



C0036-PBR-01C May 2000

Copy Protection IC

DESCRIPTION

The gmCP1 and gmCP2 IC's are designed to insert digital sync signals into a progressive scan (525p) digital video signal prior to external digital to analog conversion. The gmCP2 is a copy protection enabled version of the gmCP1, offering the capability of inserting the 525p Macrovision™ analog copy protection scheme into the digital signal ⁽¹⁾. The Copy Generation Management System (CGMS) with auto parity is also supported in the gmCP2. Both chips architectures offer a flexible, multi-mode controller capable of processing 30-bit RGB and YCbCr data. The I²C compatible host interface allows user configuration of sync signals. The chips provide a seamless interface to the Genesis Microchip gmVLX1A-X advanced video processor / scaler IC.

FEATURES

- 525p Macrovision™ Copy Protection ⁽¹⁾ (compliant with Macrovision™ Ver. 1.03)
- Video ID (CGMS/A) generator (EIAJ and EIA)
- Embedded Digital Sync insertion on Y channel
- Programmable sync tip level and blanking level
- Programmable CbCr versus Y delay (± 3 pixels) ⁽³⁾
- Support for 1x/2x horizontal over-sampled pixels
- Input clock of 27MHz or 54MHz
- I²C compatible host interface
- 30-bit YCbCr and RGB formats
- Seamless interface to gmVLX1A-X
- Seamless interface to common YCbCr/RGB DACs
- Single +3.3Volt operation, +5Volt tolerant inputs

INPUT / OUTPUT FORMAT

- YCbCr/RGB 4:4:4 525 Progressive scan with 1x/2x horizontal over-sampled pixels (30 bit).

HOST INTERFACE

- I²C compatible interface

APPLICATIONS

- gmVLX1A-X companion chip for DVD's, set top boxes, etc.

PACKAGE

- 144-pin TQFP package



NOTES:

1. The Macrovision™ Copy Protection 525p scheme is enabled in the gmCP2 only, available only to Macrovision™ 525p Authorized Buyers.
2. This Product Brief applies to gmCP1 and gmCP2 revision BA silicon
3. 27MHz input clock only

