



C16B
3G/HD/SD-SDI + 8 Channel Analog + 4 AES/EBU Input
Audio Monitor
User Manual



C-SERIES
AUDIO MONITORS

Overview

The C16B is a compact 2 RU 3G/HD/SD-SDI, Analog & Digital Audio Monitoring system designed to provide visual and aural monitoring of one 3G/HD/SD-SDI additionally the unit can also accept 4 stereo analog audio signals & 4 75 Ohm AES/EBU digital audio signals..

The C16B has been designed with a simple intuitive user interface to allow for easy access to the signals and information you need to monitor.

A large vacuum fluorescent display located on the front panel provides 16 bar graph VU/PPM meters along with an LKFS bar graph and numerical readout of the ITU1770/1771 loudness measurements.

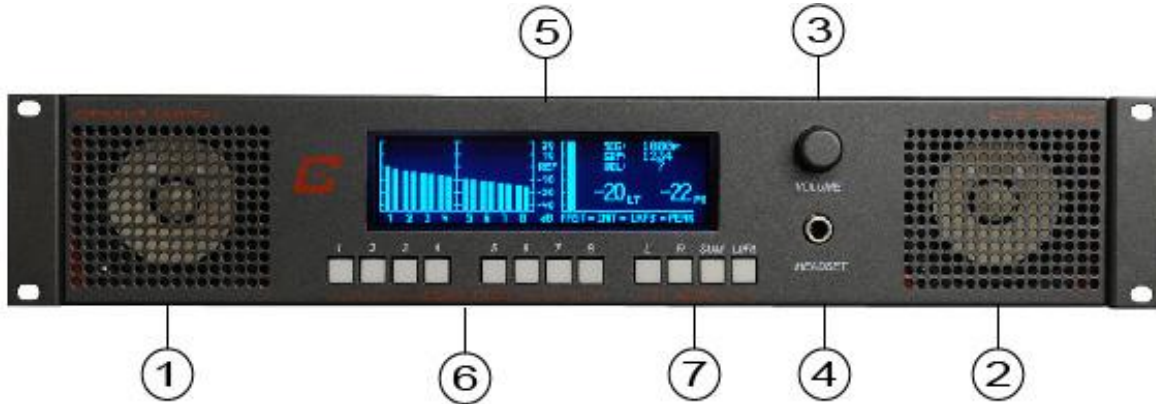
Located directly beneath the display are 12 illuminated pushbuttons to provide channel source selection and mode selection.

Also located on the front panel is a military specification push to mute rotary shaft encoder for volume control and a ¼" longframe jack for headset monitoring. When the headset is inserted the internal speakers will mute automatically.

The inputs and outputs are located on the rear panel. The 3G/HD/SD-SDI signal and a reclocked output of this signal are provided on 2 BNC connectors. A 25 pin D-Sub female connector is used for the 8 analog audio inputs and 4 BNC connectors are provided for the AES/EBU inputs. A monitor output on the rear panel is provided on two 3-Pin terminal block connectors. This monitor output follows whatever signal is being monitored on the internal speakers. Installing a jumper on the I and G terminal of the GPIO 3-Pin connector mutes the internal speakers and allows the front panel volume control to provide level control over the external speaker output.

