SGS-THOMSON MICROELECTRONICS

DEMOBOARD

STV5722
STV5726

SUMMARY **Page**

I - INTRODUCTION

ONE PCB, THREE APPLICATIONS,
MANY OPTIONS.

To take advantage of the pin to pin compatibility of the 2 heads video amplifier STV5722 with the 4 heads video amplifier STV5726 is the guideline of this demoboard.

With one PCB three main applications can be realized :

- STV5722 in a 2 video heads playback/record solution
- STV5722 in a 2 FM audio playback/record solution
- STV5726 in a 4 video heads playback/record solution.

Additionnaly the PCB layout of the board offers the user several application options as desired.

II - STV5722 APPLICATION

The demoboard is mounted according to the typical application diagram (Figure 1).

A single 5V supply line is necessary for both playback and record mode.

Application options allowed by the PCB layout

Figure 2 gives an example of an electrical diagram using the PCB options.

- R7, C14 low pass filter can be added on the playback envelop signal (TRIV : TRacking Information Video)
- R6, D2 is an optional circuit that can be used to encrease the record circuit when recording on a premagnetized tape (OWR : overwritting)
- R9 is also an optional component which allows to change the recording current from head to head. This may be used when the recording efficiency is a little bit different from one head to the other (low cost scanners).

III - STV5722 FM AUDIO APPLICATION

The STV5722 can be used as a FM Audio head amplifier. To do so, a external buffer circuit can be implemented on the board.

With this confoguration the playback gain is increased from 60dB (typ.) to 68.6dB (typ.) (such a high gain is normally requested for FM audio head amplification).

Figure 3 gives an example in which the board has been configurated for FM audio amplification.

Figure 1 : STV5722 Typical Application (2 video heads)

