

VIDEO DIFFERENTIAL BUS RECEIVER FOR
AUDIO/VIDEO INTERCONNECTION

ABSTRACT

A transconductance amplifier (30) provides a video output signal (S3) current directly proportional to the
5 transconductance (gm) of the amplifier and to a difference between first (S1) and second (S2) differential video input signals supplies thereto. A pair (10,20) of buffer amplifiers couples the video input signals (S1,S2) to respective inputs (31,32) of the transconductance amplifier via respective diode switches
10 (CR1,CR2) which provides Vber protection for the buffer transistors (Q1,Q2) and provides bus isolation under power down conditions. An output circuit (50) regulates the output voltage of the transconductance amplifier (30) at a substantially fixed voltage and converts the output signal current to an output signal
15 voltage. Advantageously, the receiver provides very accurate signal gain control, unconditional stability, a wide common mode input voltage range, avoids the need for stand-by power and will not load the input bus under power-down conditions.

FIGURE 1