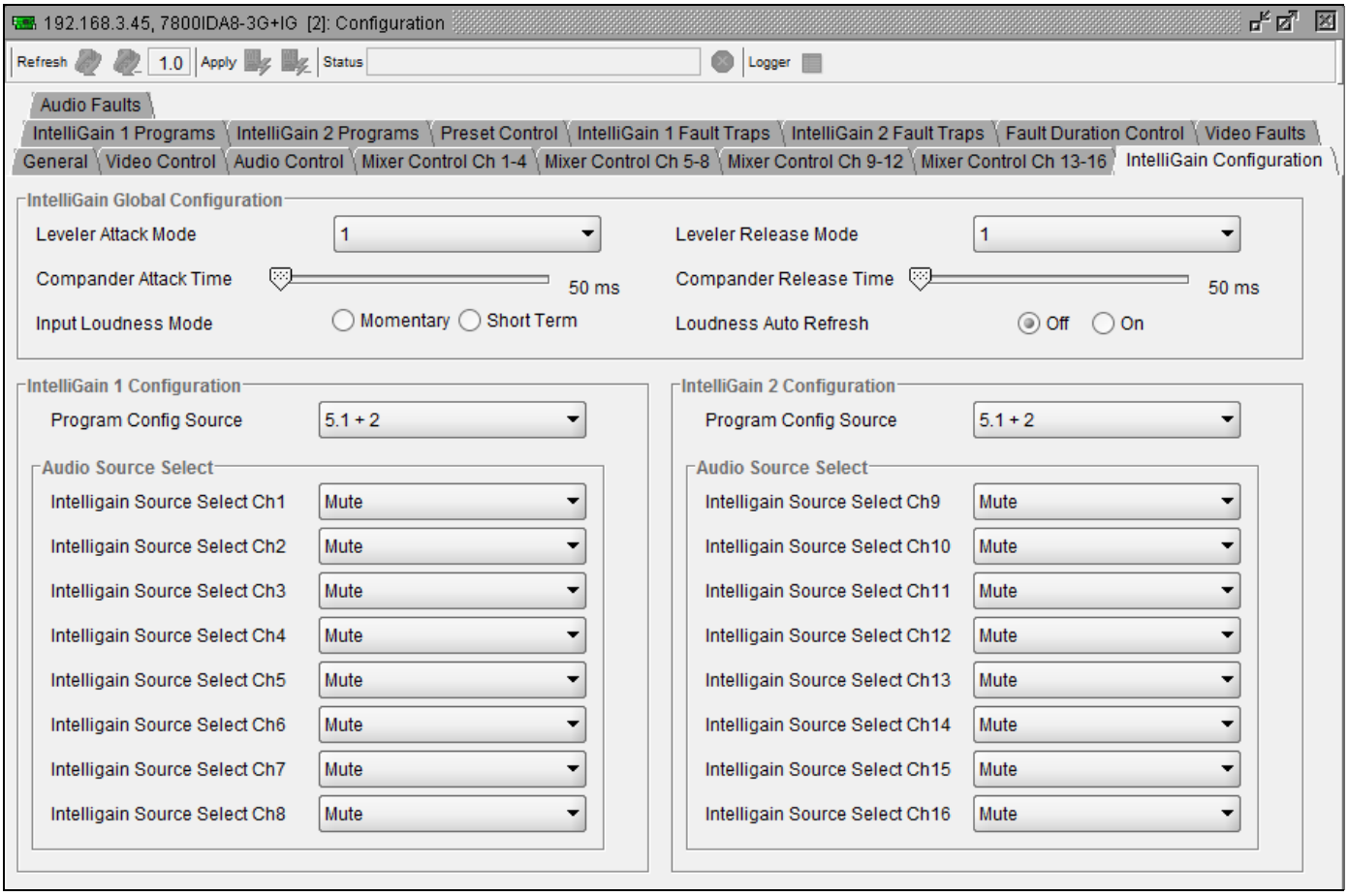

Figure 2-1: IntelliGain™ Configuration Screen (7800IDA8-3G+IG Shown)

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

Please Note: Some older implementations will have slightly different controls.

