

FAQs

TOTAL MATRIX ADDRESSING (TMA) FREQUENTLY ASKED QUESTIONS

Q: What is the largest panel size which can be produced using TMA?

A: This is under investigation at the moment, but it is expected that significantly larger panel sizes will be possible than using conventional passive matrix (PM) driving. (See also discussion of limiting factors below.)

Q: Is TMA used in conjunction with existing PM drivers?

A: No, different row and column drivers are required that allow arbitrary row and column driving.

Q: What is the maximum resolution TMA will be able to drive?

A: Initial modelling suggests that panels of higher resolution than QVGA will be possible, but this needs to be further investigated.

Q: What is the highest resolution demonstrator built so far?

A: 160 x 120 x rgb i.e. QQVGA

Q: What are the limiting factors to this?

A: With capacitive losses significantly reduced, the resistive losses start to dominate, so for larger or higher resolution displays it is essential that the anode resistivity is reduced using metal tracking, as has been done by some PM companies already.

Q: What are the implications for drive voltage and current?

A: The average current is the same for PM and TMA driven displays with the same size, resolution and peak luminance. The drive voltage is significantly reduced - by 50% according to our measurements with small, low resolution displays, but the benefit of TMA will increase as the resolution increases.

Q: Does TMA work with all types of image, and better with some images than others, e.g. mono / color, text?

A: It works with all image types, but is better with photographic images. To get good reproduction of hyperfine text (single pixel width), a modified version of the algorithm is required.

Q: I've heard of something called multi-line addressing; is this the same as TMA?

A: MLA is a similar technique which can be used for LCD displays. However, it is not suitable for OLED displays as it requires the use of negative data values. TMA drives arbitrary numbers of rows and columns at the same time and uses only positive data values.

Q: How will TMA be made available to the market?

A: CDT is currently working on the business plan.

Q: Will companies be able to license the algorithm?

A: They will be able to license the chip design core that runs the algorithm, which can then be embedded into driver chips.

Q: Does any other party have IP rights over the TMA methodology?

A: No.

Q: What will it cost?

A: We believe that TMA displays will be cost competitive with active matrix displays.

Q: Does CDT have a partner to manufacture TMA chips? Is it looking for one?

A: We are currently in discussion with potential partners.



To hear more about this important development in driving schemes, contact CDT at: info@cdtltd.co.uk.

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