

The Apple II / IIGS Sound & Speech Card with MIDI or Synthesizer Interface

This card system is somehow a collection of the abilities of several different sound and/or Speechcards. In general you may claim all cards available up till now only to cover a single aspect of the sound abilities of the Apple II. For example within the available cards of the topic speech some cards will perform audio speech output, but no input or speech recognition.... while the other cards that have ability of recognizing speechinput won't have a good output of speech but instead convert the input of speech to written text or commands in other software. And the same may be stated to the soundcards.... the one group of cards may be claimed to be some special kind of output of arcade gaming sound effects with stored effects while the other cards act like synthesizers with active DA converters and a related software that enables the user to play the apple like an instrument similar to an organ. And only very few cards have the ability of recording sound to diskfiles by converting audiosound to digital data by the use of fast AD converter chips.

And besides there is a very small amount of cards available that permit by using a MIDI connector, to interface the Apple II with external keyboards or external synthesizers. In the index page there are different kinds of projects related to that different kinds of use of the Apple II computers. And due to lacks of the internal connector of the Apple IIGS there are very few cards available that really support the internal sound capabilities of the Apple IIGS with acceptable soundperformance out of it's internal soundchip.

The target of this cardsystem is to have a basic card covering a collection of the most common soundcard demands to the Apple II series - including optional the abilities of the Apple IIGS - that will permit the use of most of the available soundsoftware with any Apple computer regardless if it's a Apple II, IIe or IIGS and that outputs the sounds that come along with games simple soundediting software and games with output of speech and besides offering also input of speech and speechrecognition.

And besides this card will be equipped with different "Piggyback" pluggable cards that contain the ability to expand the card with the ability to act as interface for musicians who want to use their Apple as interface with Synthesizer or as Synthesizer itself by offering connections by MIDI or direct connections to peripheral Soundunits.

The development of this system is still ongoing and has been running for several months.... and it's planned to release first testing cards at end of 2014 or beginning of 2015. It then will be another amount of months required to make the software for running the card.... i.e. there will be some software needed to set the software switches on the card this softswitches will determine what kind of mode of the card is used and which kind of card the card shall act alike... the card then will be able to replace a mockingboard or a arctic speechout card or a SP1000 Listener card and it also shall be able to perform several kinds of "mixed mode".

so the published information on this page all the time displays the current status of this card and the currently available expansion units (piggyback" cards) of the card.

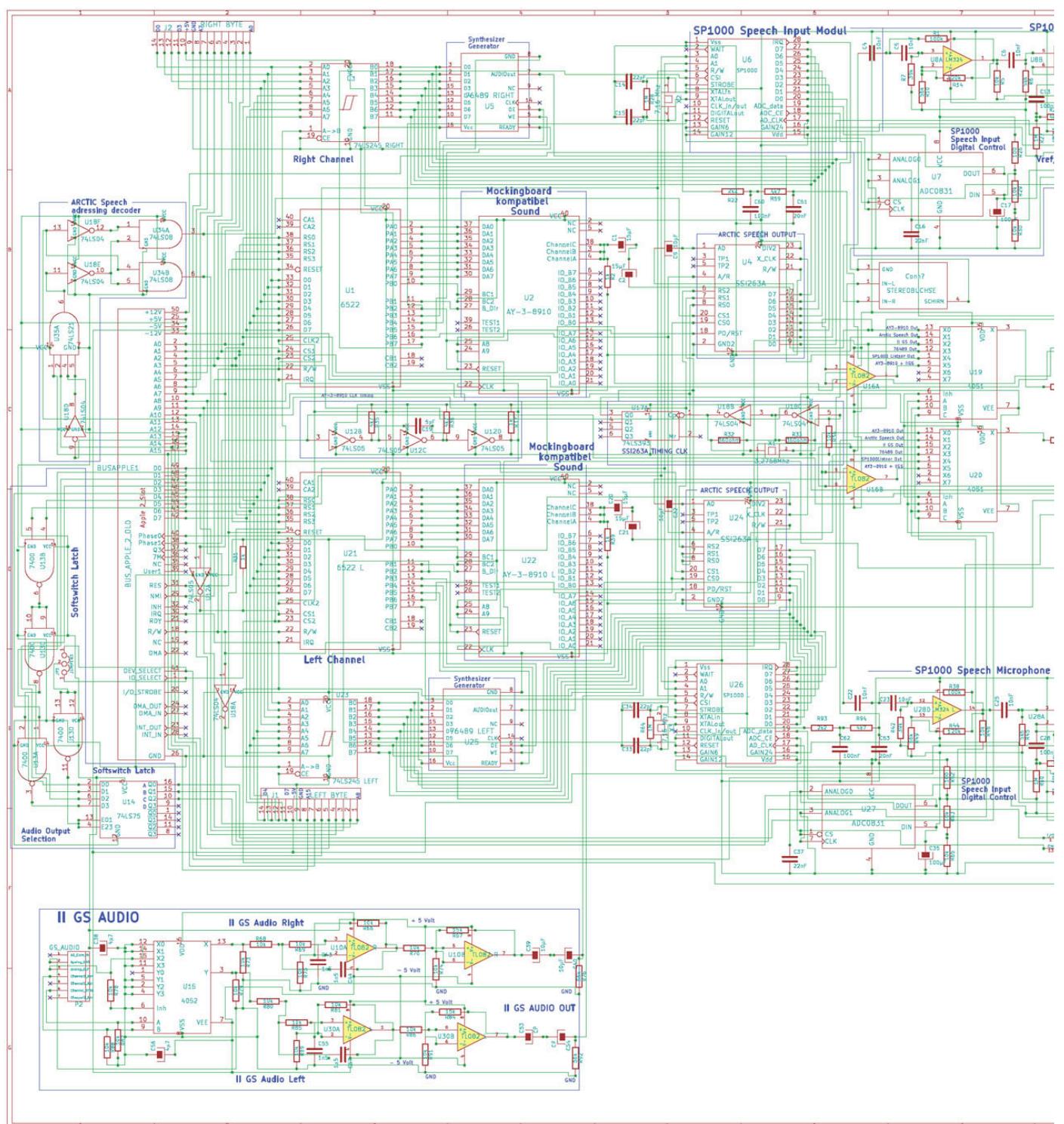
Up till now this card will be able to replace the:
the Mockingboard with full compatibility
the Arctic Speechcard with full compatibility
the SP1000 Listener Card with full compatibility
the THX card for the IIGS with full compatibility
some simple Audiosynthesizer functions
and recording capabilities with AD conversion

