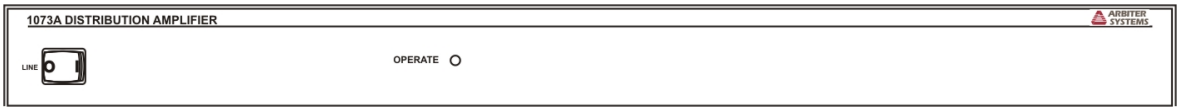
MODEL 1073A
DISTRIBUTION AMPLIFIER
OPERATION MANUAL



Arbiter Systems, Inc.
Paso Robles, CA 93446
U.S.A.
www.arbiter.com

Description

This manual is issued for reference only, at the convenience of Arbiter Systems. Reasonable effort was made to verify that all contents were accurate as of the time of publication. Check with Arbiter Systems at the address below for any revisions made since the original date of publication.

Contact Information

Arbiter Systems, Inc.
1324 Vendels Circle, Suite 121
Paso Robles, CA 93446
USA
(805) 237-3831
Website: www.arbiter.com
mailto:techsupport@arbiter.com
mailto:sales@arbiter.com

What This Manual Covers

This manual describes the set up and operation of the Model 1073A Distribution Amplifier.

LIMITED WARRANTY

Arbiter Systems makes no warranty, expressed or implied, on any product manufactured or sold by Arbiter Systems except for the following limited warranty against defects in materials and workmanship on products manufactured by Arbiter Systems.

Products manufactured by Arbiter Systems are guaranteed against defective materials and workmanship under normal use and service from the date of delivery for one year. The responsibility of Arbiter Systems under this warranty is limited to repair or replacement, at Arbiter Systems' option, of any product found to be defective. Arbiter Systems shall have no liability under this warranty unless it receives written notice of any claimed defect within the earlier of:

- Thirty days of discovery by Buyer, or;
- One year from the date of delivery.

For warranty service or repair, products must be returned to a service facility designated by Arbiter Systems. Buyer shall prepay all shipping charges to Arbiter Systems, and Arbiter Systems shall pay shipping charges incurred in returning the product to Buyer. However, Buyer shall pay all shipping charges, duties and taxes for products returned to Buyer in a country other than the United States of America.

THE WARRANTY SET FORTH HEREIN CONSTITUTES THE ONLY WARRANTY OBLIGATIONS OF ARBITER SYSTEMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE. ARBITER SYSTEMS DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND BUYER EXPRESSLY WAIVES ALL OTHER WARRANTIES.

This limited warranty does not extend to any product, which has been subject to

1. Improper use or application, abuse, or operation beyond its rated capacity, or contrary to the instructions in the operation and maintenance manuals (if any);

2. Accident;

3. Repair or maintenance performed by Buyer, except in accordance with the operation and maintenance manuals, if any, and any special instructions of Arbiter Systems;

4. Modification without the prior written authorization of Arbiter Systems (whether by the substitution of non-approved parts or otherwise). The remedies provided herein are Buyer's sole and exclusive remedies. In no event shall Arbiter Systems be liable for direct, indirect, incidental or consequential damages (including loss of profits), whether based on contract, tort, or other legal theory.

FOR THE FASTEST POSSIBLE SERVICE, PLEASE PROCEED AS FOLLOWS:

1. Notify Arbiter Systems, Inc., specifying the instrument model number and serial number and giving full details of the difficulty. Service data or instrument-return authorization will be provided upon receipt of this information.

2. If instrument return is authorized, forward prepaid to the manufacturer. If it is determined that the instrument is not covered by this warranty, an estimate will be made before the repair work begins, if requested.

See Contact Information on page ii.

Model 1073A

Distribution Amplifier

Operation Manual

Table of Contents

PD0022300G

Contents

List of Figures

List of Tables

Chapter 1

General Information

1.1 Scope

This manual describes Model 1073A Distribution Amplifier.

This manual is divided into four chapters and one appendix as follows:

Chapter 1	General Information
Chapter 2	Technical Specifications and Operational Parameters
Chapter 3	Physical Configuration and Installation
Chapter 4	Operation
Appendix A	CE Mark

1.2 Equipment Supplied

The Model 1073A uses detachable connectors for Power and all Input/Output connections. The following components are provided with the Model 1073A.

