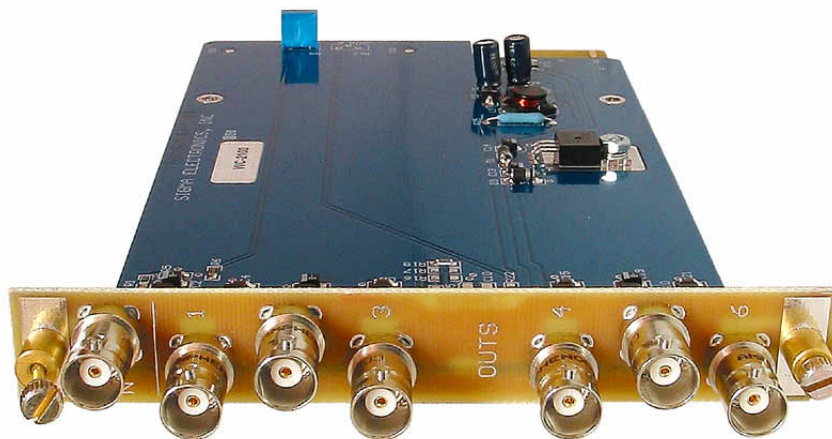


## WC-2100

### WORD CLOCK DISTRIBUTION AMPLIFIER INSTRUCTION MANUAL



SIGMA ELECTRONICS, INC.  
P.O. Box 448  
1027 COMMERCIAL AVE.  
EAST PETERSBURG, PA 17520-0448  
(717) 569-2681



# WC-2100 WORK CLOCK DISTRIBUTION AMPLIFIER

## GENERAL:

The WC-2100 is a distribution amplifier for 48 kHz TTL, SDIF-2 word-clock reference signals. The input of the WC-2100 is terminated into 75Ω. The unit provides 6 isolated outputs per module. Outputs are designed to drive 75Ω loads. If an output is not used it is not necessary to apply a 75Ω termination to the output.

User adjustments are provided for Gain Control. The gain adjustment is used to compensate for low input signal levels.

## POWER:

The WC-2100 operates from bus voltages of unregulated +20 VDC and -20 VDC. These voltages are supplied by the Sigma frame/power supply. The module regulates the bus voltage to +5 VDC and -15 VDC respectively. Circuit protection is provided by a PTC Thermistor (Positive Temperature Coefficient Thermal Resistor) which serve as a permanent fuse. Upon correction of the fault, the PTC Thermistor will self reset.

## FRAMES:

The WC-2100 module can reside in any of four different frames provided by Sigma Electronics, Inc. If this module is purchased as a component of a system, please refer to the SERIES 2100 FRAMES Instruction Manual. If the module was purchased separately, an existing frame must be present for proper operation. Sigma would like to emphasize the fact that any of the Series 2100 modules can be mixed in any frame. When the WC-2100 Series is assembled into the SSB-21 Stand-Alone Box, it is assigned the model number WC-2600.

The SS-2100-2 frame is also designed for desktop applications. This frame provides two (2) slots for dual module configurations.

The SS-2100-6 frame is designed for 19-inch EIA rack installations. It provides six (6) slots for modules in 1 rack unit of space.

The SS-2100-16 frame is also available for installations in a 19-inch EIA rack. This frame provides sixteen (16) slots for modules within 3 RU.

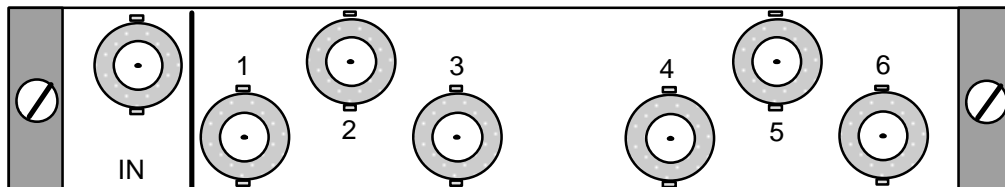
Additional information on the various frames is available. Please refer to the special section on frames if this was purchased as a complete system. If this information is not provided with this shipment, contact Sigma Electronics for assistance.

## CONNECTIONS:

The unit is designed for use of BNC connectors and 75Ω impedance coaxial cable. To ensure proper signal levels the coaxial cable lengths should not exceed 1000 feet total from signal source to destination.

INPUTS: The WC-2100 has a single BNC terminated input (Figure 1). The input BNC supports six outputs.

OUTPUTS: There are six BNC outputs on the rear panel. Each output is designed to drive a 75Ω load. For connection configuration see figure 1.



Rear Panel WC-2100

Figure 1



# WC-2100 WORK CLOCK DISTRIBUTION AMPLIFIER

## FRONT PANEL:

The adjustments on the front panel can be accessed through the provided slot on the SSB-21. When mounted within the SS-2100 Series frames, it will be necessary to remove the front panel of the frame to gain access to these items. Factory settings of the module provide unity gain.

## ADJUSTMENTS:

The adjustments provided on this module are factory set for optimum performance in typical applications. If necessary the following adjustment is provided as listed below.

R9: ..... Gain

## SPECIFICATIONS:

INPUT: ..... 1, Terminated, 75Ω  
INPUT LEVEL: ..... TTL  
INPUT RETURN LOSS: ..... 35 dB minimum at 5 MHz.  
OUTPUTS: ..... Six (6), 75Ω, source terminated.  
OUTPUT LEVEL: ..... TTL  
OUTPUT RETURN LOSS: ..... 35 dB minimum at 5 MHz.  
TILT, FIELD AND LINE: ..... DC Coupled, 0.1 %, maximum.  
TRANSIENT RESPONSE: ..... 0.5 %, maximum overshoot, ringing.  
OUTPUT TO OUTPUT ISOLATION: ..... 50 dB minimum at 5 MHz.  
ELECTRICAL LENGTH: ..... 20 nsec.  
CONNECTORS: ..... BNC.

OPERATING TEMPERATURE: ..... 0° to +50° C

All specifications, drawings, dimensions, weights and other details are subject to change without notification. Information is intended to give a general performance and operation guideline of the product.

Sigma Electronics, Inc.; P.O.Box 448; 1027 Commercial Ave.; East Petersburg, PA 17520-0448  
Main Office: Tel: (717) 569-2681 Fax: (717) 569-4056  
REV0 DEC99