2.1. SETTING THE PROGRAM CONFIGURATION SOURCE

IntelliGain 1 Configuration
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 IntelliGain™.

For simplicity only IntelliGain 1 Configuration is shown.

Note: It is important to follow the program to channel mapping guidelines, which are provided in Table 2-3. For example, Program Configuration Source 2 + 2 + 2 + 2 defines audio program 1 mapped to AES 1, audio program 2 mapped to AES 4, audio program 3 mapped to AES 2 and audio program 4 mapped to AES 3. Program Configuration Source 2 + 2 + 2 + 2 (p1, p2, p3, p4) has the audio program mapped sequentially.

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
P	Program
CH	Channel
L	Left or left front
R	Right or right front
C	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	P3-L	P3-R	P3-C	P3-LFE	P3-Ls	P3-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, p4, p5)	P1-L	P1-R	P2-L	P2-R	P3-L	P3-R	P4-C	P5-C
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 LEVELER ATTACK MODE

IntelliGain Configuration
- *Leveler Attack Mode*
  - 1
  - 2
  - 3
  - 4
  - …
  - *12*

The *Leveler Attack Mode* 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 mode to a smaller value.

2.3. SETTING THE LEVELER RELEASE MODE

IntelliGain Configuration
Leveler Release Mode
1 2 3 4 5 6 7 … 12

The *Leveler Release Mode* defines the maximum integration time that is applied when loudness decreases during a program period.

The actual integration time is content dependent. For more responsive results set the release mode to a smaller value.

2.4. SETTING THE COMPANDER ATTACK TIME

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.

2.5. 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*.

2.6. INPUT LOUDNESS MODE

IntelliGain Configuration
Input Loudness Mode
Momentary Short Term

The *Input Loudness Mode* control defines the window that will be used to produce the *Input Loudness* values in section 3.2.1.

A *Momentary* selection defines a moving window of 400 ms. A *Short Term* selection defines a moving window of 3 s.

2.7. LOUDNESS AUTO REFRESH

IntelliGain Configuration
Loudness Auto Refresh
Off *On*

The *Loudness Auto Refresh* control allows the *Input Loudness, Applied Gain* and *Output Loudness* values in section 3.2 to refresh without enabling the *Auto Refresh Mode* in VistaLINK®.

2.8. SETTING THE AUDIO SOURCE CHANNELS

IntelliGain Configuration
Audio Source Select
Intelligain 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 selected Program Config Source. This value will determine how many Program VistaLINK® tabs are to be accessible.

