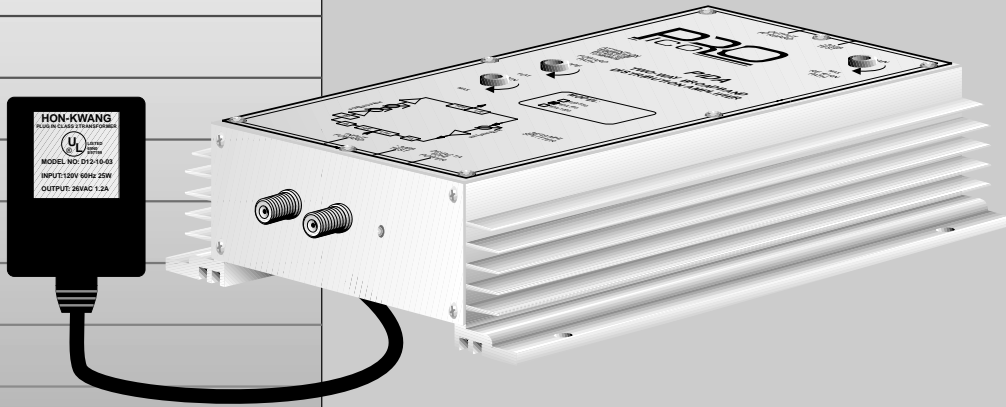


# PIDA

## Pro Series



**NTSC AUDIO/VIDEO  
BROADBAND DISTRIBUTION  
AMPLIFIER**

# Installation And Operation Manual

**for PIDA-550, 750 and 1000**

Doc. No.OM2964N-1 REV. B  
ECO 1769

# SAFEGUARDS

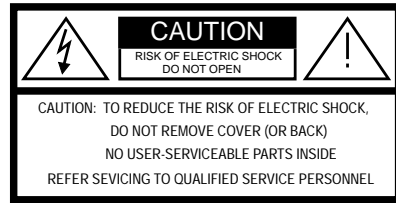
## Important Information

### *Product Inspection*

Inspect the equipment for shipping damage. Should any damage be discovered, immediately file a claim with the carrier.

### *Important Safety Instructions*

To insure proper installation and operation, take a moment to read this guide before proceeding with the installation. If you have any questions or comments about the **PIDA** amplifier, please contact your dealer or have him contact the **PICO MACOM** Service Center at the phone numbers on the bottom of the page.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons. The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT OPEN THE CABINET, REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

**CAUTION:** TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

**ATTENCION :** POUR PREVENIR LES CHOCS ELECTRIQUES, NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS ENLAISSER AUCUNE PARTIE A DECOUVERT.

**1. Read Instructions** - All safety and operating instructions should be read before the appliance is operated.

**2. Retain Instructions** - The safety and operating instructions should be retained for future reference.

**3. Heed Warnings** - All warnings on the appliance should be adhered to.

**4. Follow Instructions** - All operating and user instructions should be followed.

**5. Cleaning** - Unplug this appliance from the wall outlet before cleaning. Use a damp cloth for cleaning. Do not use liquid cleaners or aerosol cleansers.

**6. Do Not Use Attachments** - not recommended by the manufacturer or they may cause hazards.

**7. Water and Moisture** - Do not use this product near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool - and the like.

**8. Accessories** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the appliance.

**9. Ventilation** - This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to. Any slots or opening in the cabinet are provided for ventilation. To ensure reliable operation of the video product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface.

# SAFEGUARDS

## Important Information

**10. Grounding or Polarization** - This video product is equipped with either a three prong plug for 120 Vac use. It is to be inserted into only the type of receptacle for which they specifically designed. **Do not** cut off the round grounding pin in order to be able to fit into a two prong receptacle as this could cause injury and will void the warranty.

**11. Power Sources** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your appliance dealer or local power company.

**12. Power-cord Protection** - Power-supply cords should be routed so they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.

**13. Lightning** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet.

**14. Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines, other electric light or power circuits, where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them may be fatal.

**15. Overloading** - Do not overload wall outlets and extension cords as this can result in risk of fire or electric shock.

