



**DDA/WC-4x4 Distribution Amplifier
and
GEN-DDA/WC Sync Generator Manual**

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Overview

The Radio Systems Digital Distribution System is comprised of two units:

- * Model GEN-DDA/WC
- * Model DDA/WC-4x4

The Radio Systems model GEN - DDA/WC is a professional quality digital sync. generator with an integrated AES/EBU distribution amplifier and six Word Clock outputs.

The two fully independent AES/EBU input sections feature balanced inputs to four buffered balanced outputs. A three digit LED display for each section reads out the sampling frequency. Two LED's for each section indicate PLL (unlock) and data (validity) errors.

The Radio Systems model DDA/WC 4x4 is a professional quality digital distribution amplifier with four independent sections of four output AES/EBU distribution and six Word Clock outputs.

The AES/EBU input sections feature balanced inputs to four independent, buffered balanced outputs. A three digit LED display for each section reads out the sampling frequency. Two LED's for each section indicate PLL (unlock) and data (validity) errors.

Installation

Mounting

The GEN-DDA/WC and DDA/WC-4x4 each occupy only 1 rack unit (1-3/4 inch) of height in a 19 inch EIA rack. To allow for adequate ventilation, avoid mounting the unit directly above large heat producing equipment such as power amps or power supplies.

When stacking units, it is recommended that one rack space (1-3/4 inch) remain open between every three units.

Power

Mains are wired using a standard IEC power cord.

The internal switch-mode power supply auto-detects incoming voltages from 90 to 246V AC, 50/60 Hz. An internal 1 amp fuse protects the circuitry from overload

Operation

Model GEN-DDA/WC



In the event of an external AES/EBU signal failure to either input section, the unit automatically switches to a high precision internal signal generator. Front panel indication and selection of the stand-by internal sample frequency is provided. The internal precision generator may be selected to generate clocks in lieu of the external AES/EBU input.

Push the "INT" front panel switch to select the internal sync generator. Select any sample rate.

In addition, audio that appears with an AES/EBU input will be distributed to the AES/EBU outputs if the AES/EBU input is selected as the generator source.

An external Word-Clock signal input is provided, buffered and distributed to six independent outputs. In the event of external source failure, or at the user's option, a frame-clock reference signal, selectable from either of the two AES/EBU inputs is regenerated and output to the Word Clock outputs.

Model DDA/WC-4x4



An external Word Clock signal input is provided, buffered and distributed to six independent outputs. In the event of external source failure, or at the user's option, a frame-clock reference signal, selectable from any of the four AES-EBU inputs is regenerated and output to the Word-Clock outputs.

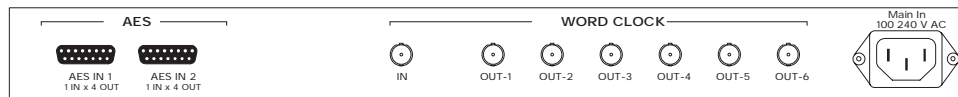
Push and hold any operating frequency button to pre-set the switch-over sample rate in the event of an external reference failure.

Connections

Rear connectivity is via 15 pin "D" connectors for AES/EBU signals and BNC connectors for Word Clock input and outputs. A XLR "break-out" panel is available to connect AES/EBU inputs and distributed outputs via XLR.

AC line voltage is auto detected and can operate from voltages from 96V to 264V AC.

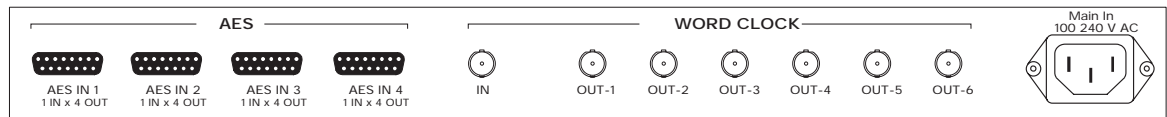
Model GEN-DDA/WC



DB-15 Connections:

Pin 1	AES In 1 +
Pin 2	N/C
Pin 3	AES Out 1 +
Pin 4	AES Out 2 +
Pin 5	AES Out 3 +
Pin 6	AES Out 4 +
Pin 7	N/C
Pin 8	Ground
Pin 9	AES In 1 -
Pin 10	N/C
Pin 11	AES Out 1 -
Pin 12	AES Out 2 -
Pin 13	AES Out 3 -
Pin 14	AES Out 4 -
Pin 15	Ground