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

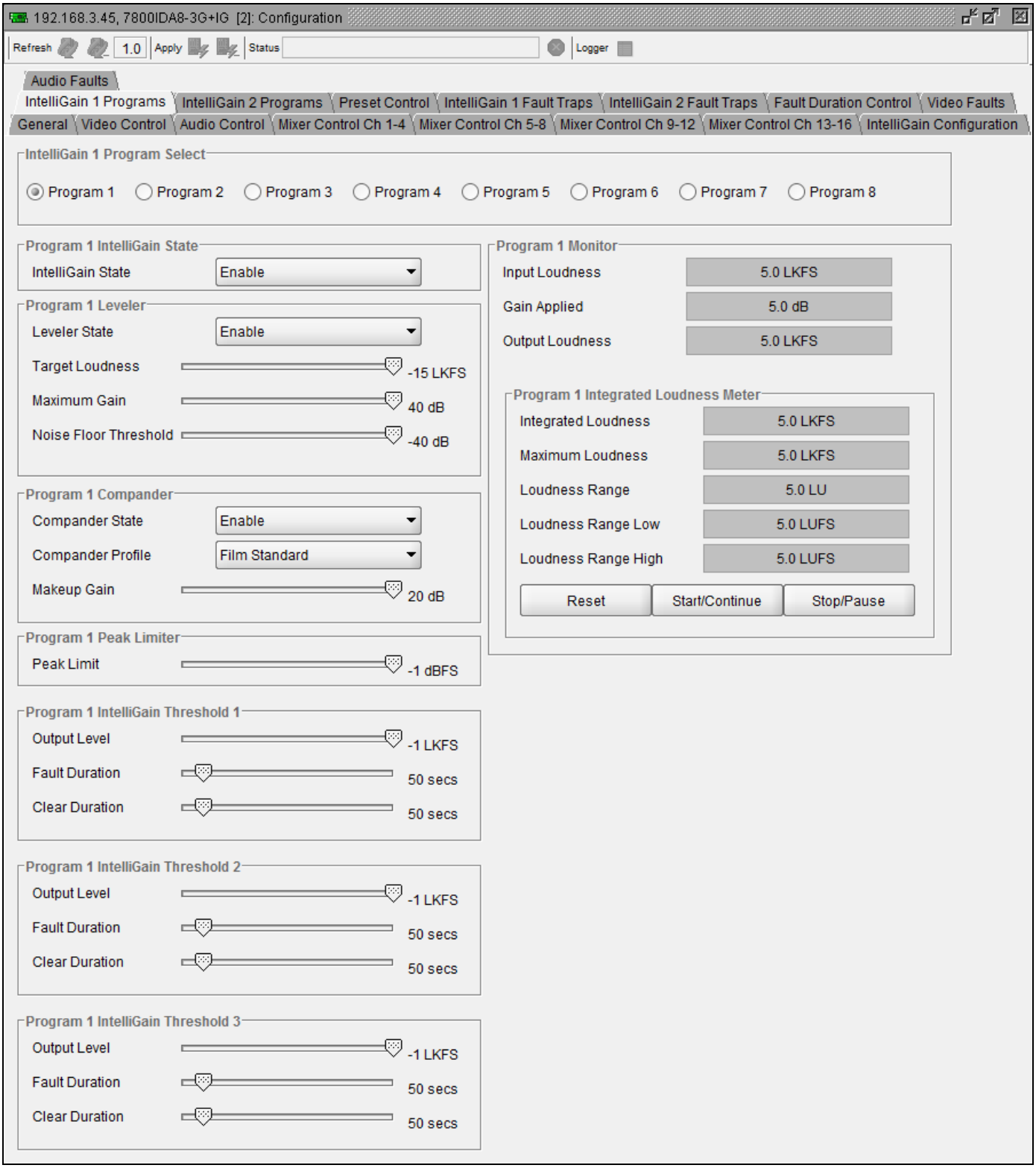

Figure 3-1: Program 1 Configuration View

3.1. PROGRAM CONFIGURATION CONTROL

Once IntelliGain™ is configured for the desired audio programs, the VistaLINK® program configuration tabs will become activated. The user interface and program configuration tabs are identical.

Sections 3.1.1 to 3.1.10 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

The *IntelliGain State* control is the master switch for the IntelliGain™ processor, which is used for the given audio program. Set this control to *Enable* to initiate IntelliGain™ processing.

3.1.2. Setting the Leveler State

Program 1
Leveler State
Enable
Disable

The *Leveler State* control is used to activate the IntelliGain™ audio leveler. The leveler is used to level each individual audio channel to the target loudness level. Set this control to *Enable* to activate the IntelliGain™ audio leveler.

3.1.3. Setting the Target Loudness

Program 1
Target Loudness
–35 LKFS to –15LKFS
-24 LKFS (ATSC)
-23 LKFS (EBU)

The *Target Loudness* 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 LKFS to –26 LKFS) and use *Makeup Gain* control to reach the final desired target loudness level.

