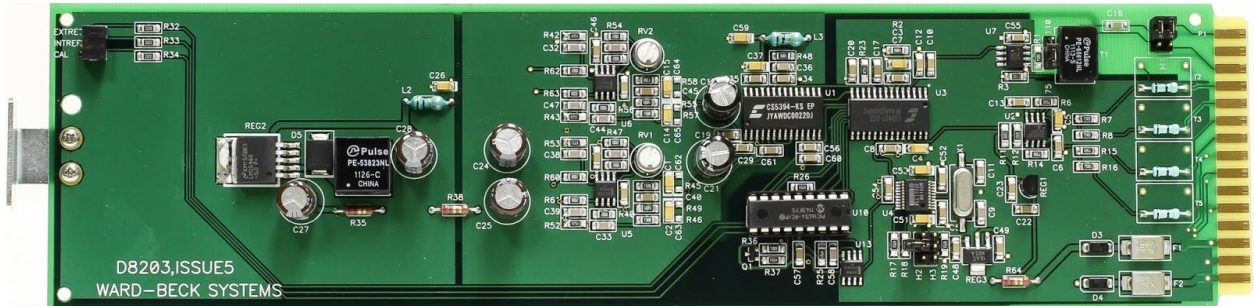
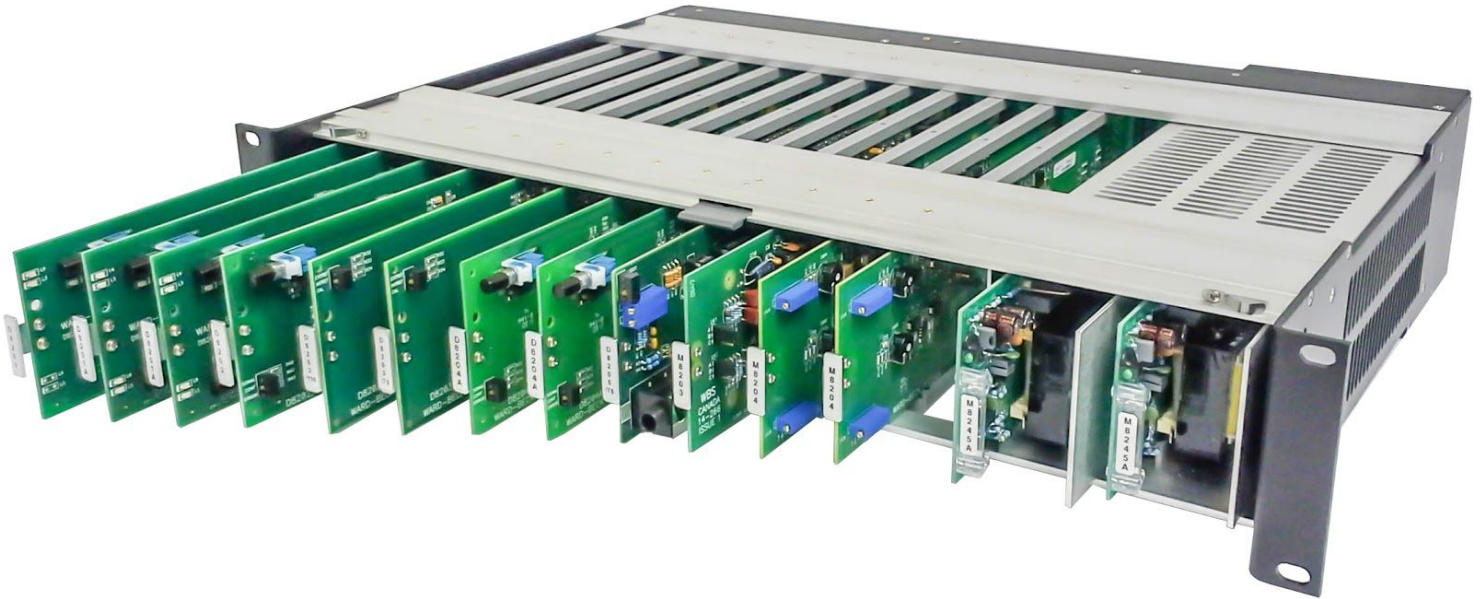


D8203

8200 SERIES DISTRIBUTION SYSTEM ANALOG TO DIGITAL CONVERTER



by Ward-Beck Systems

Rev:Jan.01 2015

D8203 ANALOG TO AES/EBU DIGITAL CONVERTER

GENERAL

The D8203 is an analog to digital converter featuring the latest in 24 bit conversion technology. The analog stereo inputs are actively balanced, while the AES/EBU outputs can be 110 Ohm transformer balanced or 75 Ohm unbalanced.