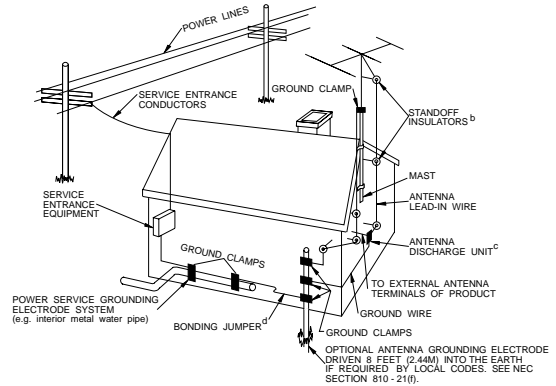
**16. Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

**17. Servicing** - Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

**18. Damage Requiring Service** - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instruction. Adjust only those controls that are covered by the operating instructions. An improper adjustment may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or the cabinet has been damaged.
- When the product exhibits a distinct change in performance - this indicates a need for service.

EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810 - "RADIO AND TELEVISION EQUIPMENT"



**19. Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock or other hazards.

**20. Safety Check** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating conditions.

**21. Outdoor Antenna Grounding** - Before attempting to install this product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges.

- Use No.10 AWG (5.3mm ) copper, No.8 AWG (8.4mm (aluminum, No.7 AWG (10mm ) copper-clad steel or bronze wire or larger, as ground wire.
- Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22m) to 6 feet (1.83m) apart.
- Mount antenna discharge unit as close as possible to where lead-in enters house.
- A driven rod may be used as the grounding electrode where other types of electrode systems do not exist. Refer to the National Electrical Code, ANSI/NFPA 70-1984 for information.
- Use jumper wire not smaller than No.6 AWG (13.3mm ) copper or equivalent, when a separate antenna grounding electrode is used.

### NOTE TO THE CATV SYSTEM INSTALLER:

THIS REMINDER IS PROVIDED TO CALL THE CATV SYSTEM INSTALLER'S ATTENTION TO ARTICLE 820 - 40 OF THE NEC THAT PROVIDES GUIDELINES FOR PROPER GROUNDING AND, IN PARTICULAR, SPECIFIES THAT THE CABLE GROUND SHALL BE CONNECTED TO THE GROUNDING SYSTEM OF THE BUILDING, AS CLOSE TO THE POINT OF CABLE ENTRY AS PRACTICAL.

# DESCRIPTIONS

## and Specifications

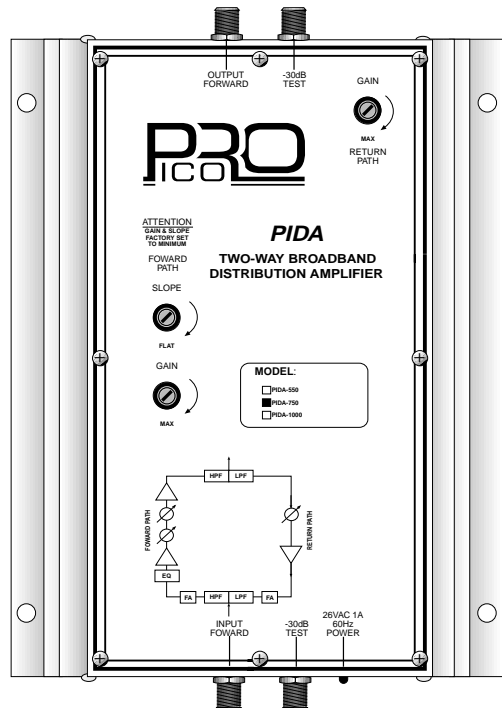
### Features

- Several models available in 1000, 750 and 550MHz bandwidths
- Built-in variable slope and gain controls for forward path
- Built-in gain control for reverse path
- Optional plug-in equalizers and attenuators
- Dual push-pull hybrid modules for low distortion, high input and output capability
- External U.L approved 26Vac power supply
- Input and output test ports for monitoring signal levels without disturbing service.

### Description

The **PIDA** series of broadband distribution amplifiers are high quality push-pull amplifiers producing signal with extremely low distortion and high output. These amplifiers are designed for RF distribution systems for hospitals, schools, apartment complexes, hotels and similar applications. It can also be used as a headend launch amplifier in conjunction with the **PHC-12U** headend combiner. The enclosure is made of aluminum to assure reliable heat sinking and corrosion resistance.