3.1.4. Setting the Maximum Gain

Program 1
Maximum Gain
0 to 40 LKFS
15

The *Maximum Gain* control is the total amount of gain that the IntelliGain™ engine will apply. For example, setting this control to 10 LKFS indicates that IntelliGain™ is not to add anymore than 10 LKFS 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 (If Available)

Program 1
Noise Floor Threshold
–70 LKFS to –40 LKFS
-60

The *Noise Floor Threshold* 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 (If Available)

Program 1
Hold Time
Immediate *1 second – 14 seconds* *Adaptive*

The *Hold Time* control is used to set the hold time for the given audio program. The IntelliGain™ processor will wait this period of time to add gain once the level goes below the target loudness. The adaptive setting will vary the hold time depending on the content for optimal sound quality.

Please Note: Hold Time has been removed and will always be set to Adaptive.

3.1.7. Setting the Compander State (If Available)

Program 1
Compander State
Enable *Disable*

The *Compander State* 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 (If Available)

- *Program 1*
  - *Compander Profile*
    - *Film Standard*
    - *Film Light*
    - *Speech*
    - *Music Standard*
    - *Music Light*
    - *Custom 1*
    - *Custom 2*
    - *Custom 3*

The *Compander Profile* control is used to define the dynamic range control of the compander. There are 5 default profiles and 3 custom profiles.

The *Film Standard* 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 *Film Light* 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 *Speech* 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 *Music Standard* 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 *Music Light* 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 may be enabled in a future release.

3.1.9. Setting the Makeup Gain (If Available)

Program 1
Makeup Gain
0 to 20 dB

The *Makeup Gain* control 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 LKFS

The *Peak Limit* control 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.

3.2. INTELLIGAIN LOUDNESS MONITORING

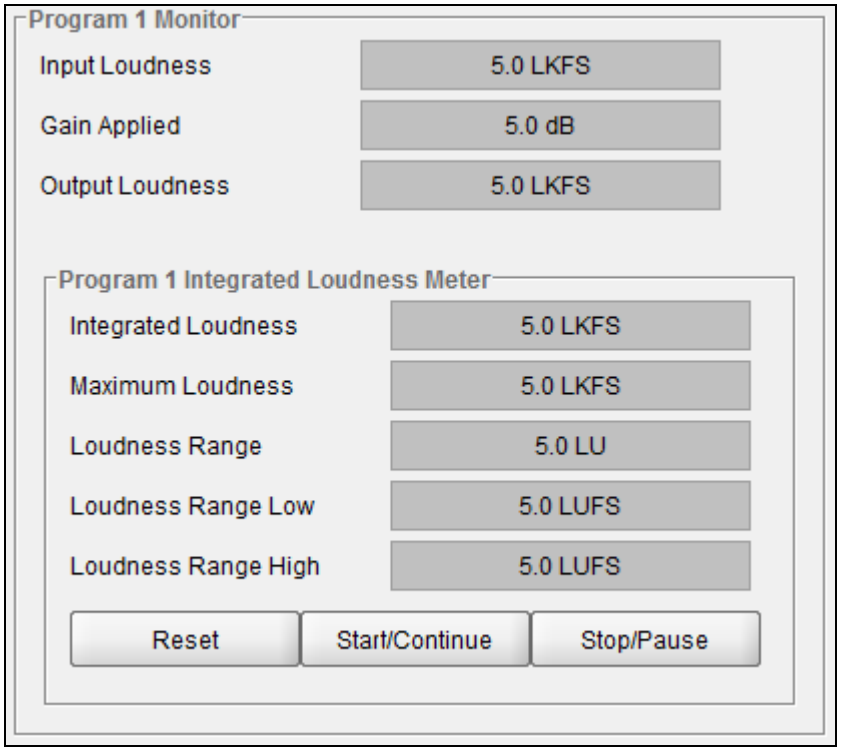

Figure 3-2: IntelliGain Loudness Monitoring View

3.2.1. Monitoring the Input Loudness

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.

3.2.2. Monitoring the Gain Applied

Program 1
- *Gain Applied*
  - *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.

3.2.3. Monitoring the Output Loudness

Program 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.