Main Power Module: The Model 1073A configuration includes a user specified power input module. The three available options are:

Option 07: 85 – 264 Vac, 47 – 440 Hz or 110 – 270 Vdc, 3 VA, IEC-320 type power input module, with an IEC-320 cordset.

Option 08: 10 – 60 Vdc, 3 W typical, power module with surge withstand capability (SWC) using a 3-pole terminal strip for power inlet.

Option 10: 85 – 264 Vac, 47 – 440 Hz or 110 – 270 Vdc, 3 VA typical, power module with SWC using a 3-pole terminal strip for power inlet.

Refer to paragraph 1.3 for a detailed description of each power module option.

Rack-Mount Ears (P/N: HD0034900): Two identical rack mounting ears are provided to mount the instrument in an EIA standard 483 mm (19 inch) rack.

Self-Adhesive Rubber Feet (HP0006600): For bench-top applications, four self-adhesive rubber feet are included.

1.3 Options

The Model 1073A allows for installation of options, which can enhance various aspects of performance and features. The following is a list of available options.

1.3.1 Option 01, Fiber Optic Input for Channel A

Provides a fiber-optic input (parallel to channel A BNC input) with ST connector and 820-nm receiver compatible with multimode fiber ($62.5/125\,\mu m^2$, also usable with $50/125\,\mu m^2$, $100/140\,\mu m^2$, and $200\,\mu m^2$). Accepts -25.4 to -9.2 dBm for +5V logic level and <-40 dBm for 0 V logic level for dc to 5 MHz.

1.3.2 Option 04, On/Off Switch

Provides a line switch on the front panel.

1.3.3 Option 07, IEC-320 Power Inlet, 85 – 264 Vac, 110 – 275 Vdc

Provides an AC/DC power module which includes an IEC-320 type inlet and mating cordset. Input voltages are: 85 – 264 Vac, 47 – 440 Hz or 110 – 270 Vdc, 3 VA typical. Various cord sets, by country, are available as Options P01 through P10 as seen in Table 1.1 below.

No.	Country	Specification	Rating
P01	Continental Europe	CEE 7/7	220V
P02	Australia, NZ, PRC	AS3112-1981	240V
P03	U.K.	BS 1363	240V
P04	Denmark	Afsnit 107-2-01	240V
P05	India	BS 546	220V
P06	Israel	SI 32	220V
P07	Italy	CEI 23-16/VII 1971	220V
P08	Switzerland	SEV 1011.1959	220V
P09	North America and ROC	NEMA 5-15P CSA C22.2#42	120V
P10	Japan	JIS8303	120V

Table 1.1: Available IEC-320 Cordsets by Country

1.3.4 Option 08, 10 – 60 Vdc Terminal Power Strip, Surge Withstand

Provides input surge protection (SWC) for compliance with ANSI C37.90-1 and IEC 801-4. Input voltages are: 10 – 60 Vdc, 3 W typical. Utilizes a 3-pole terminal strip for power inlet.

1.3.5 Option 10, 110 – 275 Vdc, Terminal Power Strip, Surge Withstand

Provides input surge protection for compliance with ANSI C37.90-1 and IEC 801-4. Input voltages are: 85 – 264 Vac, 47 – 440 Hz, or 110 – 270 Vdc, 3 VA typical. Utilizes a 3-pole terminal strip for power inlet.

Chapter 2

Technical Specifications & Operational Parameters

2.1 Scope

This section contains information pertinent to the functional and operational characteristics of the the Model 1073A Distribution Amplifier. Topics presented in this section are: Operator Interface(s), System Interface(s) and Physical Characteristics.

NOTE: Specifications are subject to change without notice.

2.2 Operator Interface

One front panel Status LED (green) indicates power on.

2.3 System Interface

2.3.1 Configuration

Three channels (A, B and C), each with one input and four outputs.

2.3.2 Operating Modes

Independent	Channels A, B and C independently driven by their individual inputs.
Common A	All outputs driven by channel A input.
Common B	Channel B and C outputs driven by Channel B input, Channel A outputs driven by Channel A input.