Genesis Microchip

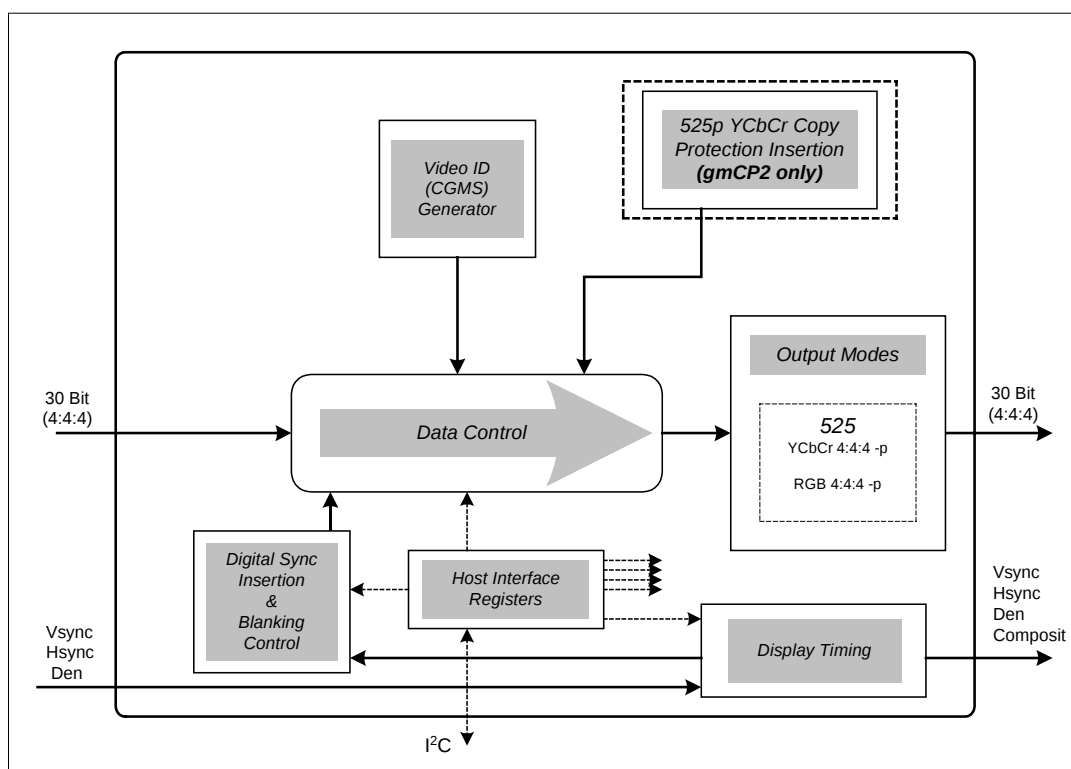


Input / Output Format

Input \ Output	YCbCr (4:4:4) - p	RGB (4:4:4) - p
YCbCr (4:4:4) - p	Yes	Yes*
RGB (4:4:4) - p	Yes*	Yes

★ This conversion available only when used with gmVLX1A-X Device

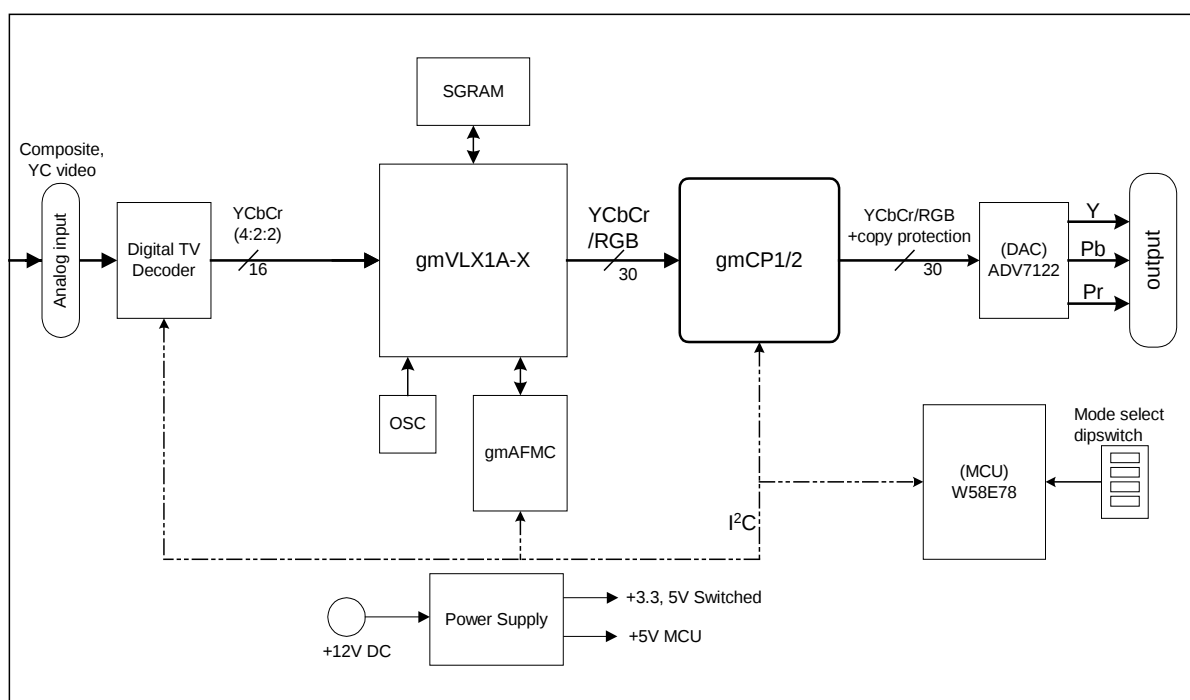
Chip Functional Block Diagram



Genesis Microchip



System Design Example



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