Model DDA/WC-4x4

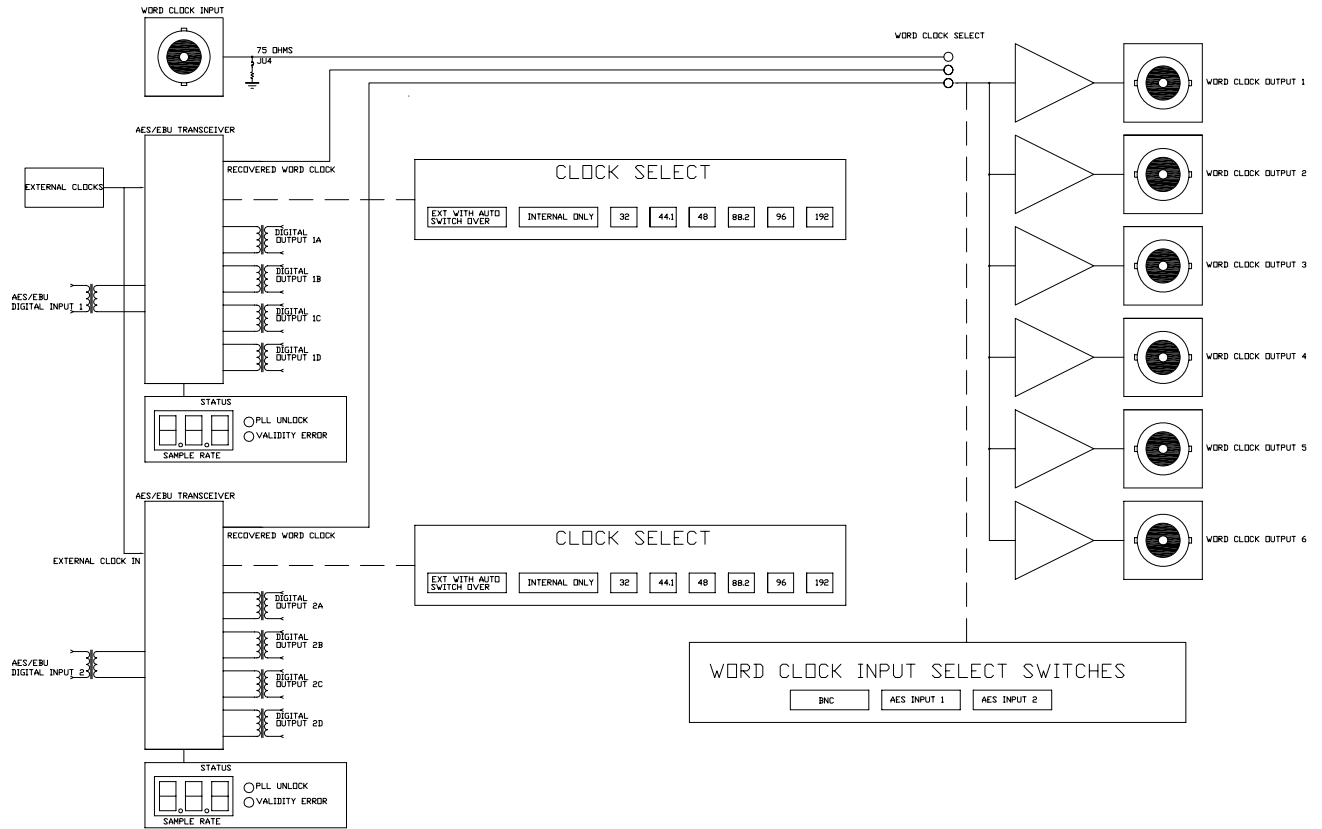


DB-15 Connections:

Pin 1	AES In 1+
Pin 2	N/C
Pin 3	AES Out 1+
Pin 4	AES Out 2+
Pin 5	AES Out 3+
Pin 6	AES Out 4+
Pin 7	N/C
Pin 8	Ground
Pin 9	AES In 1-
Pin 10	N/C
Pin 11	AES Out 1-
Pin 12	AES Out 2-
Pin 13	AES Out 3-
Pin 14	AES Out 4-
Pin 15	Ground