This unit internally generates digital outputs at 48 kHz, 44.1 kHz and 32 kHz, and can also synchronize to an external AES/EBU reference signal. When first powered up, the D8203 requires a 16 second calibration period. A 2 second calibration period is required if the clock is switched from an internal to an external reference or vice versa. While in the calibration mode, the digital audio data is muted and the red calibration LED on the front edge of the card is illuminated.

The D8203 mounts in any standard Ward-Beck MF82 rack-mounting frame, is fully compatible with other products in the 8200 Distribution Series, and can be installed in any position within the frame. To install the D8203 in an MF82 frame, orient the card with pins 1 and A positioned at the top and the letters on the handle reading from the top down.

Various types of termination assemblies are available for connection to the D8203 analog to digital converter. Please refer to the Terminal Option diagrams in this manual. The termination assembly mounts on the rear of the MF82 frame, directly behind the D8203 module.

SETUP AND INSTALLATION

Reference Synchronization

As shown in Fig1 (H1 1-3, 2-4 FrameRef, 3-5, 4-6 ExtRef), the D8203 can be jumpered to accept an external (EXT) or Frame (INT) digital reference signal. The external AES digital reference signal is connected to the terminating assembly mounted on the rear of the MF82 frame. Use H4 to select between 110 Ohm and 75 Ohm unbalanced External AES digital reference (use 75 Ohm if local reference is selected). With the jumper set for local reference, the D8203 will pick up an AES reference input from the frame motherboard. The frame reference can be driven from the reference housing (REF IN) on the rear of the frame near the power supply.

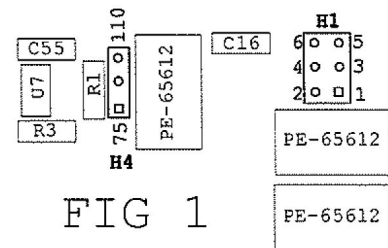


FIG 1

Internal Sampling Frequency

The internally generated sampling frequency may be switched between 32kHz, 44.1kHz, and 48kHz by positioning the jumpers for the desired frequency. Please refer to Fig 2. (H2 1-2 32 KHz; 2-3 44.1 KHz; NO JUMPER 48KHz).

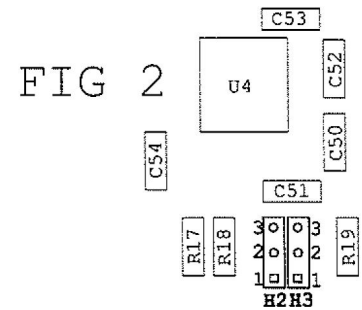


FIG 2

Audio Level Calibration

The default factory calibration for the D8203 is 0dBfs = +24 dBu. This allows for operation at a digital output level of -20 dBfs for a nominal +4 dBu analog input signal.

STATUS TALLIES

The D8203 is equipped with three LED status tallies located on the front edge of the card above the handle. The function of these tallies are:

GREEN LED	EXTERNAL REFERENCE - Indicates that the D8203 is locked to an external AES/EBU reference signal.
YELLOW LED	INTERNAL REFERENCE - Indicates that the D8203 is generating a reference signal from its internal oscillator.
RED LED	CALIBRATION - Indicates that the D8203 is in self calibrating mode. Initial calibration on power up will take approximately 16 seconds. Subsequent calibration due to switching reference signals will take approximately 2 seconds.