2.3.3 Input Connectors

Three isolated 50-ohm BNC (one per channel), optional fiber optic (parallel to channel A BNC input)

DC Coupled Opto-isolator (HCPL2601) + 562 ohms

Level	5 mA at 5 Volts, nominal
Polarity	Center conductor positive
Frequency	DC – 5 MHz

AC Coupled RF transformer; 50 ohms

Level	0 to +15 dBm (0.6 – 3.6 Vpp)
Frequency	100 kHz – 10 MHz

Fiber Type Option 01; 820 nm type-ST

Level	-25.4 to -9.2 dBm for +5 V, -40 dBm for 0 V
Frequency	DC - 5 MHz

Isolation 2000 Vrms, minimum, to common

2.3.4 Output Connectors

Four 50-ohm BNC per channel

Driver Each output, 74HC125 quad buffer; all four outputs connected in parallel

AC coupled

Level	5 Vpp, open-circuit, 2.5 Vpp (+12 dBm) into 50 ohms
Impedance	50 ohms + 0.1 μF capacitor, nominal

DC coupled

Level	5 Vpp, open circuit
Drive	$\pm$75 mA, maximum, per output
Impedance	15 ohms nominal

2.4 Physical Characteristics

2.4.1 Dimensions

Instrument	430 mm W x 44 mm H x 260 mm D (16.9" x 1.7" x 10.05")

2.4.2 Weight

Instrument	2.0 kg (4.5 lbs.), net
Shipping	3.6 kg (8 lbs.) includes manual and accessories

2.4.3 Power Requirements

Option 07	85 – 264 Vac, 47 – 440 Hz, or 110 – 270 Vdc, 3 VA typical. Including an IEC-320, fused; mating cordset. Plug type specified as Options P1 through P10.
Option 08	10 – 60 Vdc, 3 W typical. Using a 3-pole terminal strip with SWC for power inlet.
Option 10	85 – 264 Vac, 47 – 440 Hz or 110 – 270 Vdc, 3 W typical. Using a 3-pole terminal strip with SWC for power inlet.

2.4.4 Temperature

Operating	0 °C to +50 °C
Storage:	-40 °C to +75 °C.

2.4.5 Electro-Magnetic Interference (EMI)

Options 07 and 10 Power Input Modules comply with FCC 20780, Class A and VDE 0871/6.78, Class A.

Options 08 and 10 Power Input Modules with SWC comply with ANSI/IEEE C37.90-1 and IEC 801-4.

Chapter 3

Physical Configuration

3.1 Instrument

3.1.1 Location Considerations

The Model 1073A is designed to operate in an environment having an ambient temperature range of 0 °C to +50 °C (+32 °F to +122 °F). Operation is possible at temperatures of −20 °C to +70 °C, typical. No external ventilation is necessary.

For best access to the 1073A, allow adequate clearance for rear-panel connections, especially in rack-mounting situations.

3.1.2 Power Requirements

The standard AC input voltage range for the Model 1073A is 85 Vac to 264 Vac, 47 Hz to 440 Hz, 110 to 275 Vdc, or 10 to 60 Vdc. See Section 3.1.3.

3.1.3 Power Line Connection

The Model 1073A is equipped with a user specified Power Input Module. The modules available are described in the following paragraphs.

Option 07, AC/DC Power Input Module (IEC-320 Inlet)

AC Operation
This power inlet module operates across an AC input voltage range of 85 – 264 Vac, 47 – 440 Hz. The mating cordset provided is dependent upon the cordset option (P1 through P10) which was specified at the time of purchase. For further information about available cord sets for specific countries, see Table 1.1, or contact Arbiter Systems.

To connect the input power, first plug the end of the power cord having the mating IEC connector into the power inlet module on the rear panel, then plug the other end into an appropriate power outlet.

WARNING: For maximum safety and best performance, always connect the input cord to a properly grounded power source.

DC Operation
For 110 – 270 Vdc operation, the DC voltage should be applied between the LINE and NEUTRAL terminals of the power inlet module, without regard to polarity (the internal power supply will accept either polarity). When viewing the power inlet module from the rear of the instrument, the LINE connection is the one nearest the bottom, and the NEUTRAL is nearest the top. The GROUND terminal is offset from the others, and protrudes slightly farther out of the connector.

WARNING: Connect input only to a properly grounded power source.

Option 08, DC Power Input Module

If Option 08 is ordered, the power module accepts ONLY DC input voltages from 10 – 60 Volts. The standard IEC-320 inlet is replaced with a 3-pole terminal strip with input surge withstand capability (SWC). The terminal strip is intended for connection to DC power sources. When connecting power to a clock with Option 08, **BE SURE TO OBSERVE CORRECT POLARITY**, as the power supply used with Option 08 will not accept reverse input polarity.