### Specifications



Frequency Range:

Channel Loading:

Flatness:

Gain:

Noise Figure (a):

Output Level:

Test Port Level:

Gain Control Range:

Slope Control Range:

Composite Triple Beat-CTB (b):

Composite Second Order-CSO (b):

Cross Modulation-XMOD (b):

Hum Modulation:

Impedance-All Ports:

Return Loss-Input and Output:

Operating Temperature:

Power Supply (adapter):

Size (approximate):

Number of Hybrids:

Hybrid type:

#### Forward Path

PIDA-1000: 50-1000MHz

PIDA-750: 50-750MHz

PIDA-550: 50-550MHz

110

±0.75dB

30dB

8.5dB

+40dBmV

-30±2dB

10dB

8dB

-53dB

-56dB

-54dB

-70dB

75 ohms

16dB

-20 to +60 deg C

26Vac, 60

7.25 x 3.25 x 10.25

2

Push-Pull

#### Return Path

5-36MHz

5-36MHz

5-36MHz

3

±0.5 ref to 1dB tilt

20dB

6dB

+42dBmV

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18dB

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-60dB

-60dB

-60dB

-65dB

75 ohms

16dB

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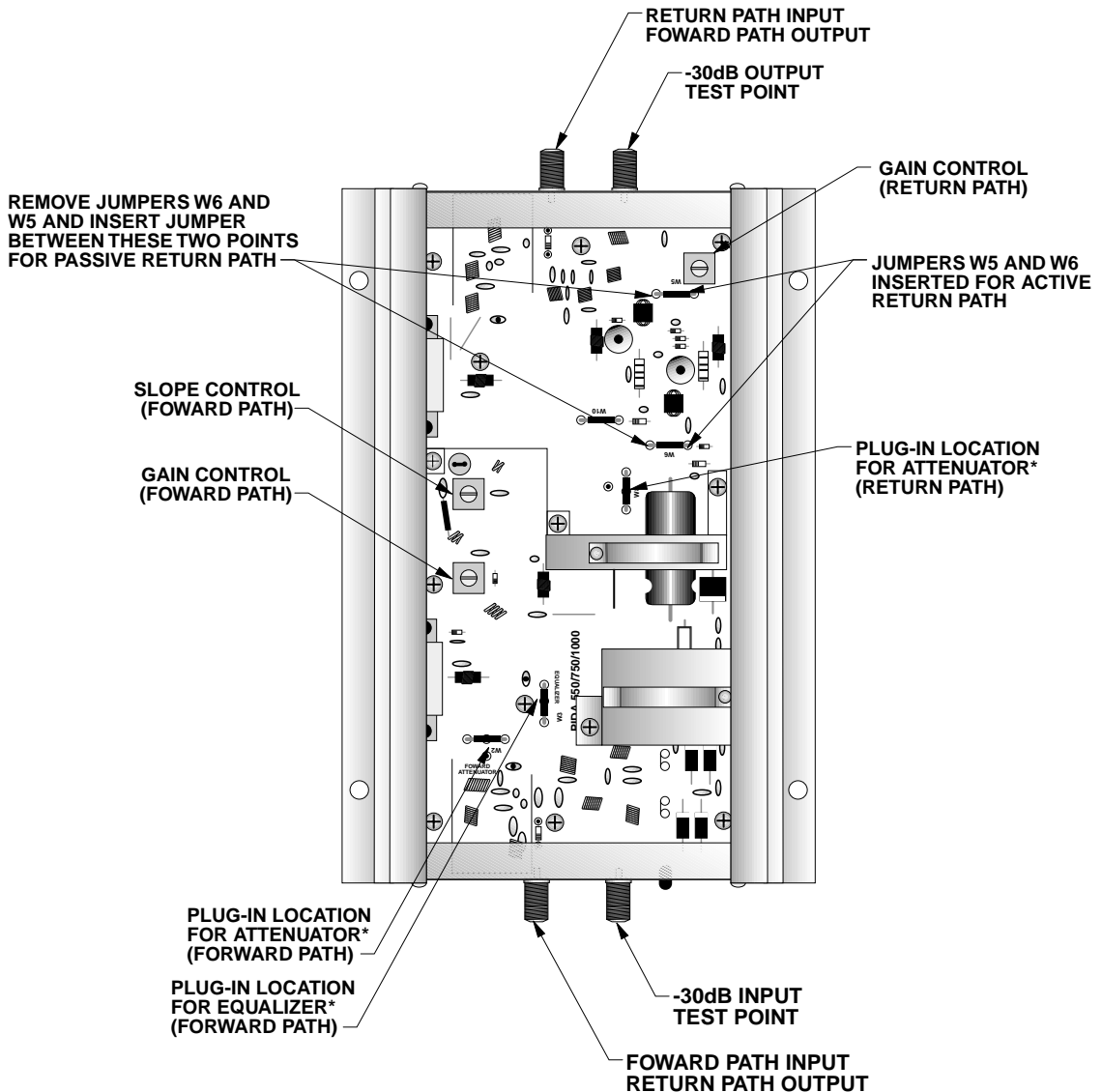
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#### Notes:

- measured at full gain with 0dB slope
- at specified channel loading at rated output capacity

# DESCRIPTIONS

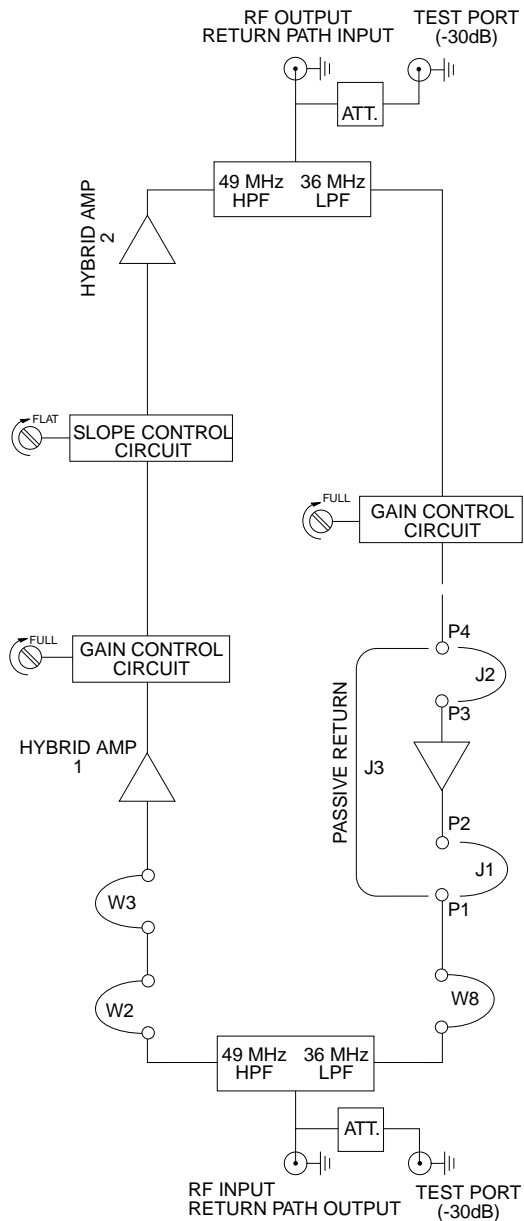
## PCB Plug-In Module and Jumper Locations



**\*NOTE:**  
PLUG-IN EQUALIZERS AND ATTENUATORS ARE OPTIONAL.  
IF PLUG-INS ARE TO BE USED REMOVE JUMPER WIRE AT  
APPROPRIATE LOCATION AND INSERT PLUG-IN.