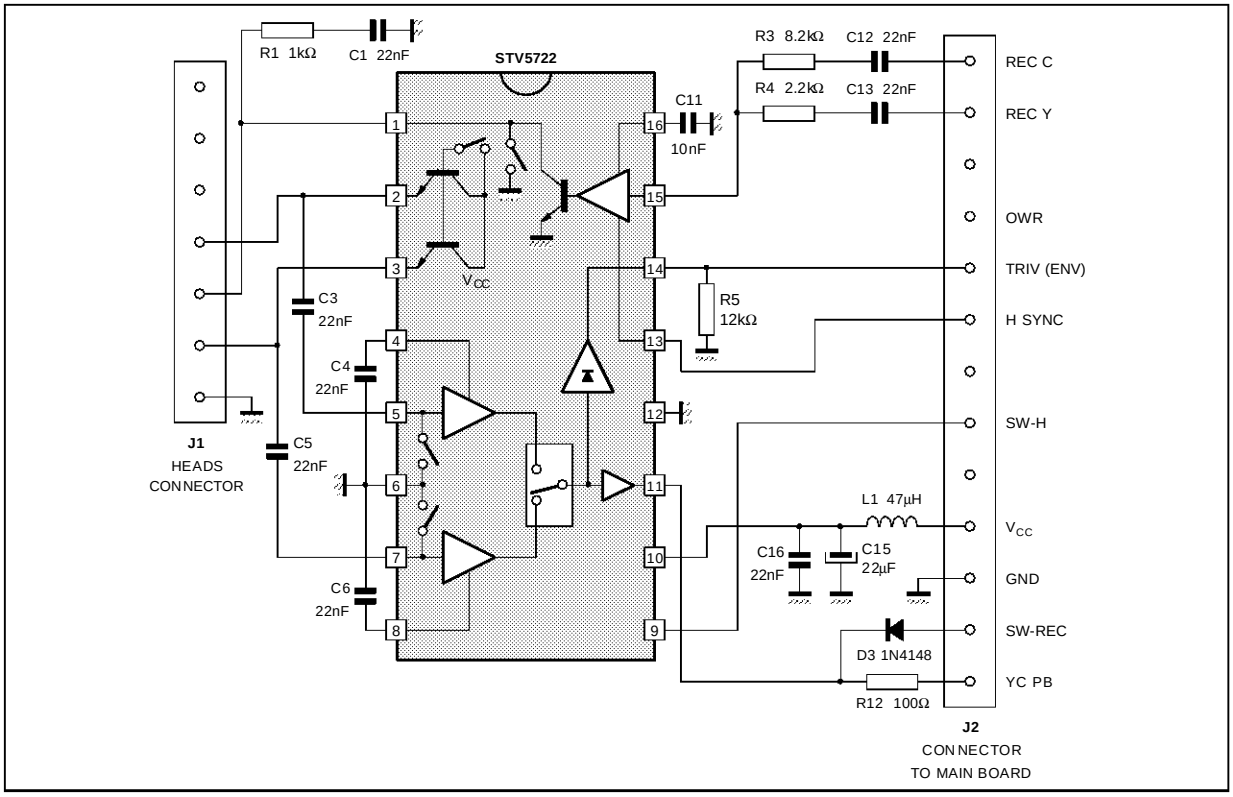


Figure 2 : STV5722 Application Example using the PCB Layout Options