NOTE: Do not connect Option 08 module to any AC voltage source.

Option 10, AC/DC Power Input Module

AC Operation
This option provides a input power module which operates across an AC input voltage range of 85 – 264 Vac, 47 – 440 Hz. Line connection is via a 3-pole terminal strip which provides surge withstand capability (SWC). This terminal strip is intended for connection to AC power sources, although the unit is capable of operation from both AC and DC sources.

DC Operation
The input power module supplied with this option also accepts DC voltages from 110 – 270 Vdc via the 3-pole terminal strip (with SWC).

Fuse Replacement, All Power Supply Options

The IEC-320 input power connector assembly includes a 1-Amp, 250-Volt fast-acting 5 x 20 mm fuse. The fuse is contained in a small compartment with a snap-fit latch, which also has a compartment for a spare fuse.

CAUTION: For continued protection, replace the input fuse only with one of the same type, voltage rating, and current rating as originally supplied.

The fuse compartment in Option 07 is located directly adjacent to the input connector socket, and can be opened by pulling both sides directly upward, or by gently prying with a small flat-blade screwdriver. To replace the fuse, first disconnect the line cord from the power source and

then remove the cord from the rear-panel IEC connector. The in-circuit fuse is the innermost one; inspect it to determine whether it is open. As required, replace with fuse in the outer compartment.

For instruments supplied with Option 08 or 10, the fuse is located in the fuse holder on the rear panel near the power inlet terminal strip. The fuse is a 1-Amp, 250-Volt fast-acting (Option 10) or time-delay (Option 08) 5 x 20 mm fuse. No spare fuse is provided for Options 08 or 10.

Replacement Fuses

Power Option	Arbiter P/N	Standard P/N
Option 07	FU0001816	F1AL250V
Option 08	FU0001419	T2AL250V
Option 10	FU0001816	F1AL250V

3.1.4 Rear-Panel Layout

The rear panel of the Model 1073A is arranged in the following manner, left to right (see Figure 3.1):

- Five BNC type connectors, corresponding to channel C input and outputs.
- Five BNC type connectors, corresponding to channel B input and outputs.
- Five BNC type connectors, corresponding to channel A input and outputs.
- One opening for an optional fiber-optic input connector (Option 01). If not used, it is covered by a plastic hole plug.
- Option 07 provides an IEC-320 power inlet connector with built-in fuse holder. Options 08 or 10 provide a 3-pole-terminal strip and separate fuse holder.

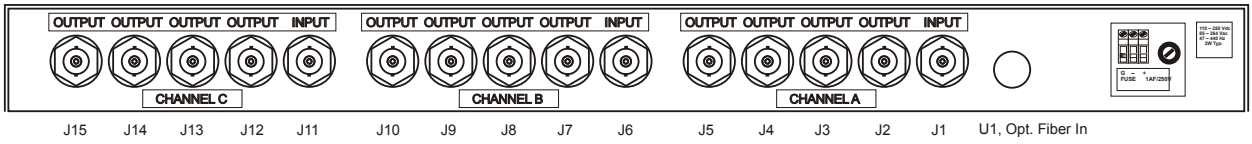


Figure 3.1: Model 1073A Rear Panel

3.2 Rack Mounting

To facilitate mounting the instrument in a standard 483 mm (19 inch) equipment rack, the 1073A includes a pair of rack-mounting ears. To install the rack mounting ears:

1. Using a T-25 driver, remove the two screws on one side of the unit. Leave the cover in place.
2. Position one of the rack mounting ears on the side of the unit, so that the rack mounting flange is at the front of the instrument and extends away from the front panel.
3. Replace the cover screws by routing them through the lower set of holes in the rack-mounting ear, and back into the threaded holes in the instrument.
4. Repeat the above steps for the opposite rack-mounting ear.

3.3 Cover Removal

To gain access inside the Model 1073A and change any jumper position, the instrument cover must be removed. Remove top cover as follows:

1. Disconnect the power cord.
2. Using a T-25 driver, remove the four screws securing the cover (and rack mount ears, if used). Lift the cover off.

3.4 Jumper Configuration

The Model 1073A has a system of jumpers and selectable shunts to configure each channel for either AC or DC signals, and to configure the overall distribution of signals. To help identify these features, a brief indication of each jumper's function is given on the PC board silk-screen, near the jumper. For reference, see Figure 3.2 on page 14.