and up till now there are Piggyback cards available for:
interfacing with Roland compatible synthesizer components
interfacing with MIDI compatible devices

so please also recognize that there are parts related to the card itself and other parts related to the "piggyback" plug on cards.

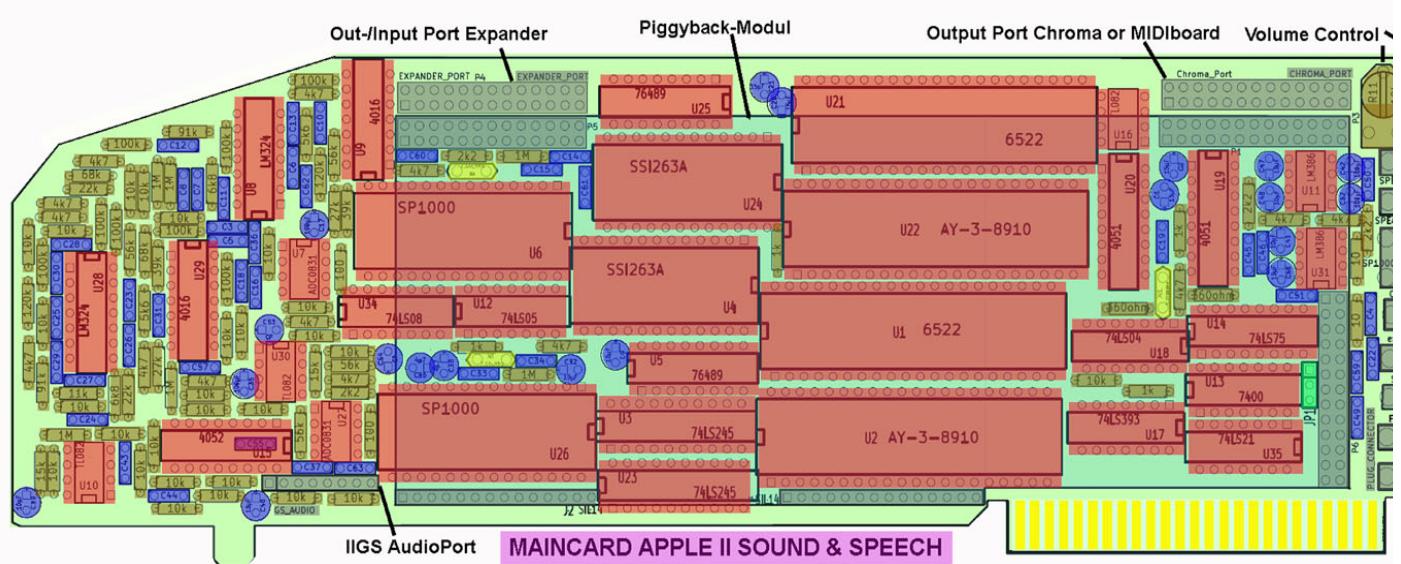
**Due to the huge amount of circuits and complexity
this pages use high resolution and you might be forced
to scroll to view entire contents !**

current circuitplan of the maincard (sound and speech card):

