Re-Amplifying Recorded Tracks Using the MPA685

Re-amplifying recorded audio tracks is an excellent technique for exploring sound qualities of different amplifier and speaker cabinet choices or settings and their effects on an audio mix. It is particularly useful when an ideal "take" has been captured or access to the original musicians is limited. When re-amplifying, the recorded tracks can be played back through an amplifier and speaker cabinet as if the musician is repeating the part while different amplifiers or effects are auditioned or settings changed.

The MPA685 is an ideal tool for re-amplifying audio tracks that have been previously recorded. It is configured so that tracks from tape machines, digital audio workstations or any other recording medium may be first interfaced to the MPA685, the MPA685 sets proper audio levels and interface impedances, then supplies the audio signal to the instrument amplifier / speaker cabinet for re-amplification. It does so while preserving the original instrument to amplifier interactions and providing maximum hum rejection by using transformer isolation of the drive signals.

This application note describes the process of re-amplifying using the MPA685 and also describes the process of recording the original take using the MPA685.

Recording the Original Take:

Although any signal may be re-amplified using the MPA685, it is just as well suited to record the original part as it is to re-amplify. In fact, there are many advantages to tracking the original signal through the MPA685 for maximum audio quality and flexibility when progressing to the re-amplifying stage.

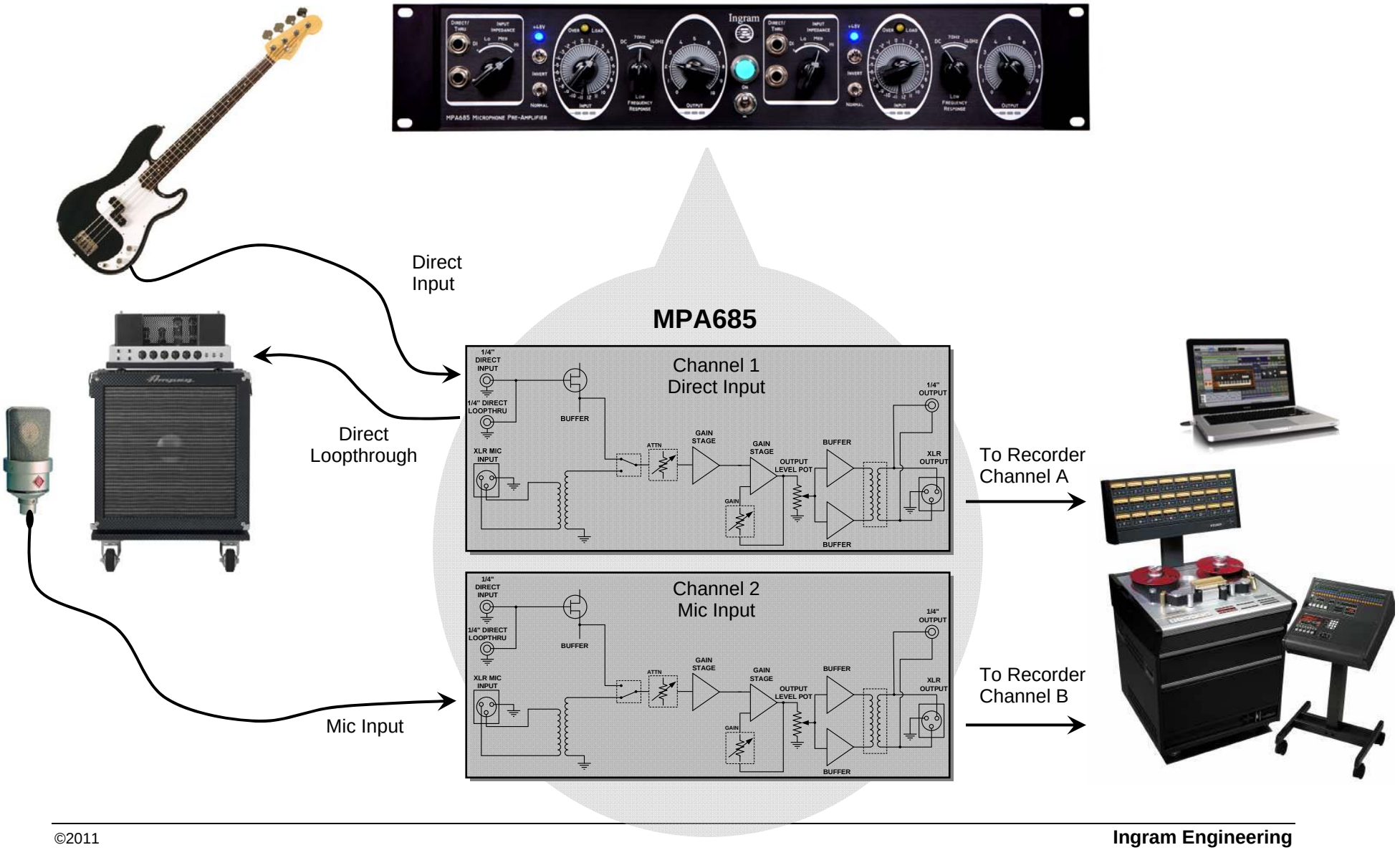
This first section describes the process of recording the original signal and shows some tricks for achieving time-aligned signals that can be used for double tracking or for recording direct input (no amplifier) signals while recording amplified or affected signals simultaneously.