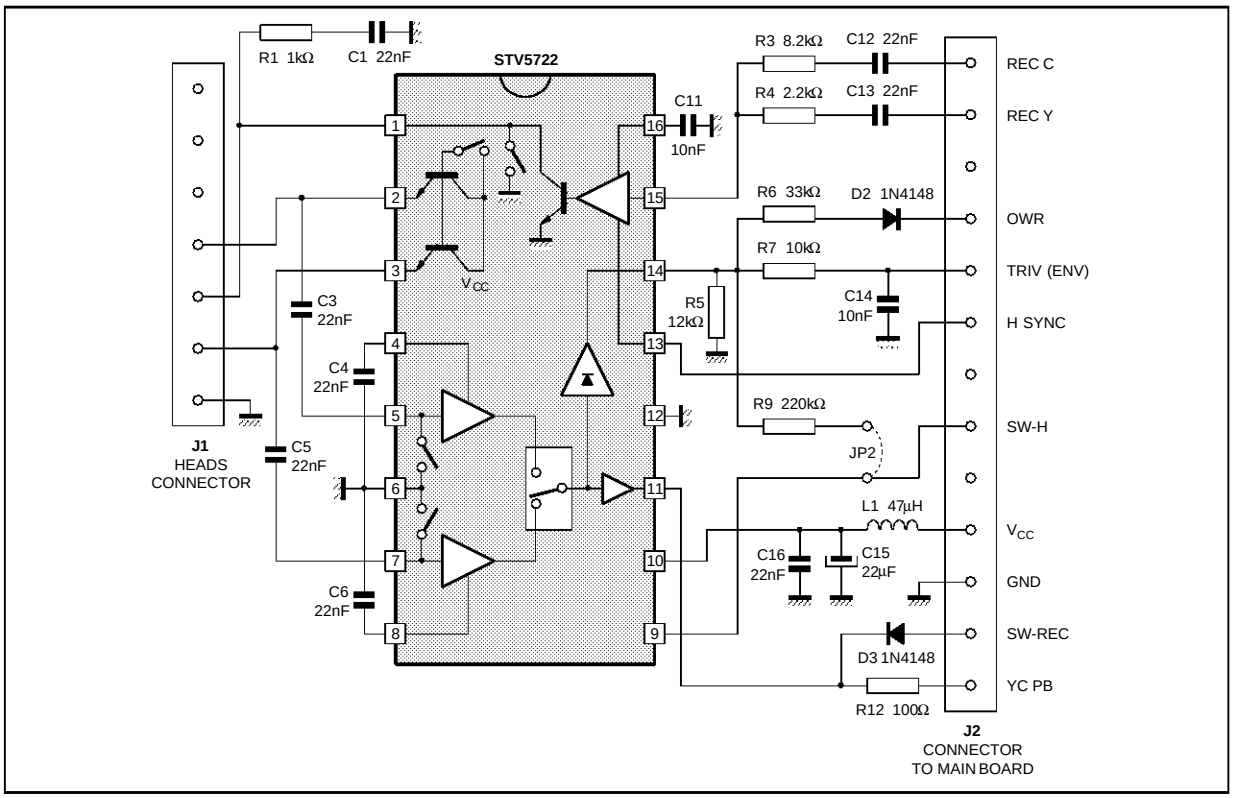
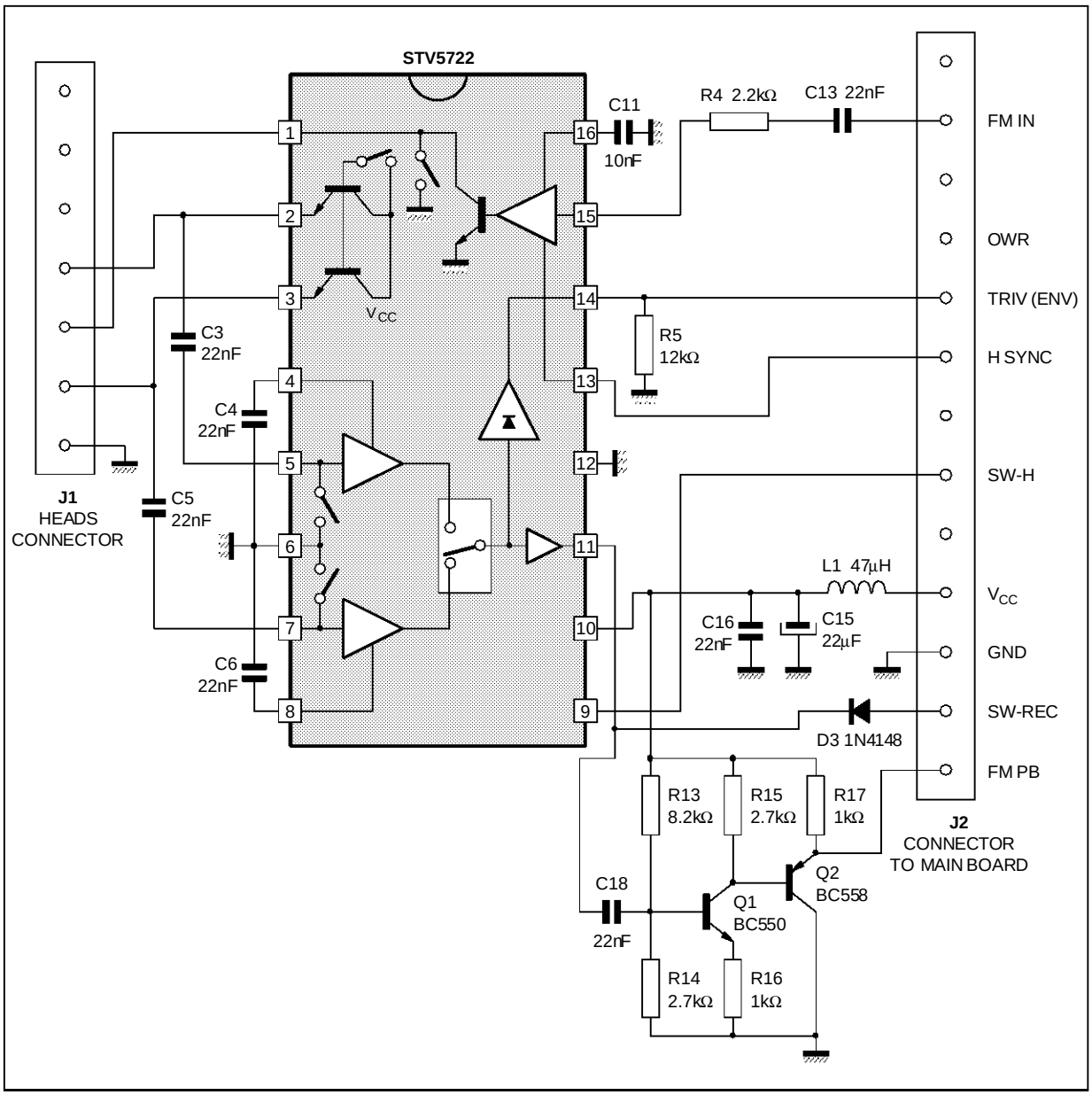