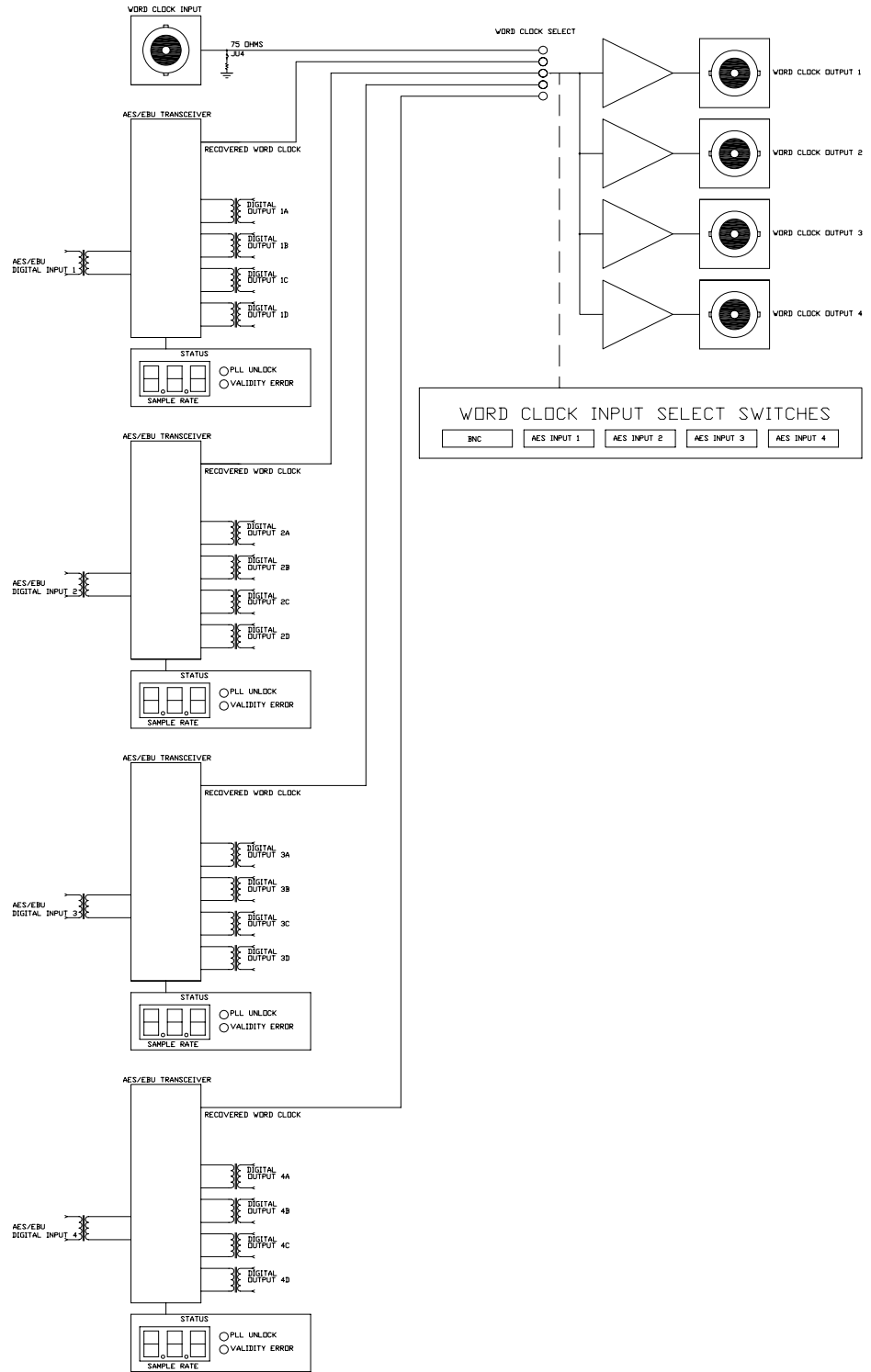
Signal Flow Diagram

GEN-DDA/WC



Signal Flow Diagram

DDA/WC-4x4



Specifications: GEN-DDA/WC

Inputs: AES/EBU

Number of Inputs	2
Connectors	15 pin 'D'
Impedance	110 ohm typical
Sensitivity	Min. 0.2 Vpp
Sample Rates	30 KHz to 200 KHz per the AES3-1992 specification