3.2.4. Monitoring the Integrated Loudness

Program 1
- *Integrated Loudness*
  - *Read Only Monitor*

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

The period of the integrated loudness measurement is defined by the *Start/Continue* and *Stop/Pause* buttons defined in sections 3.2.10 and 3.2.11. Once the *Stop/Pause* button is activated, the loudness of the segment(s) defined by all active periods is calculated.

The integrated loudness measurement is performed using the gating function specified in ITU-R BS.1770-2 summarized as follows:

- an absolute gating threshold at -70 LKFS is used to compute the absolute-gated loudness level
- a relative gating threshold that is 10 LU below the absolute-gated loudness level is applied
- the measurement input to which the gating threshold is applied is the loudness of 400 ms blocks with a constant overlap between consecutive gating blocks of 75%

3.2.5. Monitoring the Maximum Loudness

Program 1
- *Maximum Loudness*
  - *Read Only Monitor*

The *Maximum Loudness* control will provide a real time value of the calculated maximum loudness value within the duration of the *Integrated Loudness* calculation. This control is used for monitoring purposes only.

3.2.6. Monitoring the Loudness Range

Program 1
- *Loudness Range*
  - *Read Only Monitor*

The *Loudness Range* control will provide a real time value of the calculated loudness range value within the duration of the *Integrated Loudness* calculation. This control is used for monitoring purposes only.

The *Loudness Range* describes the distribution of loudness within a program and is defined as the difference between the highest and lowest loudness values within the *Integrated Loudness* period. This range excludes all loudness values in the top 5% and bottom 10% of the loudness distribution after applying a relative gating threshold of 20 LU below the absolute-gated loudness level.

3.2.7. Monitoring the Loudness Range Low

Program 1
- *Loudness Range Low*
  - *Read Only Monitor*

The *Loudness Range Low* control will provide a real time value of the lowest calculated loudness value within the duration of the *Integrated Loudness* calculation, given the exclusions and thresholds used as described in the calculation of the *Loudness Range* in section 3.2.6. This control is used for monitoring purposes only.

3.2.8. Monitoring the Loudness Range High

Program 1
- *Loudness Range High*
  - *Read Only Monitor*

The *Loudness Range High* control will provide a real time value of the highest calculated loudness value within the duration of the *Integrated Loudness* calculation, given the exclusions and thresholds used as described in the calculation of the *Loudness Range* in section 3.2.6. This control is used for monitoring purposes only.

3.2.9. Reset

Program 1
- *Reset*

The *Reset* control will flush the buffer for the *Integrated Loudness* calculation.

This control should be activated each time a new *Integrated Loudness* value is to be obtained.

3.2.10. Start/Continue

Program 1
- *Start/Continue*

The *Start/Continue* control will commence or resume the duration in which loudness values are being used to calculate the *Integrated Loudness* measurement.

3.2.11. Stop/Pause

Program 1
- *Stop/Pause*

The *Stop/Pause* control will terminate or pause the duration in which loudness values are being used to calculate the *Integrated Loudness* measurement. Each time this button is activated, a new *Integrated Loudness* value will be produced.

3.3. SETTING THE OUTPUT LEVEL THRESHOLD (1, 2, 3)

Program 1
Output Level Threshold (1,2,3)
-65 LKFS to –1 LKFS

The *Output Level Threshold* control is used for real time monitoring and SNMP trap alarming. By defining the output level, the IntelliGain™ 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 *LKFS*, if the calculated output loudness level exceeds –18 *LKFS* (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.

3.4. SETTING THE FAULT DURATION

Program 1
Fault Duration
0.5 to 240 seconds

The *Fault Duration* control defines the amount of time that the IntelliGain™ 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®.

3.5. SETTING THE CLEAR DURATION

Program 1
Clear Duration
0.5 to 240 seconds

The *Clear Duration* defines the amount of time that the IntelliGain™ 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 IntelliGain™ 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.