# DESCRIPTIONS

## Block Diagram

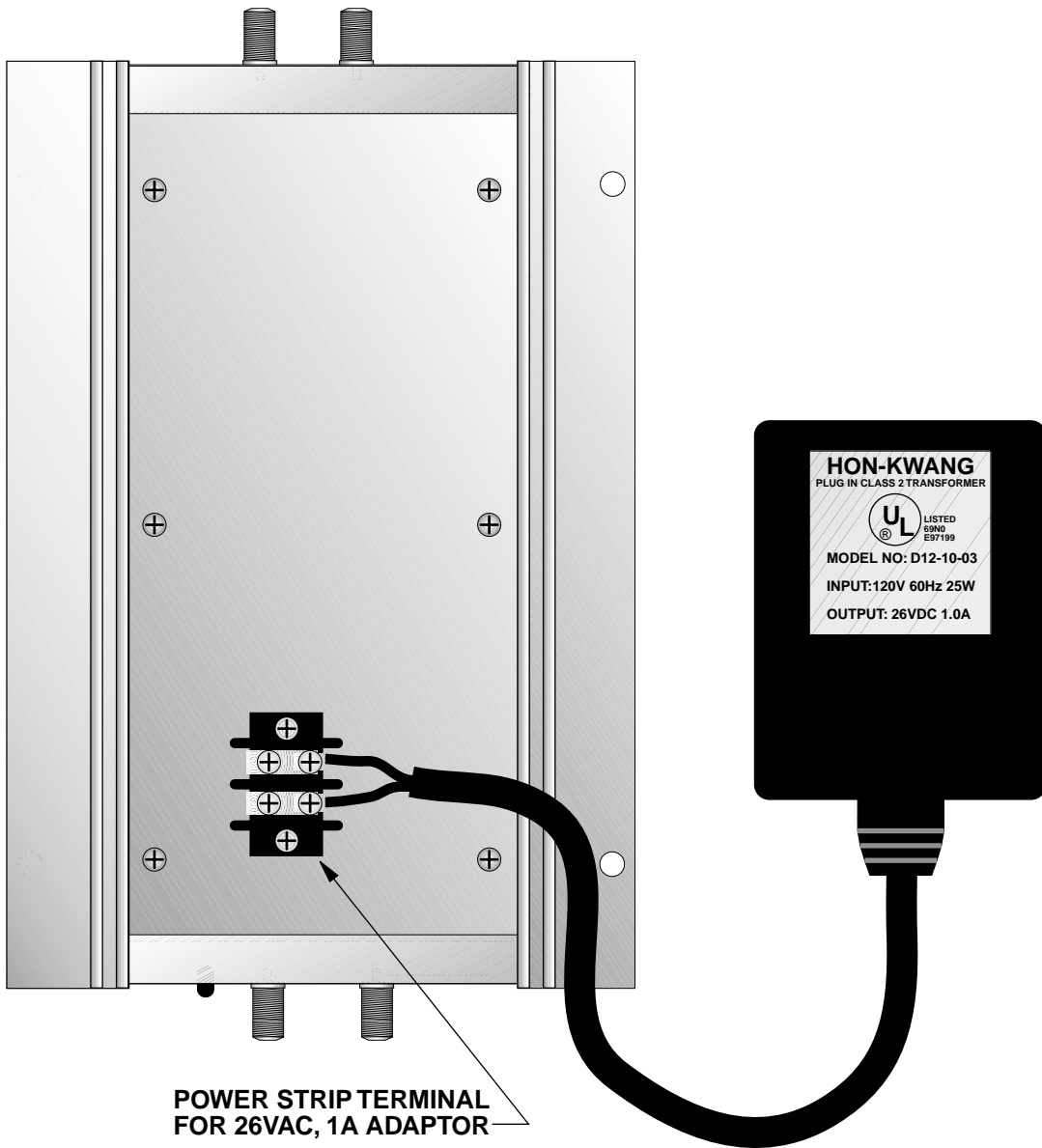


### NOTES:

1. FOR PASSIVE RETURN, CONNECT J3 TO P1 AND P4.
2. FOR ACTIVE RETURN, CONNECT J1 TO P1 AND P2 AND J2 TO P3 AND P4
3. PLUG-IN EQUALIZERS AND ATTENUATORS ARE OPTIONAL. IF PLUG-INS ARE TO BE USED REMOVE JUMPER WIRE AT APPROPRIATE LOCATION AND INSERT PLUG-IN