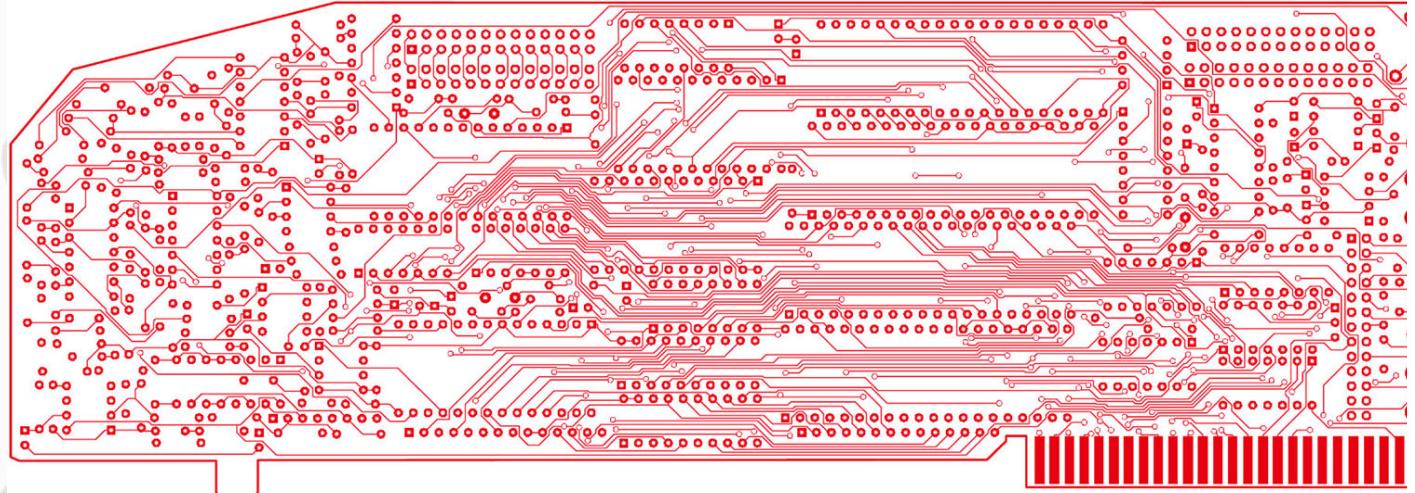


Layouts of the maincard:

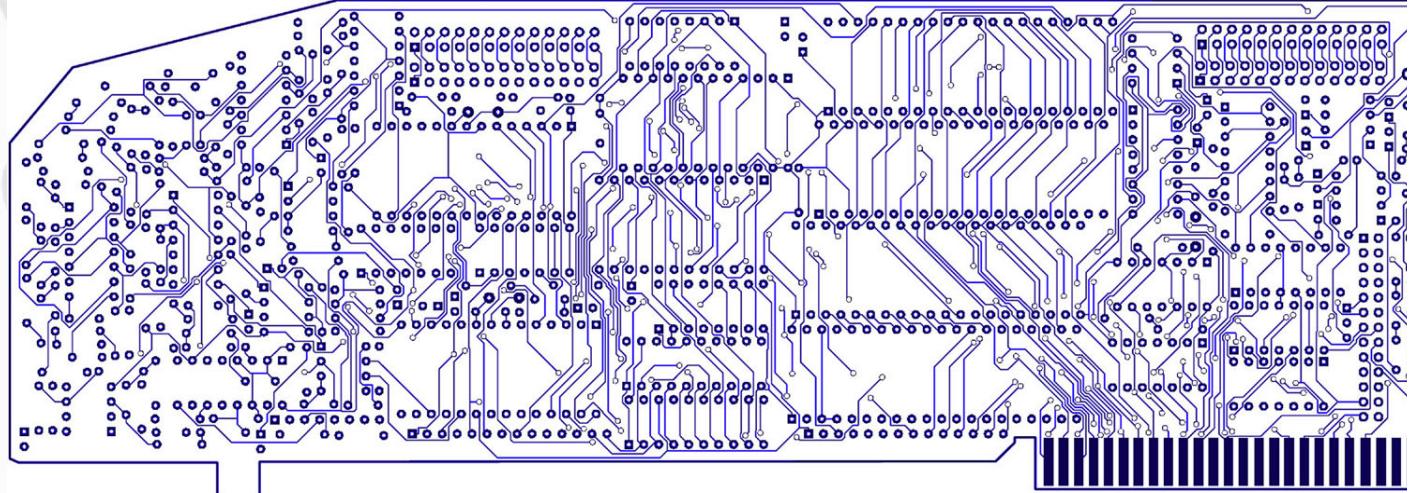




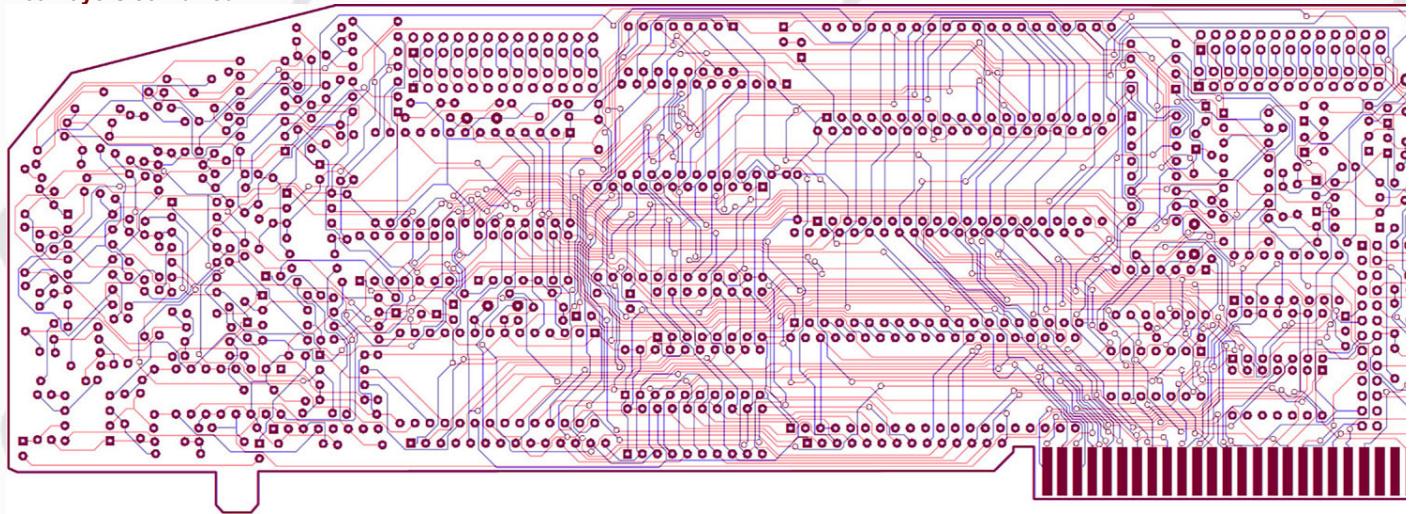
Layer of componentside:



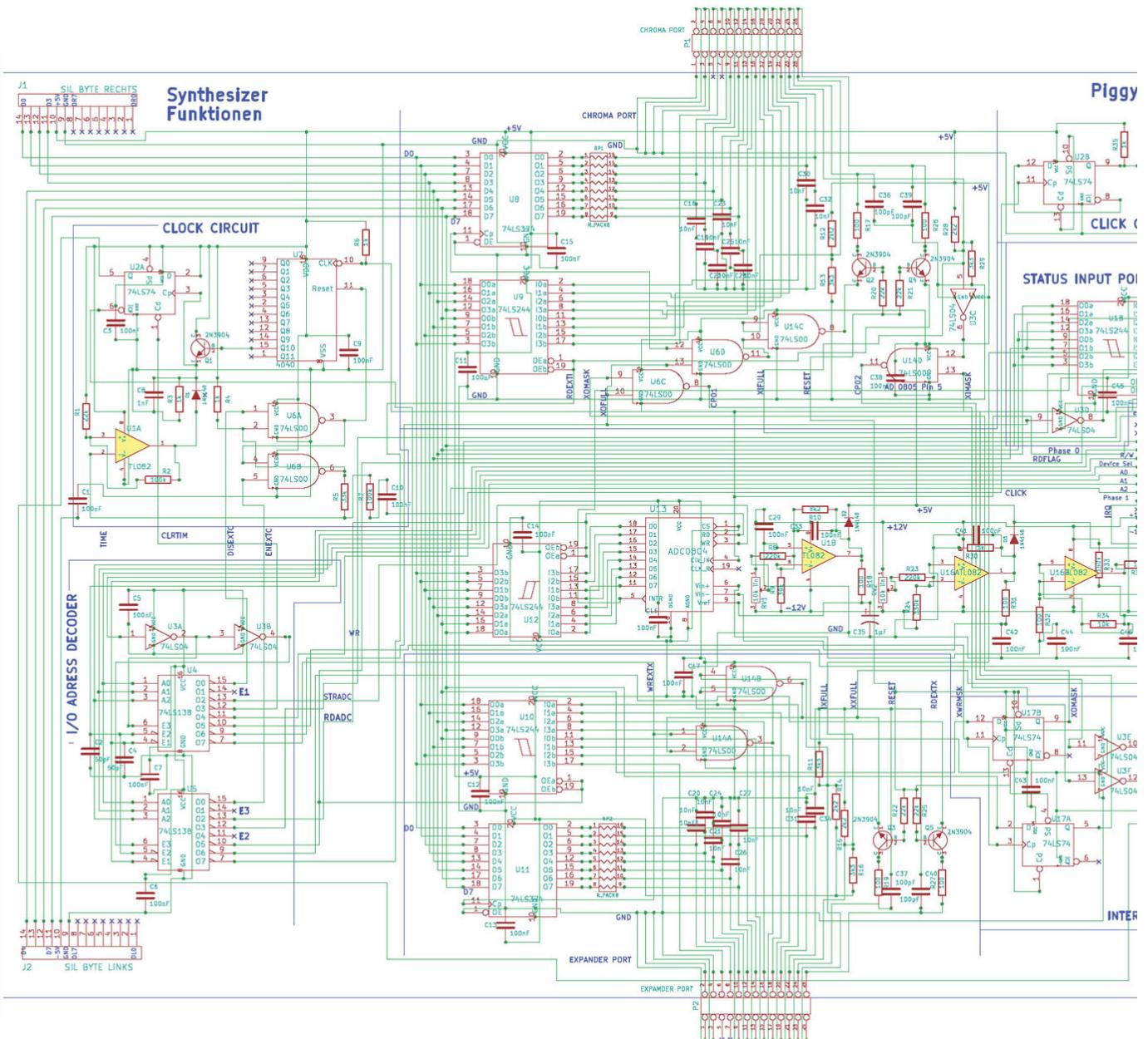
Layer of solderside:



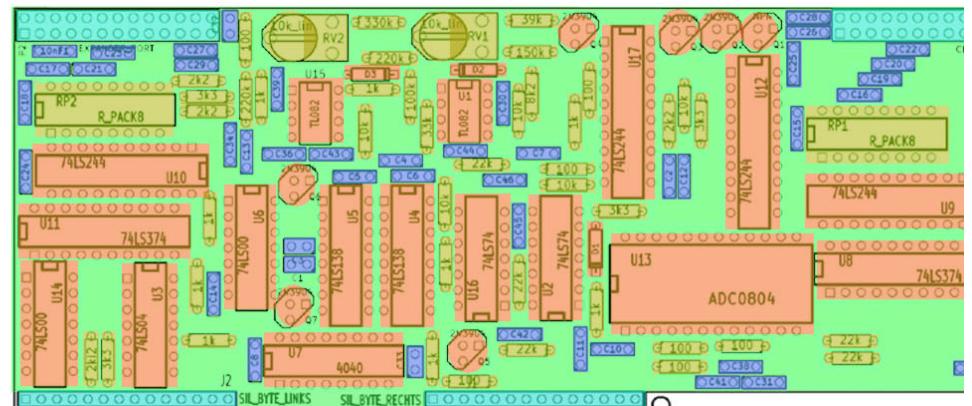
Both layers combined:



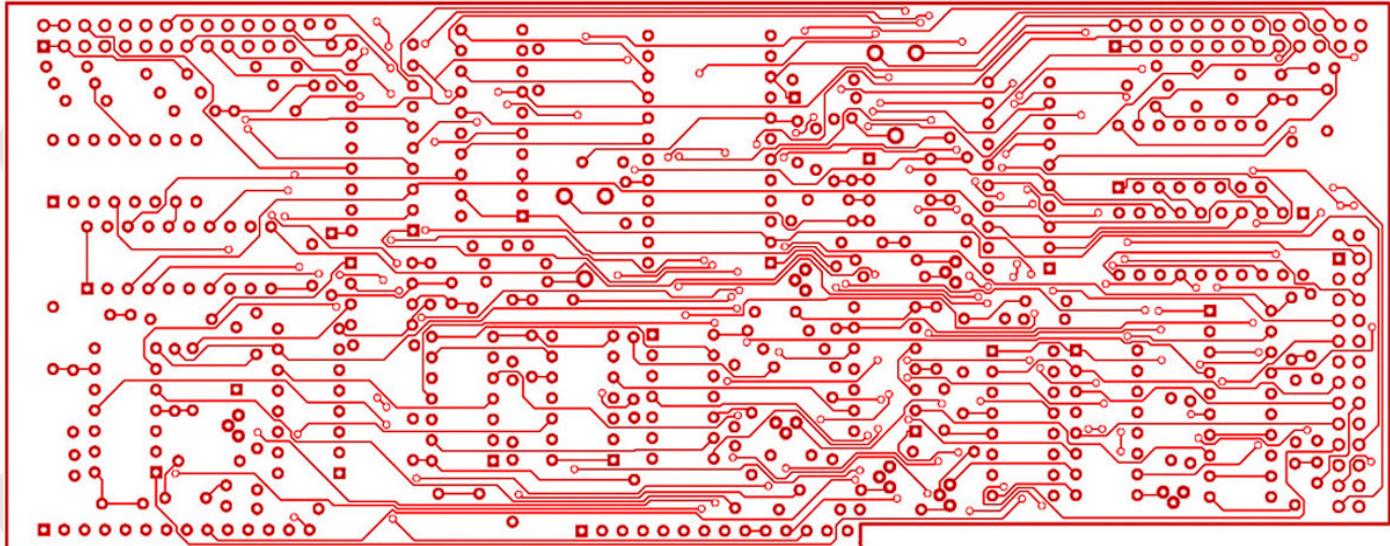
and here the details of the first Piggyback card (the synthesizer interface):
the circuitplan of the piggyback card 1:



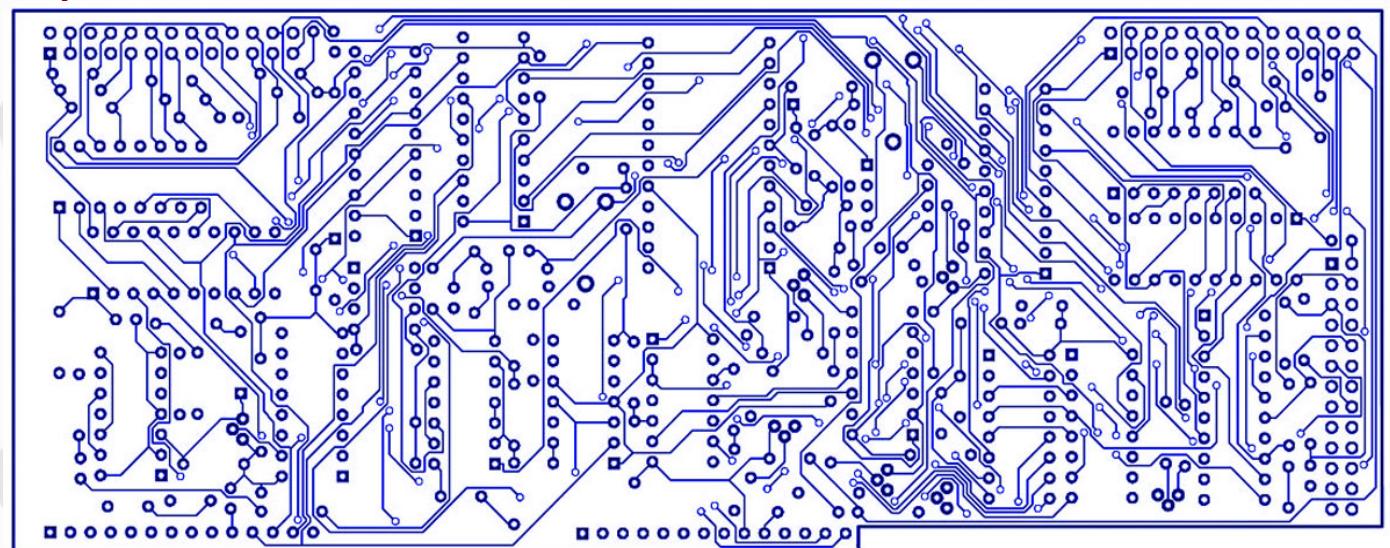
Here the component layout:



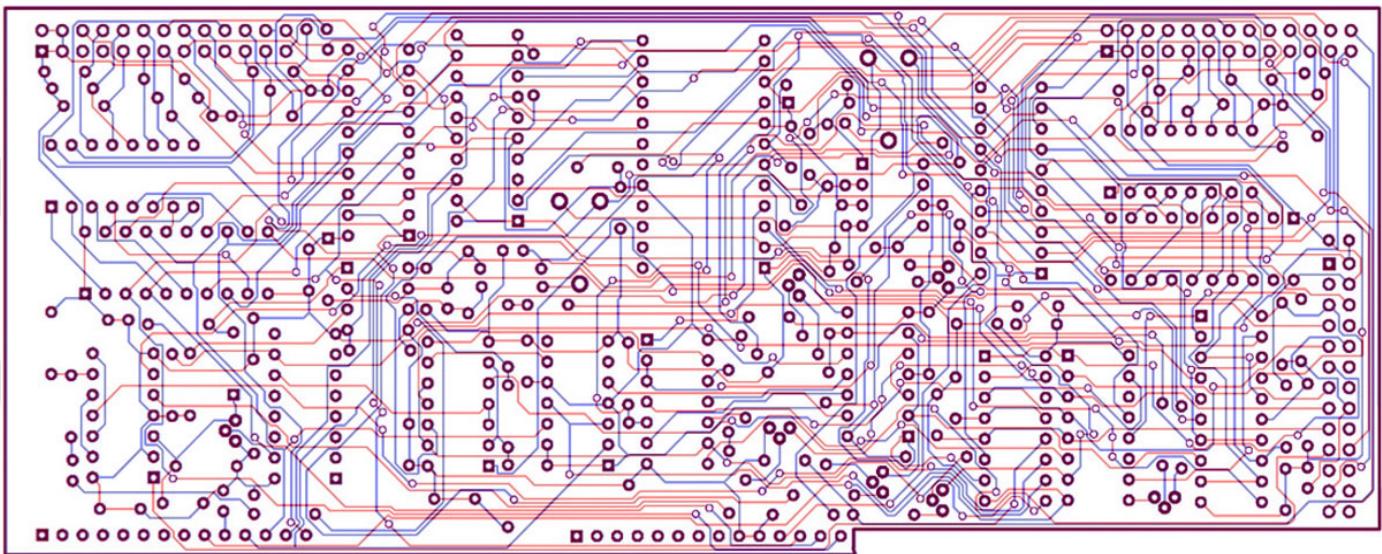
the layer of the componentside:



the layer at the solderside:



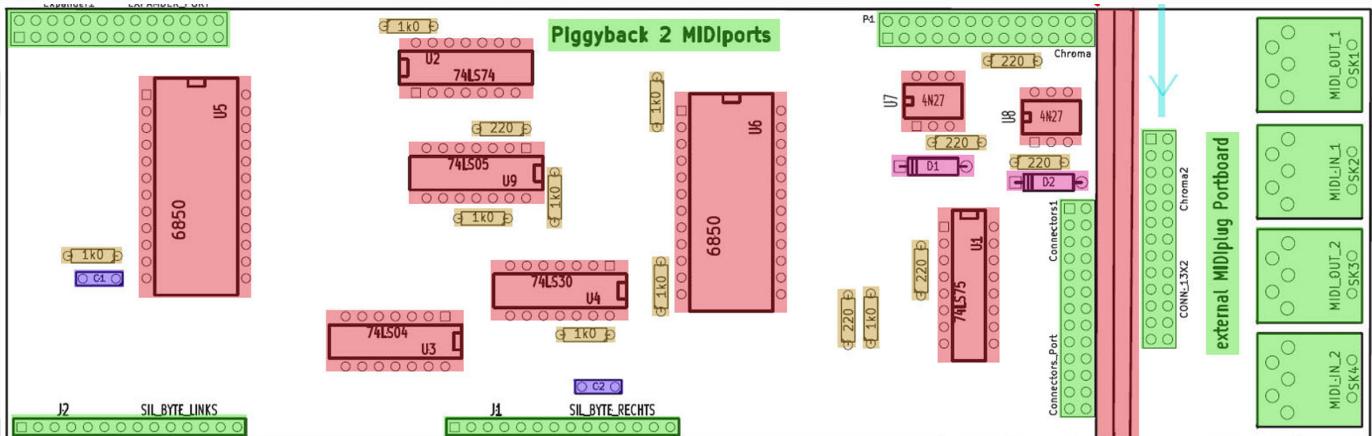
and here is the view of both layers (component- and solderingside) combined:



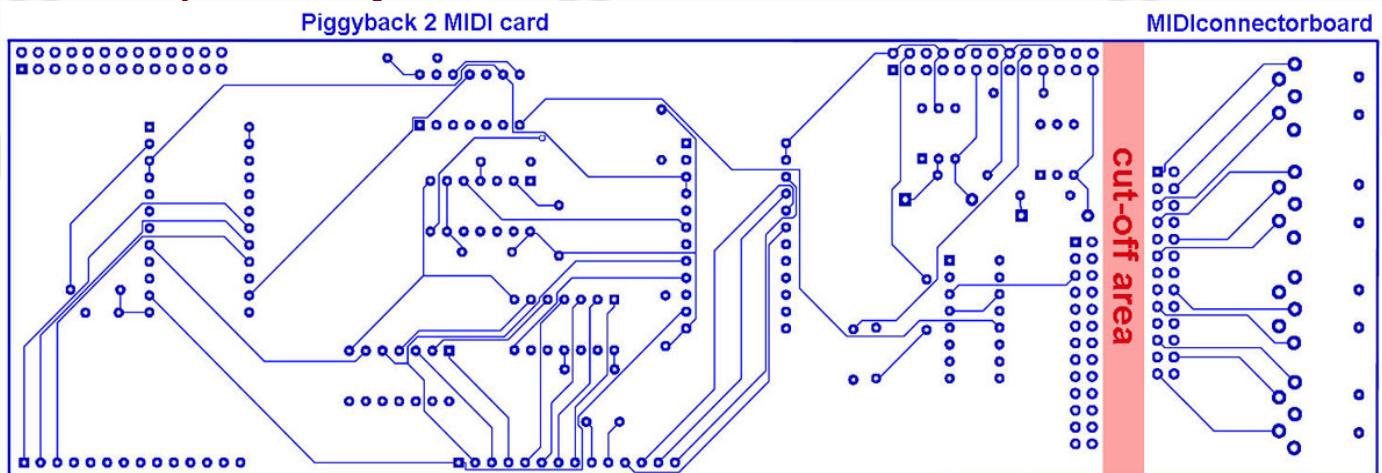
And now lets take a look to the second "piggyback" card that shall interface the Apple II series of computers with MIDIO-devices. This "Piggyback2" MIDI Interfacecard will be made as a single board and then before soldering and populating the PCB - it shall be cutted apart in the Piggyback2 card and a smaller part of the PCB which we might call the MIDIconnector card. It supplies the Apple with 2 MIDI-Output ports and 2 MIDI-Input ports (which permits to work with 2 channels and therefor is designed for use in stereo mode).

While the "Piggyback2" card shall be plugged to the maincard the MIDIconnector card may stay outside of the computer with its plugconnectors and connected by using a flatribbon cable that is plugged to the so called Chroma connector on the card. Due to the fact that this connector is just a "loopthrough" connection from the piggyback card to external devices and performing communication between the external devices and the Apple II by the use of the maincard.

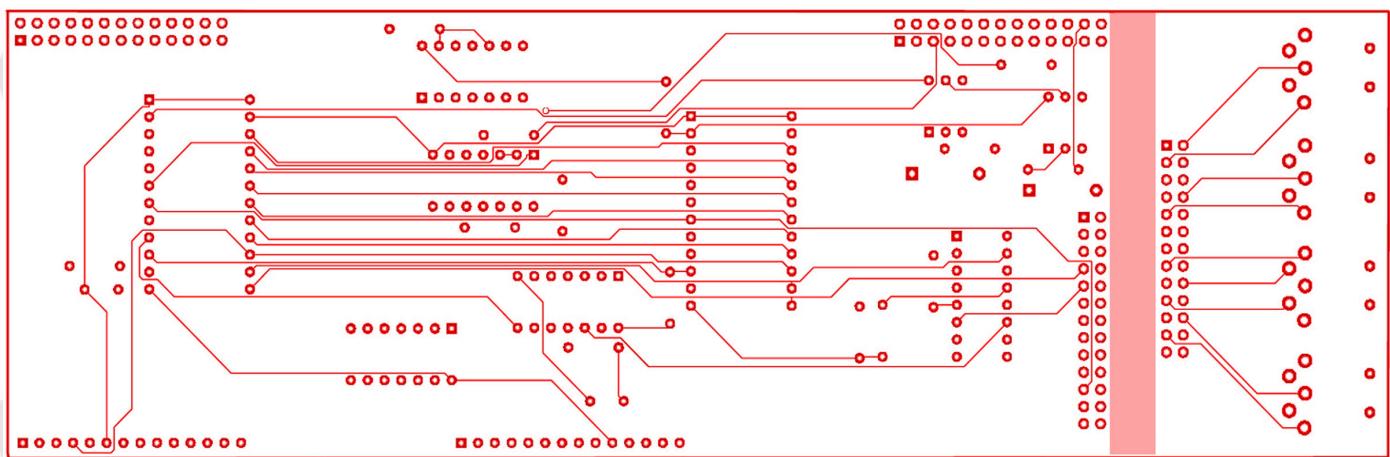
Here is the view of the population of the "piggyback2" MIDI card:



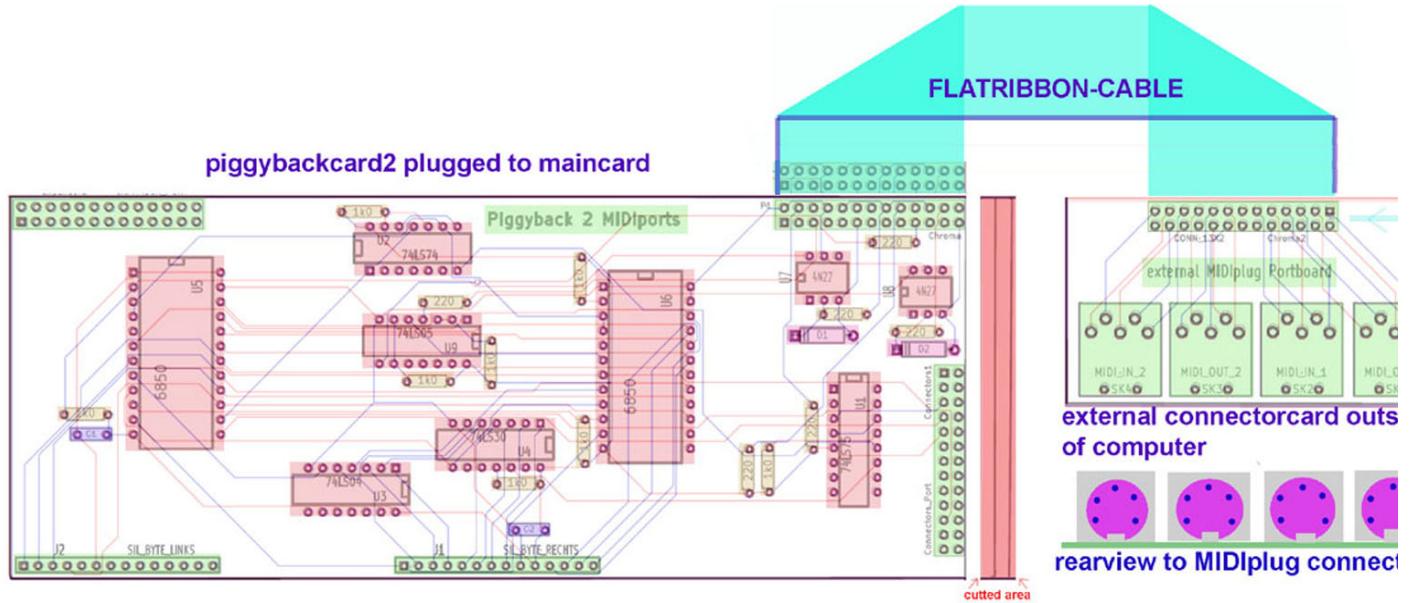
and here is the layer at the soldering side:



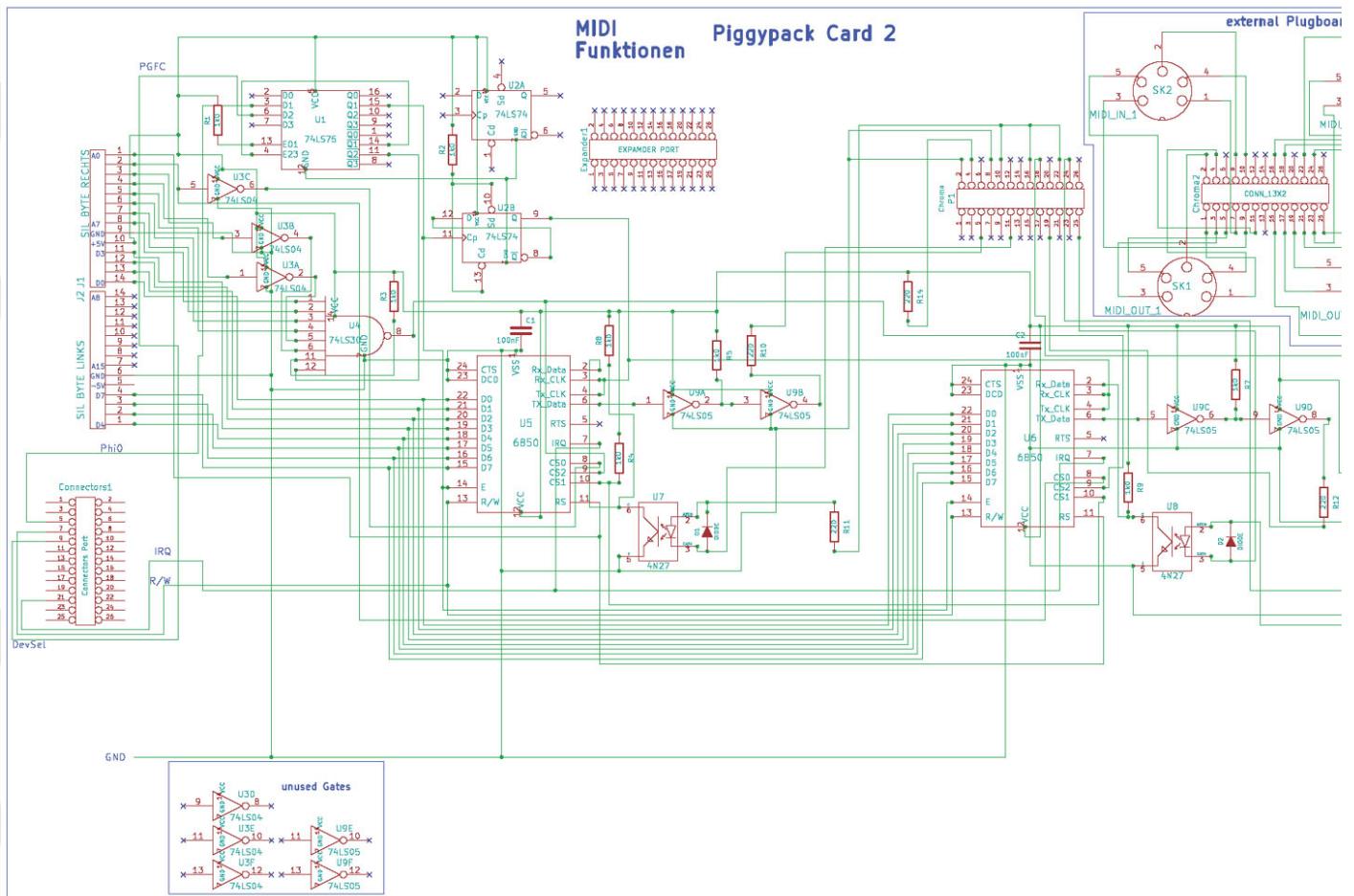
here is the view of the componentlayer:



here is the view to the combination of both layers:



and here is the view to the circuitplan of the "piggyback"2 MIDI connector board:



due to european laws and german court decision:

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