MMA Technical Standards Board/ AMEI MIDI Commitee

Technical Note – February 2000

Downloadable Sounds Level 2.1 Specification (RP-025/Amd1)

Abstract:

Due to ambiguities in the DLS Level 1 specification, there are discrepancies in the way manufacturers have implemented the Mod LFO to Gain connection. The DLS-2 specification was specific about this feature, but it turns out the DLS-2 method is contrary to how most manufacturers would prefer to handle LFO-to-Gain. Therefore the DLS-2 specification is amended as follows.

Details:

The majority of DLS Level 1 synthesizers that have been deployed implement the Mod LFO to Gain connection as bipolar, non-inverted. However, the initial release of the DLS Level 2 specification requires a unipolar, inverted connection for Mod LFO to Gain, as well as for the Mod LFO CC1 to Gain and Mod LFO Channel Pressure to Gain connections.

At the time of this writing, there has been no significant deployment of DLS Level 2 synthesizers. So, to facilitate backward- compatibility, the DLS Level 2 specification has been revised to reflect the practices established by the majority of DLS Level 1 synthesizers.

The correct implementation of Mod LFO to Gain will result in an increase of signal amplitude during the initial phase of the LFO, assuming a positive lScale value.

1. Add new Section 3.3 to DLS 2.0 Specification:

3.3 Mod LFO to Gain

Due to ambiguities in the DLS Level 1 specification, there were discrepancies in the implementation of the Mod LFO to Gain connection. The majority of DLS Level 1 synthesizers that have been deployed implement this connection as bipolar, non-inverted. However, the initial release of the DLS Level 2 specification requires a unipolar, inverted connection for Mod LFO to Gain, as well as for the Mod LFO CC1 to Gain and Mod LFO Channel Pressure to Gain connections. At the time of this writing, there has been no significant deployment of DLS Level 2 synthesizers. To facilitate backward- compatibility, the DLS Level 2 specification has been revised to reflect the practices established by the majority of DLS Level 1 synthesizers. The correct implementation of Mod LFO to Gain will result in an increase of signal amplitude during the initial phase of the LFO, assuming a positive lScale value.

2. Modify "Table 1: Modulation Routing", as follows:

Original (DLS 2.0) Mod LFO to Gain:

Articulator Name	UsSource (*)	B	I	Transform	UsControl (*)	B	I	Transform	UsDestination (*)
Gain									
Mod LFO to Gain	SRC_LFO	F	T	Linear	SRC_NONE	F	F	Linear	DST_GAIN
Mod LFO CC1 to Gain.	SRC_LFO	F	T	Linear	SRC_CC1	F	F	Linear	DST_GAIN

New (DLS 2.1) Mod LFO to Gain:

Articulator Name	UsSource (*)	B	I	Transform	UsControl (*)	B	I	Transform	UsDestination (*)
Gain									
Mod LFO to Gain	SRC_LFO	T	F	Linear	SRC_NONE	F	F	Linear	DST_GAIN
Mod LFO CC1 to Gain.	SRC_LFO	T	F	Linear	SRC_CC1	F	F	Linear	DST_GAIN

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Related item(s): RP-025 (DLS 2.0); RP-016 (DLS 1.0)