Instrument outputs can be first routed to the MPA685 via the front panel Direct Input. The clean signal can then be tracked through the MPA685. The clean signal will be the one used for re-amplifying later. The MPA685 also has a Direct Input Loopthrough so that the instrument can simultaneously be connected directly to the amplifier and speaker cabinet. Any interaction of the instrument to the amplifier and speaker cabinet is perfectly preserved when using this loopthrough arrangement since the instrument source impedance "sees" the amplifier / speaker cabinet load impedance, and the MPA685 high impedance Direct Input does not significantly load the signal path.

The amplifier and speaker cabinet can be mic'ed up and recorded through another MPA685 channel at the same time as the clean signal is recorded. This way, the original amplified and mic'ed audio track can be kept as a primary part, a scratch part, doubled track, etc. This scheme is shown in the diagram below, Figure 1.

Ingram Engineering
PO Box 5870 Atlanta, Ga. 31107
www.ingramengineering.net 678-685-9838

Figure 1: Recording Using the MPA685 Direct Input and Loopthrough



Ingram Engineering
PO Box 5870 Atlanta, Ga. 31107
www.ingramengineering.net 678-685-9838

Re-Amplifying the Recorded Track:

After a track has been successfully recorded, it can be played back through the MPA685 to the amplifier and speaker cabinet. The speaker cabinet can then be mic'ed so that the re-amplified track is recorded additional times with different amplifier settings or with different amplifier / speaker selections.

Figure 2 shows the connections that can be used for re-amplifying the recorded track.

To do this, feed the recorded track from the tape machine or digital audio workstation to the MPA685 balanced microphone input or the unbalanced Direct Input. Either input will work, and the choice may be made based on convenience. It should be noted that the microphone input is transformer coupled, so a higher degree of CMRR will be achieved than with the Direct Input. Subtle sonic differences may exist between the two inputs, as the transformer will also have the opportunity to add its character if driven with high enough levels. However, if the target is to feed clean, uncolored signal to the amplifier and speaker cabinet, then levels can be set suitably low that the transformer-coupled mic input will work very well for this application.

A level of -10dBV from the recording medium will typically realize an operating point for the mic input transformer that has a relatively neutral sonic character and realizes the largest adjustment range for the MPA685 stepped switch.

Adjust the input stepped switch so that it is set as high as possible without the "Overload" LED being lit.