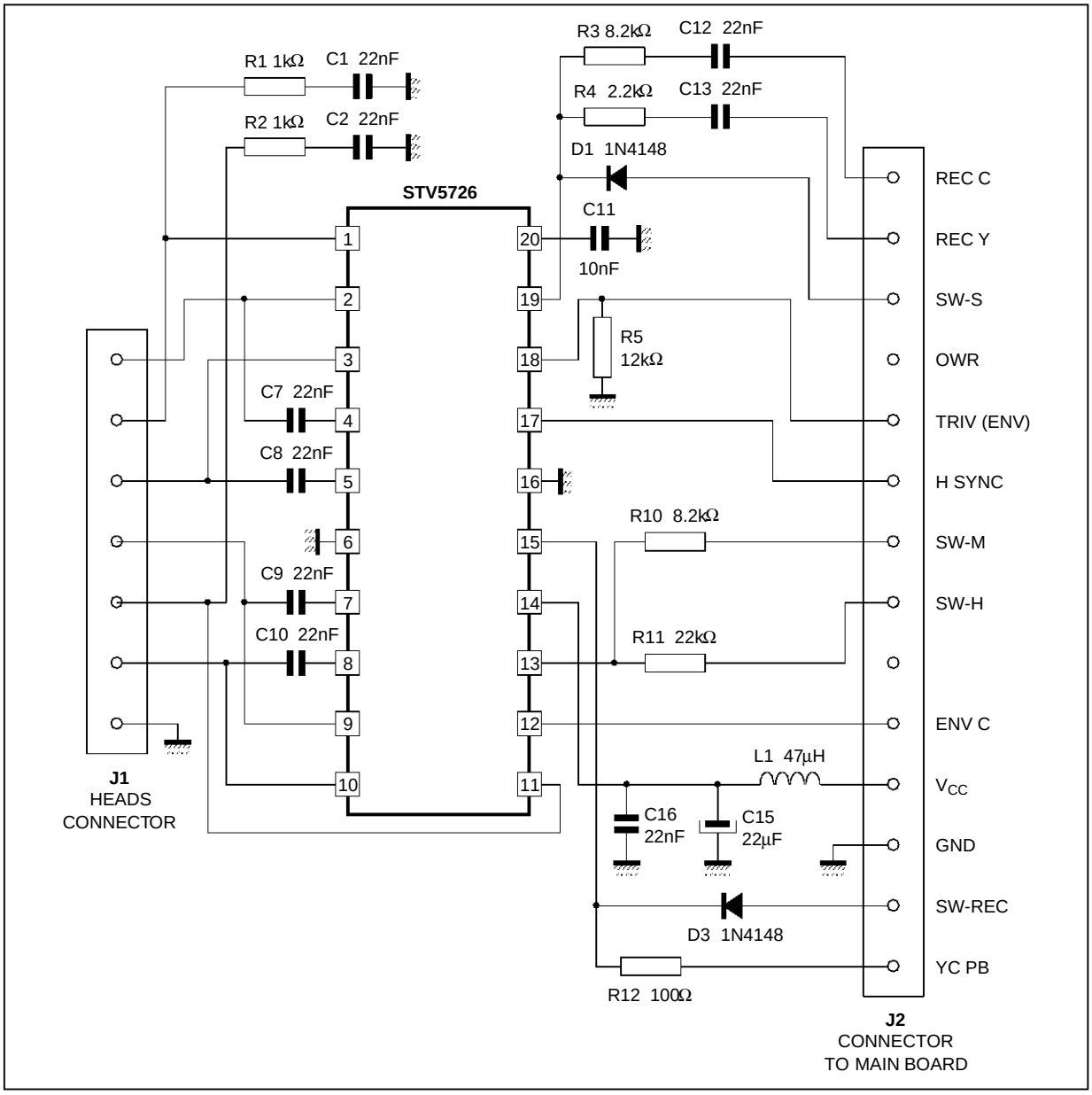
Figure 3 : STV5722 FM Audio Application



IV - STV5726 : 4 VIDEO HEADS AMPLIFICATION

The demoboard is mounted according to the typical application diagram (Figure 4).
A single 5V supply line is necessary for both playback and record mode.

Figure 4 : STV5726 Typical Application



Application options allowed by the PCB layout

Figure 5 gives an example of an electrical diagram using the PCB options.

- R7, C14 low pass filter can be added on the playback envelop signal (TRIV : TRacking Information Video)
- R6, D2 is an optional circuit that can be used to encrease the record circuit when recording on a premagnetized tape (OWR : overwritting)
- R8 allows to change the record gain from SP to LP mode
- R9 JP2 allows to change the record current from head to head (only for low cost scanner where small gain difference may appear from head to head).
  JP2 is connected to SW-H input if
  G_C (H2LP) < G_C (H1LP)
  JP2 is connected to ENV-C output if
  G_2 (H2LP) < G_C (H1LP)
  G_C is the required current gain for the amplifier to compensate the gain difference in the scanner
- C17 may be used to filter ENV C output.

* JP1 : when possible this jumper can be used to simplfy the record damping filters R1 C1 and R2 C2.
Example are given in Figure 6.