SPECIFICATIONS

DIGITAL INPUT

Input Impedance	75 Ohm unbalanced or (jumper selectable) 110 Ohm balanced
Input Level	0.2-7 V p-p
Sampling Frequency Range	30 kHz to 50kHz

ANALOG AUDIO INPUT

Input Impedance	24 kOhms balanced
Maximum Input	+26 dBu
Frequency Response	± 0.1 dB, 20Hz to 20kHz

DIGITAL OUTPUT

Resolution	24 bits
Output Standard (D8203/75)	AES/EBU 75 Ohm unbalanced
Output Standard (D8203/110)	AES/EBU 110 Ohm transformer balanced
External Sampling Frequency	30 kHz to 50 kHz
Internal Sampling Frequency	Selectable 32 kHz, 44.1 kHz and 48 kHz
Jitter	Less than 5 ns
Level	1 V p-p terminated
Noise	better than -105 dBFs, 20 Hz to 20kHz
Total Harmonic Distortion	better than 0.01%

GENERAL

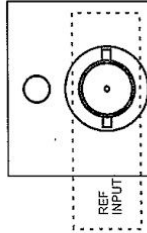
Power Requirements	+21 V, 95 mA MAX -21 V, 29 mA MAX
Dimensions	approx. 1" wide x 2.75" high x 11" deep (25.4 mm x 70 mm x 279 mm)
Weight	approx. 0.116 kg (0.252 lbs)

All the preceding specifications were taken with a 48 kHz external reference.

Ward-Beck Systems Inc. reserves the right to change performance specifications without prior notice.

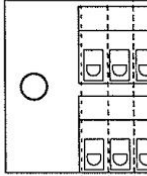
D8203/110 TERMINAL OPTIONS

TB8205/75
SCREW TERMINAL
UNBALANCED
REFERENCE INPUT



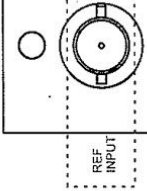
DIGITAL OUT 1+	1	DIGITAL OUT 1-
DIGITAL OUT 2+	2	DIGITAL OUT 2-
DIGITAL OUT 3+	3	DIGITAL OUT 3-
DIGITAL OUT 4+	4	DIGITAL OUT 4-
NOT CONNECTED	5	NOT CONNECTED
ANALOG LEFT IN+	6	ANALOG LEFT IN-
NOT CONNECTED	7	NOT CONNECTED
ANALOG RIGHT IN+	8	ANALOG RIGHT IN-
GND	9	GND

TB8205P
PLUGGABLE SCREW
TERMINALS



REF INPUT +	1	REF INPUT -
REF INPUT -	2	GND
DIGITAL OUT 1+	3	DIGITAL OUT 1-
DIGITAL OUT 2+	4	DIGITAL OUT 2-
DIGITAL OUT 3+	5	DIGITAL OUT 3-
DIGITAL OUT 4+	6	DIGITAL OUT 4-
GND	7	GND
DIGITAL OUT 1+	8	DIGITAL OUT 1-
DIGITAL OUT 2+	9	DIGITAL OUT 2-
DIGITAL OUT 3+	10	DIGITAL OUT 3-
DIGITAL OUT 4+	11	DIGITAL OUT 4-
GND	12	GND