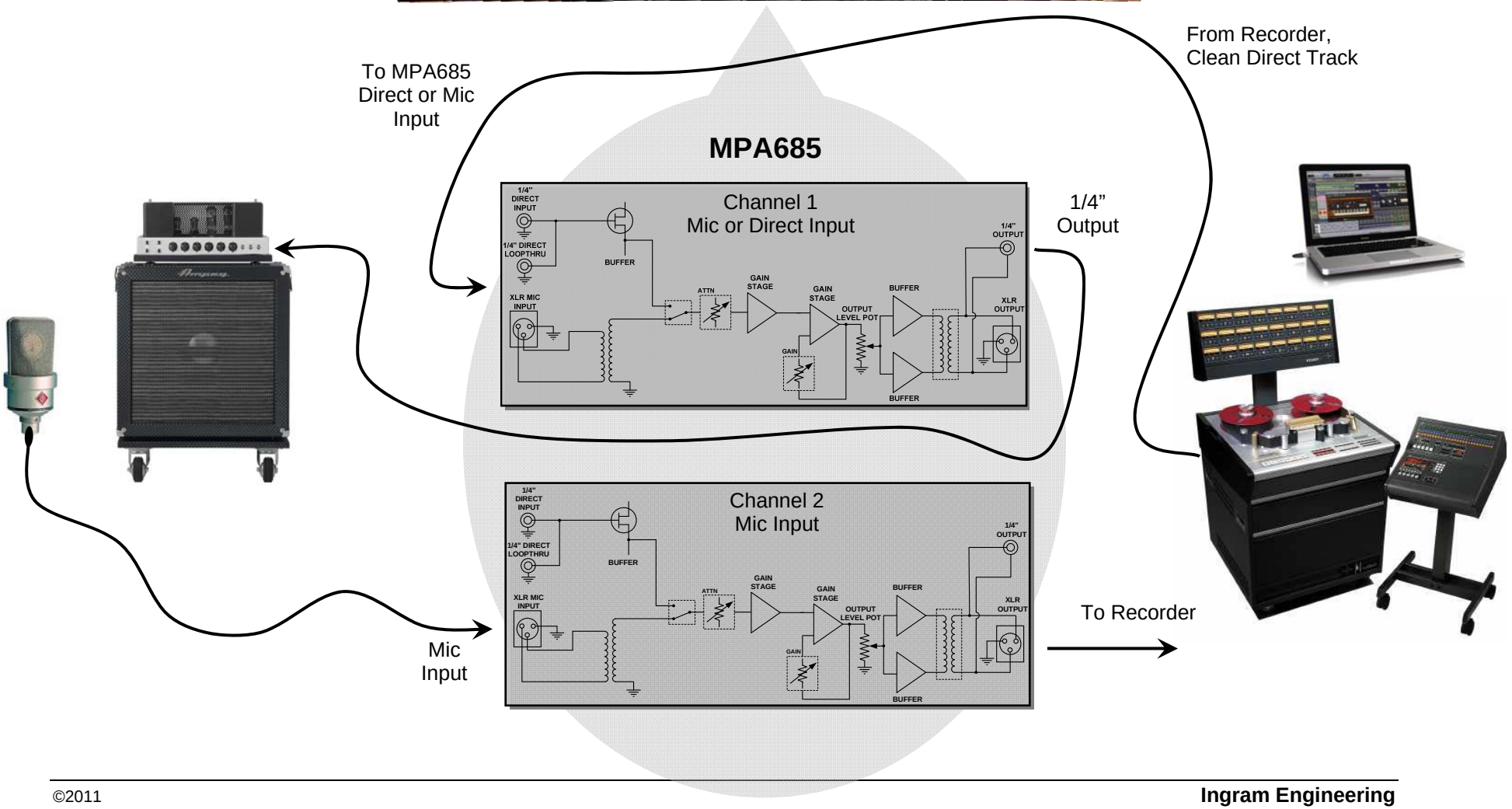
Connect the 1/4" MPA685 output to the amp that will be used for re-amping.

Adjust the MPA685 output level control so that the level is compatible with normal amp volume settings.

Mic the amp as normal and record the new, re-amped tracks.

Ingram Engineering
PO Box 5870 Atlanta, Ga. 31107
www.ingramengineering.net 678-685-9838

Figure 2: Re-amping recorded tracks using the MPA685



Ingram Engineering
PO Box 5870 Atlanta, Ga. 31107
www.ingramengineering.net 678-685-9838