Figure 5 : STV5726 Application Example using the PCB Layout Options

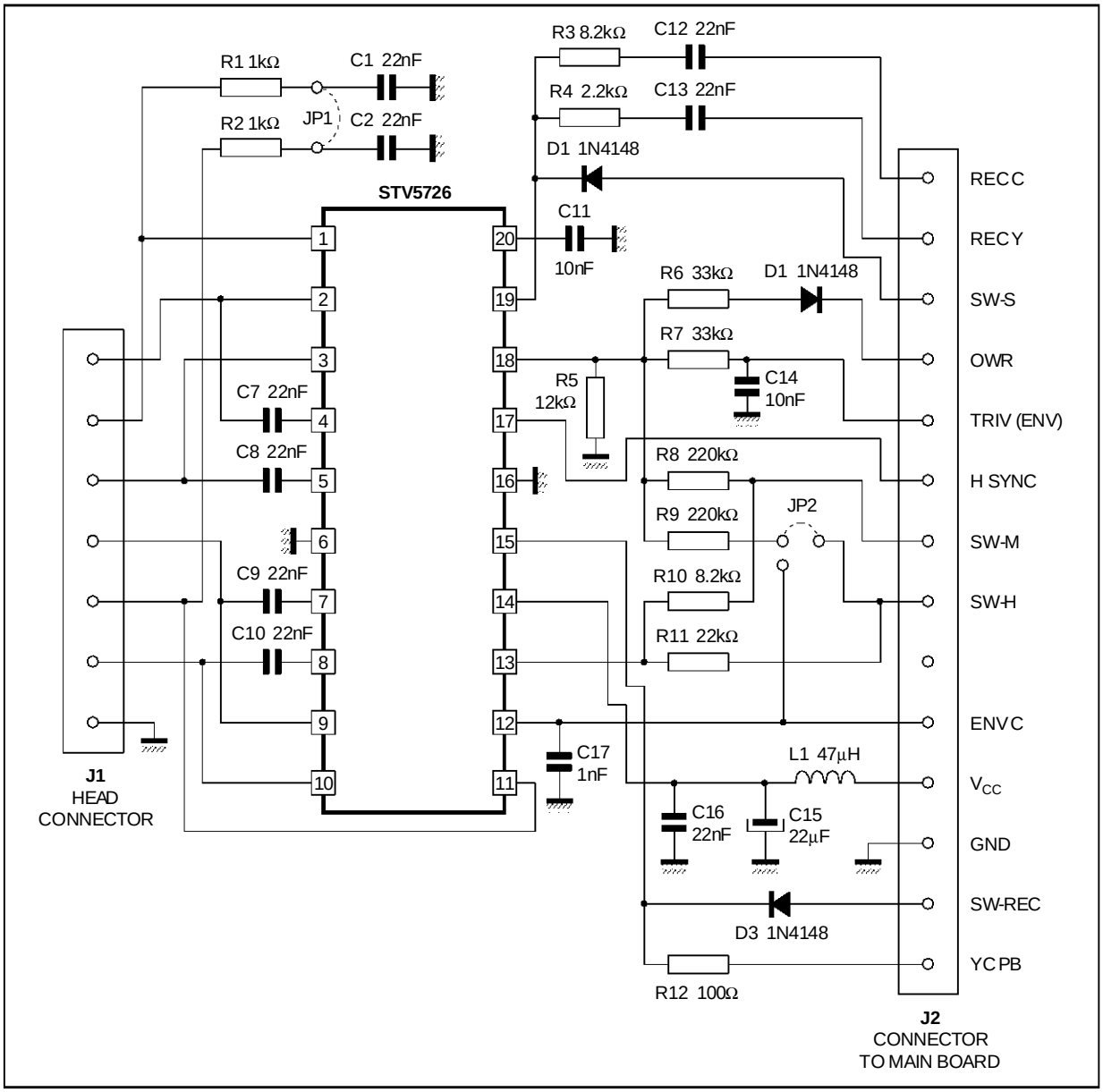
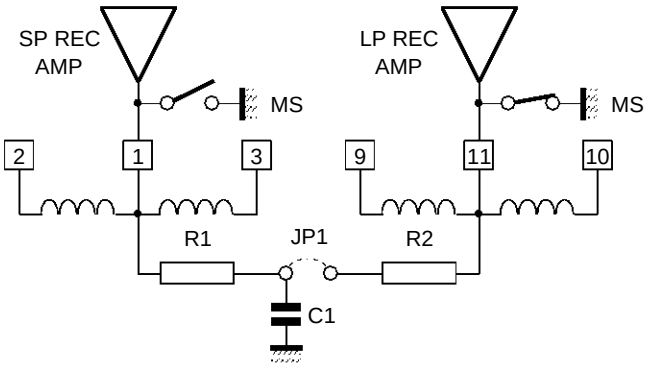