# INSTALLATION

## Power Adaptor Hook-Up

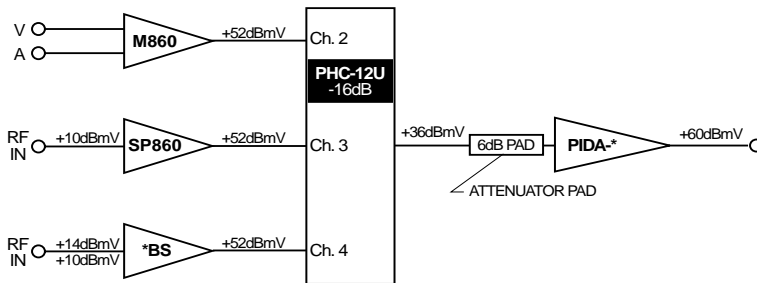


# INSTALLATION

## Distribution

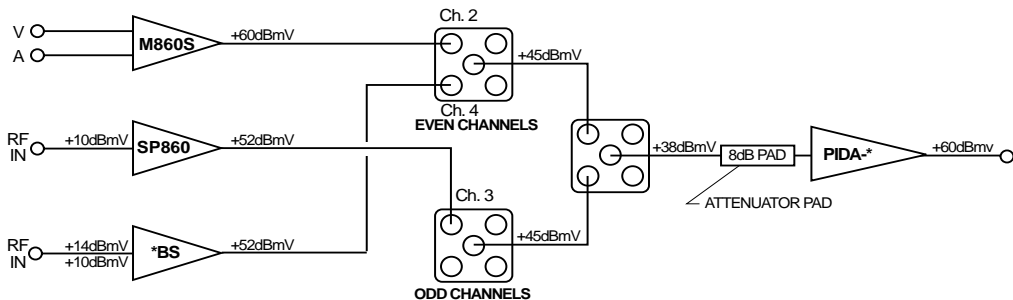
The output levels of the modulator should be the same as the output of the off-air strip amplifiers. The **M860** modulators are usually combined with either the **SP860** signal processor, **LBS/MBS/FMS/UBS** series strip amplifiers. Two methods are suggested to combine strip amplifier, modulator and processor outputs which are then amplified with the **PIDA** distribution amplifier serving as a launchamp.

The **PHC-12U** twelve channel passive headend combiner consists of two rows of directional couplers combined by a hybrid splitter. The directional coupler combining provides high isolation (40 dB) between the inputs. Normally, the odd channels are combined on one row while even channels are combined on the other row of directional couplers. The combiner loss is 16 dB per channel.



Another method of combining signals uses three hybrid splitters per headend rack. The odd channels are combined in one splitter, the even channels in another splitter and the two splitters are combined to a single output with a third splitter. Each rack is then combined with a final splitter prior to the **PIDA** amplifier.

**NOTE :** \* Denotes either LBS, MBS, HBS or FMS model numbers.



\*PIDA-550, 750, 1000



# WARRANTY

## Five Year Limited Warranty\*

**P**ico Macom, Inc. warrants to the original purchaser this product shall be free of defects in material and craftsmanship

with only the limitations or exclusions set out below.

During the warranty period Pico Macom, Inc. or an authorized Pico Macom service facility will provide, free of charge, the parts and labor necessary to correct defects in material and workmanship.

### ***Warranty Duration***

This warranty shall terminate five years\* from the original date of purchase of the product or at a time the product is:

1. Misused or damaged due to neglect or improper installation
2. Modified
3. Repaired by someone other than the warrantor
4. Sold by the original purchaser

### ***Statement of Remedy***

To obtain such a warranty service,

contact the salesperson where the product was obtained or contact Pico Macom, Inc at the address listed at bottom of page . You will be issued a Return Authorization (RA) number which will be used to track your product.

Be prepared to provide:

1. The model number and channel number of the product
2. The date of purchase
3. A specific identification of the problem

Deliver the products to Pico Macom, Inc. or ship the products in the original packing material at the address at the bottom of the page. Include satisfactory evidence of the date of purchase.

Products will not be accepted by Pico Macom, Inc. without the RA number clearly indicated on the shipping label.

The foregoing constitutes the Pico Macom, Inc. entire obligation with respect to this product and the original purchaser and any user or owner shall have ***no other remedy and no claim for incidental or consequential damages.***

This warranty gives you specific legal rights, and you also have rights which vary from state to state. (U.S.A.)

*\*One year limited warranty on product sold outside the U.S.A.*

# NOTES

# NOTES



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