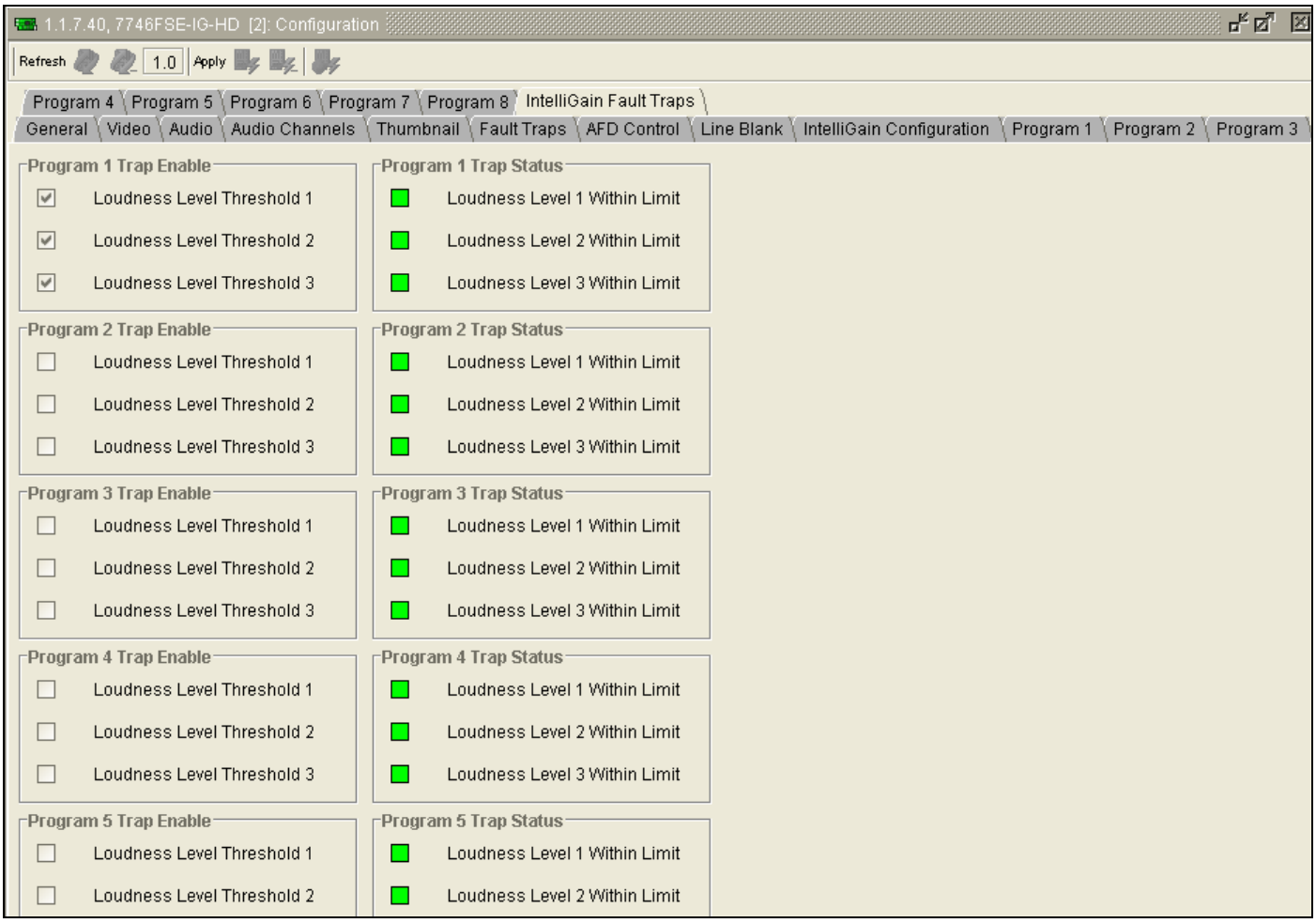

Table 4-1: IntelliGain™ Fault Traps