Figure 6 : How to use JP1 to simplify the record damping filter

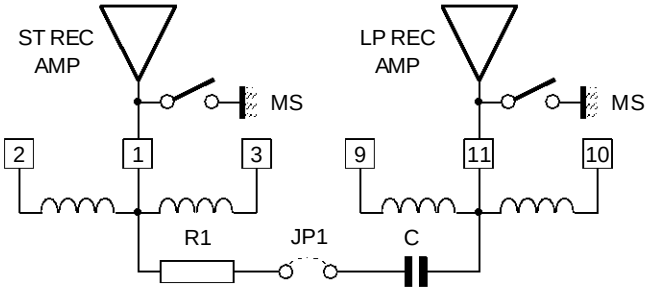
* JP1 not used → Typical Application

* JP1 used - C2 removed



The muting switch MS of the unused record amplifier limits the record crosstalk (ex : SP active / LP OFF).

* JP1 used - C1, C2 removed, R2 replaced by a capacitor C



The muting switch MS of the unused record amplifier is used as ground for the damping filter (could be used only if the record crosstalk is acceptable).

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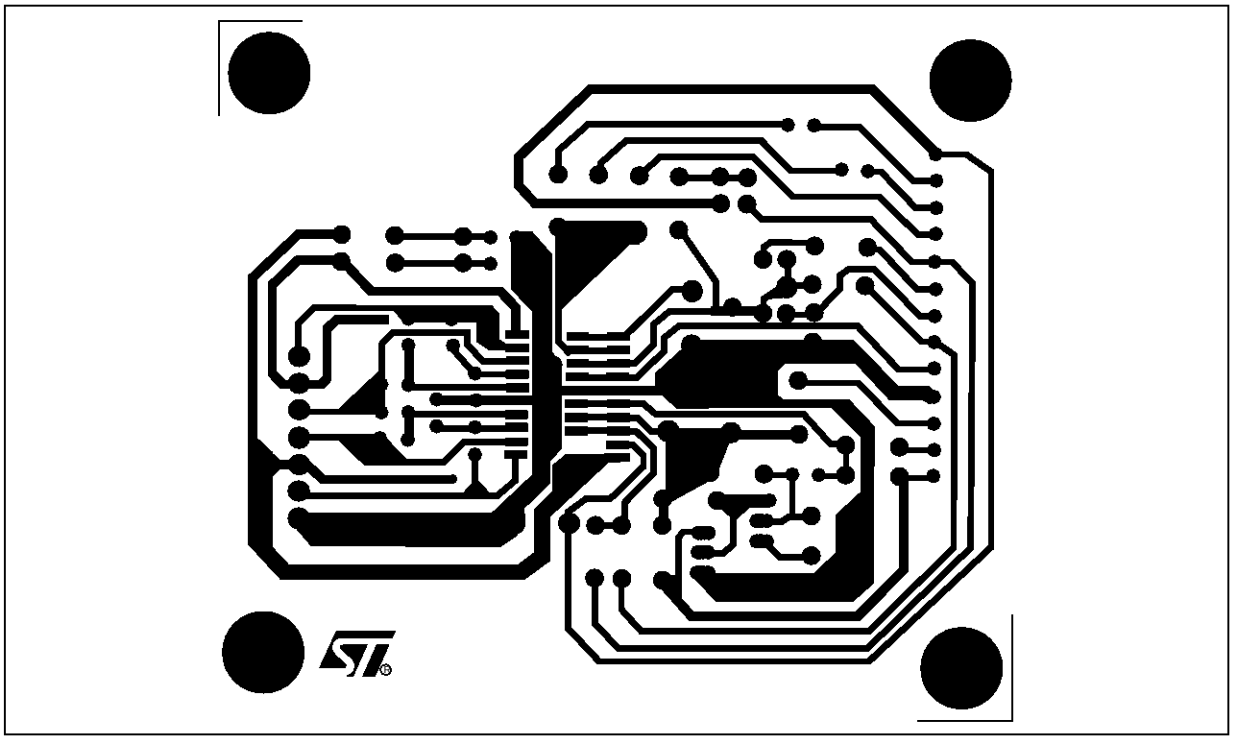
V - PCB LAYOUT PATTERN (copper side)

Figure 7



VI - SILKSCREEN PRINTING PATTERN (components side)

Figure 8