Inputs: Word Clock

Number of Inputs	1 external plus one of four selected from AES/EBU inputs
Impedance	Hi-Z or 75 ohm (jumper selectable)
Sensitivity	1 Vpp

Outputs: AES/EBU

Number of Outputs	8 (4 for each input)
Impedance	110 ohm typical
Output Level	5 Vpp, 110 ohm load
Sample Rates	30 KHz to 200 KHz per the AES3-1992 specification

Outputs: Word Clock

Number of Outputs	6
Impedance	75 ohm, TTL Level

Power Supply

Input Voltage	90 - 264 VAC
Frequency	47 - 440 Hz
Current Consumption	0.5 Amps
Connector	IEC

Physical

Weight	6 lbs (2.7 kgs)
Dimensions	19" W x 1.75" H x 14" D 48.26 cm W x 4.445 cm H x 35.56 cm D

Specifications: DDA/WC-4x4

Inputs: AES/EBU

Number of Inputs	4
Connectors	15 pin 'D'
Impedance	110 ohm typical
Sensitivity	Min. 0.2 Vpp
Sample Rates	30 KHz to 200 KHz per the AES3-1992 specification

Inputs: Word Clock

Number of Inputs	1 external plus one of four selected from AES/EBU inputs
Impedance	Hi-Z or 75 ohm (jumper selectable)
Sensitivity	1 Vpp

Outputs: AES/EBU

Number of Outputs	16 (4 for each input)
Impedance	110 ohm typical
Output Level	5 Vpp, 110 ohm load
Sample Rates	30 KHz to 200 KHz per the AES3-1992 specification

Outputs: Word Clock

Number of Outputs	4
Impedance	75 ohm, TTL Level

Power Supply

Input Voltage	90 - 264 VAC
Frequency	47 - 440 Hz
Current Consumption	0.5 Amps
Connector	IEC

Physical

Weight	6 lbs (2.7 kgs)
Dimensions	19" W x 1.75" H x 14" D 48.26cm W x 4.445 cm H x 35.56 cm D

Warranty

Radio Systems warrants this equipment to be free from defects in materials and workmanship for a period of one (1) year.

This warranty extends to first users of the product and future owners who purchase the product within the warranty period.

The terms of this warranty are null and void if this product is stored or operated in an environment not conducive to electronic equipment, or shows signs of misuse or modifications which affect the proper functioning of the product. This warranty does not apply to damage caused by fire, smoke, flood, lightning, or acts of nature and physical abuse.

Radio Systems, and its associated companies, authorized distributors, and personnel are not liable for loss of revenues or other damages or effects to the broadcast signal quality or coverage which may result from the improper functioning of this product.

Repair Policy

Technical assistance is available at any time, at no charge, by phone or correspondence.

During the warranty period, there will be no charge for parts or service made to units which show no sign of misuse by customer or lightning caused damage. The customer is responsible for the cost of shipping their unit back to Radio Systems for repair.

During the warranty period, shipment of small parts and assemblies may also be made at a charge to the user. Emergency shipments of replacement parts and circuits will be made at the user's request for an extra shipping and service charge. Chargeable services will be made COD or on Net-30 day terms to users with established accounts.

During the warranty period, full credit or return of COD charges (less any service and expedited shipping charges) will be made to users who return the defective parts or circuits within 30 days, if the damage is covered under the terms of the warranty.

Return Instructions

Contact Radio Systems at 856-467-8000 for a return authorization number.

Pack all items carefully and ship pre-paid, via UPS insured, to:

Radio Systems
601 Heron Drive
Logan Township, NJ 08085

Attn: R.A.# _____

Enclose a note which includes your name, company, phone number, the serial number, return address (no box numbers), and a complete description of the problem.

For Assy:
Part# DDA-4x4
2/09



601 Heron Drive
Logan Township, NJ 08085
Phone: 856-467-8000 Fax: 856-467-3044
<http://www.radiosystems.com>