To optimize the distribution of signals, the Model 1073A has three separate channels with four outputs dedicated to each input channel. The configuration of each channel is virtually identical, except for selections which determine input bussing. Input bussing is the ability to drive multiple channels from one input. For example, the input to Channel A can drive Channel A, B and C outputs. Channel A input can also drive Channel A and C outputs, skipping Channel B. Bussing also allows you to use Channel B input to drive Channel B and Channel C outputs, leaving Channel A to be independent. Otherwise, Channels A, B and C may be driven independently from their respective inputs. See Section 3.4.2 for more information on bussing.

3.4.1 AC/DC Coupling of Inputs

To select each input channel coupling use Table 3.1 below. For bussing of additional channels from one input channel, see Section 3.4.2 below. For either AC or DC input coupling for Channel A, use jumpers JMP1 and JMP2. For Channel B, use jumpers JMP7 and JMP8. For Channel C use jumpers JMP14 and JMP15. Note that Channel A consists of the group of five BNC connectors which are rightmost when facing the rear panel. Remember to correctly set both jumpers for each input to function properly.

Channel	Both Jumpers	DC Coupling	AC Coupling
A	JMP1, JMP2	A, A	B, B
B	JMP7, JMP8	A, A	B, B
C	JMP14, JMP15	A, A	B, B

Table 3.1: Input Coupling Jumper List

AC coupling is normally used for time base signals, such as 5 or 10 MHz derived from a satellite-controlled clock. These signals are generally square waves, or sine waves (with some limitations; see below). DC coupling is normally used for signals such as unmodulated IRIG time codes, and asymmetric pulse outputs such as 1PPS. DC coupling may also be used with square wave input

signals up to 5 MHz, if the input level is 0 to 5 volts and CMOS-compatible. For AC-coupled inputs, the nominal operating level of the input circuit is 0 to +15 dBm (0.6 to 5 Vpp).

3.4.2 Input Bussing

An input signal applied to Channel A, in addition to driving the four Channel A outputs, may also drive the Channel B and/or Channel C outputs. Likewise, an input signal applied to Channel B may also drive the Channel C outputs. For bussing, set channel jumpers according to the "Buss Selected" column shown in Tables 3.2 and 3.3. Use "Independently Selected" column in these tables to set each channel jumper so that each channel operates independently.

JMP8 Position	JMP9 Position	Independently Selected	Buss Selected
A	A	DC coupled	–
B	A	AC coupled	–
A or B	B	–	Channel A as Input

Table 3.2: Channel B Input Selection Guide

Table 3.2 indicates how to select Channel A signal as input to Channel B outputs; set jumper JMP9 to the 'B' position. The positions of jumpers JMP7 and JMP8 have no effect on bussing operation. As the table indicates, jumper JMP8 does not affect Channel A bussing selection.

JMP15 Position	JMP16 Position	Independently Selected	Buss Selected
A	A	DC coupled	–
B	A	AC coupled	–
A	B	–	Channel A as Input
B	B	–	Channel B as Input

Table 3.3: Channel C Input Selection Guide

Table 3.3 indicates how to select the Channel A signal as input to Channel B and C outputs; set JMP15 to the 'A' position and JMP16 to the 'B' position. The position of JMP14 has no effect on bussing operation. Leave jumper JMP9 in the 'A' position to bypass Channel B.

Table 3.3 also indicates how to select the Channel B signal as input Channel C outputs; set JMP15 to the 'B' position and JMP16 to the 'B' position. The position of JMP14 has no effect on bussing operation.

3.4.3 Input Characteristics

AC-coupled mode is intended for use with signal frequencies of 100 kHz and above. In AC-coupled mode, the approximate input impedance of the Model 1073A is 100 ohms, isolating the input transformer. AC-coupled inputs may be driven with sine or square waves having levels of 0 to +15 dBm, or 0.2 Vrms to 1.2 Vrms from a 50-ohm source. For a low-impedance source, use input levels

from 0.6 to 5 Vpp. DC bias levels of up to 25 volts are rejected by a series capacitor (1 microfarad) and will have no effect on operation.

Lower signal levels may also work properly if the input has sufficient slew rate. The AC input limiting amplifier has high gain, and will oscillate if no input is present, or if the applied signal crosses too slowly through the transition level. To prevent this, apply 0 dBm at 100 kHz or above, sine wave or square wave.