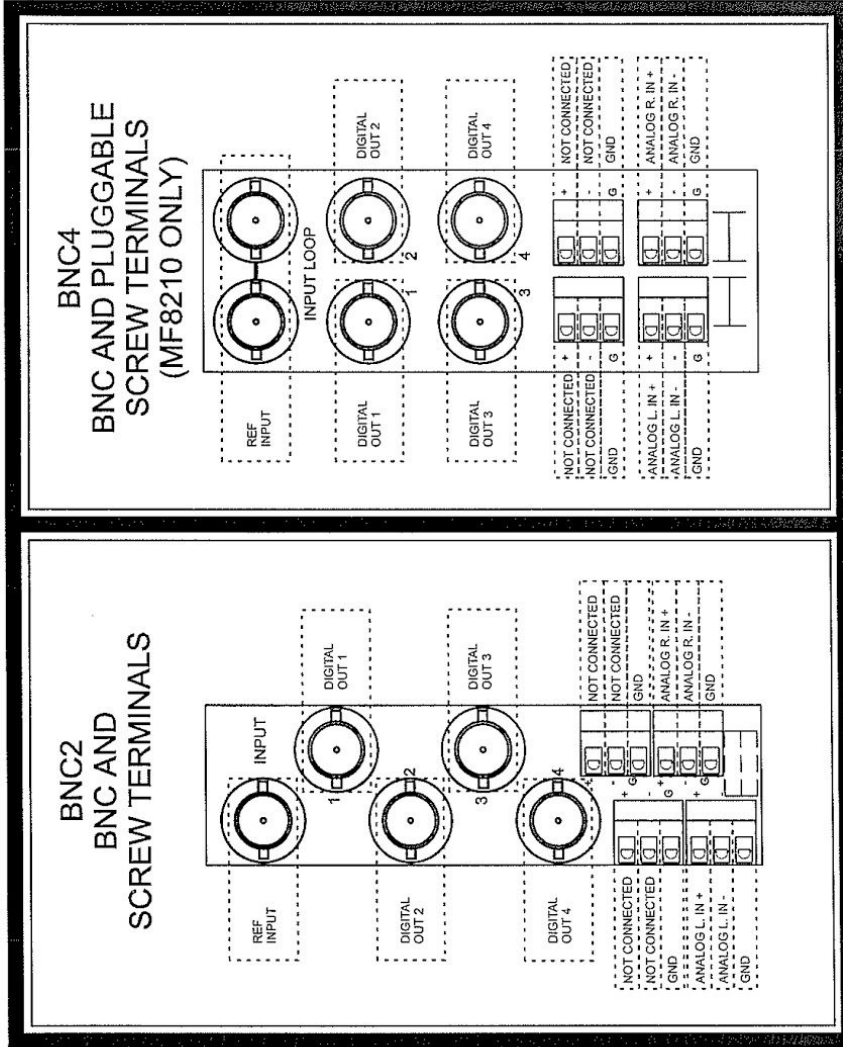
TB8205P/75
PLUGGABLE SCREW
TERMINALS
UNBALANCED
REFERENCE INPUT



DIGITAL OUT 1+	1	DIGITAL OUT 1-
DIGITAL OUT 2+	2	DIGITAL OUT 2-
DIGITAL OUT 3+	3	DIGITAL OUT 3-
DIGITAL OUT 4+	4	DIGITAL OUT 4-
NOT CONNECTED	5	NOT CONNECTED
ANALOG L. IN+	6	ANALOG L. IN-
NOT CONNECTED	7	NOT CONNECTED
ANALOG R. IN+	8	ANALOG R. IN-
GND	9	GND

DISCONTINUED MODEL
FOR REFERENCE ONLY

D8203/75 TERMINAL OPTIONS



WARRANTY

All Ward-Beck Systems Inc. products are warranted against defective materials and workmanship for a period of one year from the date of shipment.

Ward-Beck Systems Inc. will repair or replace, at its option and without charge, all said products or parts thereof which upon factory inspection prove to be defective during the warranty period, provided that:

1. The original serial numbers are intact and have not been tampered with.
2. The purchaser shall return any equipment or parts thereof to Ward-Beck Systems Inc. only after obtaining prior authorization and shipping instructions from the factory. (Ward-Beck Systems Inc. reserves the right to inspect or repair equipment on the purchaser's premises).
3. The purchaser assumes the obligation for all expenses in connection with the shipping and return of such goods, once authorization has been obtained.

This warranty does not cover items normally considered expendable, such as fuses and lamps.

This warranty does not cover damages caused by misuse, accident, neglect, unauthorized alteration, repair by unauthorized personnel, or damage caused by an act of God, war, or civil insurrection.

In no event shall Ward-Beck Systems Inc. be liable for consequential damages. Ward-Beck Systems Inc. shall have the rights to final determination as to the application of this warranty.

Ward-Beck Systems Inc. reserves the right, at any time and without notice, to make changes in its equipment, components, specifications or designs, as may be warranted by progress in state-of-the-art technology.

Ward-Beck Systems Inc. reserves the right to make design changes, additions to, and improvements in its products, without obligation to install such revisions in products previously manufactured.

The warranty set forth herein is in lieu of all other warranties expressed or implied, including the warranties of merchantability and fitness.

WARD-BECK SYSTEMS INC.
945 Middlefield Road, Unit 9, Toronto, Ontario M1V 5E1
V 416 335 5999 F 416 335 5202 Toll-Free 800 771 2556
Website: www.ward-beck.com
E-Mail: sales@ward-beck.com