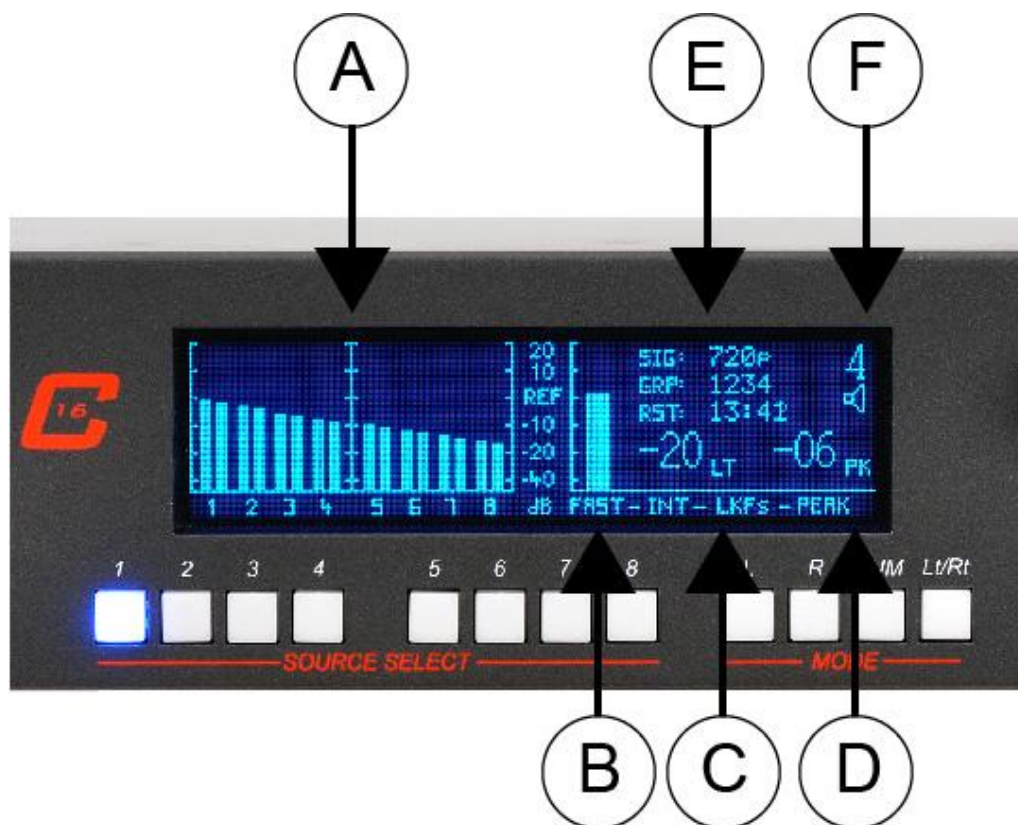
High quality full range speakers and a class D amplifier reproduce an intelligible audio signal.

Features & Controls



C16A Front Panel Features and Controls	
1	Left Speaker
2	Right Speaker
3	Rotary Shaft Encoder turn for volume, push to mute
4	Longframe ¼" Headset Jack. When headset is inserted internal speakers are muted
5	Vacuum fluorescent display used to display audio meters and signal data information
6	Intuitive source select switches used to route signals to the speakers
7	Intuitive mode select switches allows for on the fly mode selection

Display



C16A Front Panel Display	
A	16 Channel Bargraph VU/PPM Meter REF = -20dBFS
B	ITU 1770 LKFS Bargraph FAST 10 second integration time
C	ITU 1770 LKFS numerical readout long term integration time LT
D	ITU 1771 LKFS numerical readout true peak PK
E	<p>Signal data display</p> <p>SIG: Displays the type of signal detected at the input (eg. 720p or 1080i)</p> <p>GRP: Indicates which groups of audio are present (eg. 1234) in AES/ANALOG mode this represents lock status of the 4 AES/EBU Inputs</p> <p>RST: 99:99 minute reset timer. Resets each time you select a different source</p>

F	Speaker volume level and flashing X underneath the number indicates the speakers have been muted using the push to mute rotary shaft encoder.
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Input, Channel Select & Mode Selection

Input source selection is made by pressing the “DIS” display button. This allows the user to select between the 3G/HD/SD-SDI signal providing up to 16 channels of audio and a split screen with the 4 AES/EBU inputs appearing on pairs 1-4 and the 4 stereo analog inputs on pairs 5-8.

Selecting the audio channels you want to monitor is provided by eight pushbuttons located directly below the audio meters allowing the user to intuitively select whichever stereo pair they would like to route to the speakers.

In the SDI mode pushbuttons 1 through 8 allow the user to select any of the 8 pairs available to be monitored.