In DC-coupled mode, the input is a 562-ohm resistor in series with a 6N137 optocoupler LED, with a 6.8 V Zener diode (1N4736A) in parallel with the input for protection against overvoltage, overshoot and ringing, or reverse voltage. Drive the DC-coupled input with a CMOS-compatible, 0 to +5 volt signal. The input will draw approximately 5 mA when driven at 5 volts. DC-coupled mode may be used with any signal up to 5 MHz.

Both AC and DC coupled inputs are isolated from the instrument chassis and from each other with isolation of 2000 Vrms minimum.

3.4.4 AC/DC Coupling of Outputs

Each output BNC connector may be individually selected for AC or DC coupling. AC coupling is normally used for time-base signals, such as 5 or 10 MHz. The output signal will be a leveled square wave, even if the input signal is a sine wave (a limiting amplifier is used to control output level). DC coupling is normally used for signals such as unmodulated IRIG time codes, and asymmetric pulse outputs such as 1PPS. DC coupling may also be used with square wave signals, if signal levels of 0 to 5 Volts (CMOS-compatible levels) are required.

To select DC coupling for an output, set the associated jumper to the ‘A’ position. For AC coupling, set the jumper to the ‘B’ position. Table 3.4 on page 13 lists the correspondence between each jumper and the corresponding output connector; however, each jumper is located adjacent to the respective output connector.

3.4.5 Output Characteristics

Each output is driven by four drivers of a 74HC125-bus buffer in parallel. This gives each output the capability of sourcing, or sinking, up to 75 mA. In DC-coupled mode, the driver has a 10-ohm series resistor, which provides some current limiting in the event of a short circuit, reducing driver power dissipation. The output impedance of the buffer itself is around 5 ohms at the rated current levels of 0 to 75 mA, for a total source impedance of approximately 15 ohms. DC-coupled mode may be used for any signal.

In AC-coupled mode, the driver has a 45-ohm resistor and 0.1 microfarad capacitor in series, providing approximately 50 ohms source impedance to match 50-ohm coaxial cables. The driver will deliver a signal level of +10 to +13 dBm, nominal, into a 50-ohm load. AC-coupled output mode is recommended for use at 100 kHz or above.

Channel	Coupling Jumper	Output Connector
A	JMP3	J2
A	JMP4	J3
A	JMP5	J4
A	JMP6	J5
B	JMP10	J7
B	JMP11	J8
B	JMP12	J9
B	JMP13	J10
C	JMP17	J12
C	JMP18	J13
C	JMP19	J14
C	JMP20	J15

Table 3.4: Output Jumper List

3.5 Fiber Optic Input (Option 01)

When Option 01 is installed, the Model 1073A also has a fiber-optic receiver which is connected in parallel with channel-A input, DC-coupled optocoupler's output. To use the fiber-optic receiver, connect an optical signal meeting the requirements listed in Section 3.5.1, and follow the instructions above for a DC-coupled input on channel A. All of the same features and restrictions apply, including an upper frequency limit of 5 MHz and the bussing features.

With Option 01 installed, the normal DC-coupled input may still be used as long as a fiber optic signal is not connected. The signals from the optical input and the DC-coupled optocoupler are wire-OR'ed. To ensure proper operation, and to protect the fiber input connector from damage, make sure that the protective cover supplied with the optical receiver is installed whenever the optical receiver is not being used.

3.5.1 Optical Input Characteristics

The optical input has a type-ST connector compatible with 820 nm, multimode fiber, such as 50/125 or 62.5/125 um. An optical power input of -25.4 to -9.2 dBm is required to generate a logical '1,' i.e. +5 volts at a (DC-coupled) output. An optical input of -40 dBm or less will guarantee a logical '0.' These characteristics are compatible with the multimode fiber outputs available for the Arbiter Systems satellite-controlled clock products. The optical receiver is compatible with any signal up to 5 MHz.

