

Model 1073A Distribution Amplifier



The Arbiter Systems[®], Inc. Model 1073A Distribution Amplifier is designed to buffer and distribute signals generated by sources such as the Models 1084A/B/C, 1088B, 1092A/B/C and the 1093A/B/C GPS Satellite-Controlled Clocks. The Model 1073A includes three separate channels, each with four high-drive-capability outputs, to buffer your choice of signals. Each channel has a limiting amplifier to stabilize the peak-to-peak signal level. Each input is galvanically isolated with a transformer or optical isolator to break ground loops and reject common-mode signals. Standard isolation is 2000 volts rms.

Each channel may use independent signals or, for applications requiring more than four outputs, may use the same signal. Channel A may drive channels B and C or channel B may drive channel C. These selections are made with internal jumpers. For fiber-optic input signals, Option 01 provides an 820 nm, Type ST optical fiber input for channel A.

Each input and output may be individually ac- or dc-coupled. In dc-coupled mode, the Model 1073A can

distribute 5 V CMOS/TTL logic-level signals, such as one pulse per second (1 PPS) and unmodulated IRIG-B timecode. In ac-coupled mode (intended for frequencies of 100 kHz or greater), the Model 1073A can receive and distribute timebase and reference frequency signals up to 10 MHz. Input and output configuration may be independently selected. For example, a channel may receive an ac-coupled 5 MHz input, and one output of that channel may be set for dc-coupled (logic-level) output while the other three are set for ac-coupled outputs. Settings are made with internal jumpers.

Because of the limiting amplifiers and frequency limit when ac coupled, the Model 1073A is not suitable for distribution of modulated IRIG-B signals.

Intended primarily for unattended operation, the Model 1073A has no display or keyboard. A front-panel LED indicates that power is applied and the unit is operating. Power options include 85 to 264 Vac/110 to 275 Vdc with an IEC-320 detachable cordset, 110 to 275 Vdc terminal strip inlet with surge withstand, or 10 to 60 Vdc terminal strip inlet with surge withstand.

Model 1073A Specifications

I/O Configuration



Configuration

Channels Three, each with four outputs

Mode

Independent Each channel independently driven
 Common A/B B/C outputs driven by A or B input
 Selection Internal push-on jumpers

Inputs

DC coupled Opto-isolator (HCPL2601) in series with 562-ohm resistor
 Level 5 mA at 5 volts, nominal
 Polarity Center conductor positive
 Frequency DC to 5 MHz
 AC coupled RF transformer; 50 ohms
 Level 0 to +15 dBm (0.6 to 3.6 Vpp)
 Frequency 100 kHz to 10 MHz
 Selection Internal push-on jumpers
 Isolation 2000 Vrms, minimum, to common

Outputs

Driver Each output, 74HC125 quad buffer
 Coupling AC (0.1 μ f capacitor) or dc
 Selection Internal push-on jumpers
 Level 5 Vpp, open-circuit
 2.5 Vpp (+12 dBm), into 50 ohms
 Impedance 50 ohms

Connectors

Input Isolated 50-ohm BNC, 1 per channel
 Output 50-ohm BNC, four per channel
 Fiber Optic Type ST, for 62.5/125 μ m multimode fiber, optional (1073opt01)

Interface

Operator

Status LED Power On (green)

Certifications and Approvals

CE mark/label and certificate

Power Requirements

Standard

Voltage 85 to 264 Vac, 47 to 440 Hz, 20 VA max. or 110 to 275 Vdc, 15 W maximum
 Inlet IEC-320 with fuse and mating cordset. Specify cordset P01-P10 (See page 35)

General

Physical

Size 1 RU rack mount or tabletop; 260 mm deep FMS. Rack mounts included 508 x 381 x 203 mm (20 x 15 x 8 in.), shipping
 Weight 2 kg (4.5 lbs), net
 3.2 kg (7 lbs), shipping

Environmental

Temperature Operating: 0° to +50° C (-20° to +70° C typical)
 Nonoperating: -40° to +75° C
 Humidity Noncondensing
 EMC Radiated susceptibility: passes walkie-talkie test
 Conducted emissions: power supply complies with FCC 20780, Class A and VDE 0871/6.78 Class A
 Surge withstand capability (SWC), power inlet: designed to meet ANSI/IEEE C37.90-1 and IEC 801-4

Options

I/O Options

Fiber-Optic Input 1073opt01

General Options

On/Off Switch 1073opt04

Power Options (select only one)

IEC-320 Power Inlet, 85 to 264 Vac, 110 to 275 Vdc 1073opt07
 Terminal Power Strip, Surge Withstand 10 to 60 Vdc 1073opt08
 Terminal Power Strip, Surge Withstand 110 to 275 Vdc, 85 to 264 Vac 1073opt10