In the split screen mode pushbuttons 1 through 4 select AES/EBU digital audio pairs and select the analog audio pairs on pushbuttons 5 through 8.

The last 4 pushbuttons are for mode selection. Please note that the unit functions as a stereo audio monitor unless you are using a different mode.

DIS	Toggles the display between the 3G/HD/SD-SDI input or the split screen with the digital and analog audio inputs
L/R or PAIRS	Toggles between the Left or Right Channel when illuminated and when the switch is not illuminated you are in PAIRS Mode selecting stereo inputs this is displayed with a L and R on the display
SUM	Allows the channels to be summed together to monitor more than one source at a time.
Lt/Rt	Provides an Lt/Rt downmix of your selected 5.1 source. Select the pair where your discrete 5.1 mix starts then press the Lt/Rt button which then selects the 2 pairs beside it and creates the downmix from these 6 channels.

8 Channel Analog Audio Input Pinout 25 Pin D-SUB

Audio Channel	Tip +	Ring -	Sleeve GND
1	24	12	25
2	10	23	11
3	21	9	22
4	7	20	8
5	18	6	19
6	4	17	5
7	15	3	16
8	1	14	2

Technical Specifications

Technical Specifications C16A		75 Ohm SDI Input and Output
Input & Output Standards	Reclocked SMPTE259M,292M,424M	
Connectors	1: 75 Ohm BNC for input 1 :75 Ohm BNC for output	
Input Equalization	Automatic to 80m @ 3Gb/s Automatic to 120m @ 1.5Gb/s Automatic to 300m @ 270Mb/s	
Signal Level	800mV nominal	
Return Loss	-10dB to 3G	
		Analog Audio Monitor Output
Connectors	2: 3-Pin Terminal Blocks for left and right output	
Analog Output Reference Level	-20dBfs = +4dBu	
Analog Output Frequency Response	20 Hz to 20 kHz	
Analog Output Distortion	<0.01% THD + N	

Physical Specifications

Dimensions	Width = 19" Rackmount x Height = 3.5" 2 RU x Depth = 8.5"
Weight	Approximately 8 lbs
Power	90 – 240 VAC, 50/60 Hz

Warranty and Repair Policy

The C16B is warranted to be free of any defect with respect to performance, quality, reliability, and workmanship for a period of FIVE (5) years from the date of shipment from our factory. In the event that your C16B proves to be defective in any way during this warranty period, Census Digital Inc. reserves the right to repair or replace this piece of equipment with a unit of equal or superior performance characteristics.

Should you find that this C16B has failed after your warranty period has expired, we will repair your defective product should suitable replacement components be available. You, the owner, will bear any labor and/or part costs incurred in the repair or refurbishment of said equipment beyond the FIVE (5) year warranty period.

In no event shall Census Digital Inc. be liable for direct, indirect, special, incidental, or consequential damages (including loss of profits) incurred by the use of this product. Implied warranties are expressly limited to the duration of this warranty.

This C16B User Manual provides all pertinent information for the safe installation and operation of your C16B. Census Digital policy dictates that all repairs to the C16B are to be conducted only by an authorized Census Digital Inc. factory representative. Therefore, any unauthorized attempt to repair this product, by anyone other than an authorized Census Digital Inc. factory representative, will automatically void the warranty. Please contact Census Digital Technical Support for more information.

In Case of Problems

Should any problem arise with your C16B, please contact the MultiDyne Technical Support Department. Contact information is supplied at the end of this publication.

A Return Material Authorization number (RMA) will be issued to you, as well as specific shipping instructions, should you wish our factory to repair your C16B. If required, a temporary replacement module will be made available at a nominal charge. Any shipping costs incurred will be the responsibility of you, the customer. All products shipped to you from Census Digital will be shipped collect.

The MultiDyne Technical Support Department will continue to provide advice on any product manufactured by Census Digital Inc., beyond the warranty period without charge, for the life of the equipment.

Contact Us



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