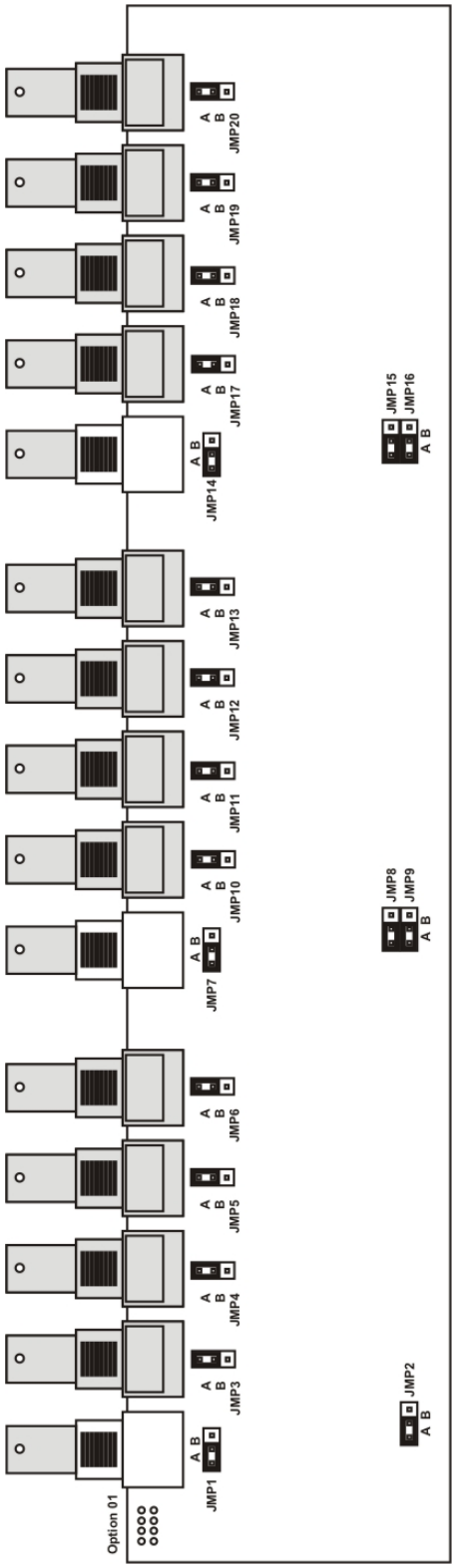


Figure 3.2: Model 1073A Main Board Jumper Locations

Chapter 4

Operation

4.1 Front Panel Controls and Indicators

The Model 1073A front panel is illustrated in Figure 4.1 and described in the following paragraphs.

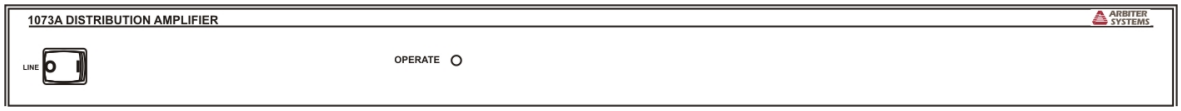


Figure 4.1: Model 1073A Distribution Amplifier, Front Panel

4.1.1 LED Status Indicators

When illuminated, a single LED on the Model 1073A front panel indicates that power is applied.

4.1.2 Front Panel Line Switch (Option 04)

When Option 04 is installed, the Model 1073A is provided with a front-panel line switch. When this option is not installed, a hole plug is mounted in this location.

4.2 Operator Control Functions

No operator control functions (other than the Option 04 line switch, if installed) are provided or necessary. All configuration of the Model 1073A is performed with internal jumpers. See Section 3.4.

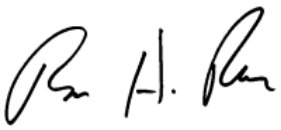
Appendix A

CE Mark Certification

A.1 Introduction

On the following pages contain the individual CE Mark Certifications for models covered in this manual. This includes Model 1073A.

Declaration of Conformity with European Union Directives

Date of Issue:	June 30, 2003
Directives:	89/336/EEC Electromagnetic Compatibility 73/23/ EEC Low Voltage Safety
Model Number(s):	1073A Distribution Amplifier
Manufacturer:	Arbiter Systems, Inc. 1324 Vendels Circle, Suite 121 Paso Robles, CA 93446 − USA
Harmonized Standard Referenced:	EN55011 Class A, Radiated and Conducted Emissions EN50082-1 Generic Immunity, Part 1 Residential, Commercial and Light Industrial Environments EN61010-1 Safety requirements of Electrical Equipment for Measurement, Control and Laboratory Use.
Signed:	
Signatory:	Bruce H. Roeder

This certificate declares that the described equipment conforms to the applicable requirements of the directives on Electromagnetic Compatibility 89/339/EEC, Safety 73/23/EEC, and amendments by 93/68/EEC adopted by the European Union.

Index