PDI HEADEND ELECTRONICS

TAKING IT TO THE NEXT LEVEL™

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CONTENTS

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PDI-60M, PDI-60MS & PDI-60MS-SAP Agile Modulator

The **PDI-60M** is a PLL synthesized, SAW filtered, frequency agile modulator. This exceptional unit is manufactured and tested to the highest standards and complies with all FCC requirements. The PDI-60M covers all cable channels from 2 through 134 (54-860MHz) which includes A-5 to A-1 and HRC at an output of 60dBmV. Channel selection is accomplished with "user friendly" up/down controls on the front panel. The selected channel is then automatically locked into memory to insure correct operation after a power failure. For flexible operation, the **PDI-60M** has three IF loops. These can be used where control of video, sound, or composite signals are necessary such as scrambling, and /or emergency alert insertion. A 4.5MHz audio carrier input is supplied for microwave or external stereo. An optional internal stereo encoder is available.

FEATURES

- +60dBmV RF output level (54-860MHz)
- Microprocessor Up/Down button to select output channel in the range of 2 to 134 (54-860MHz) which includes A-5 to A-1 (95 to 99)
- FCC offset externally selectable, 0kHz, +12.5kHz or +25kHz
- >-60dB spurious performance at a video output level of 60dBmV
- Professional grade SAW vestigial sideband filter for true adjacent channel operation
- Three loop-through connections for separate video, audio or composite IF control
- 4.5MHz audio carrier input for microwave or external stereo
- HRC available
- 5 year warranty
- UL Listed Canada/U.S.
- ISO 9002 certified
- OPTION 1: MTS Stereo Encoding (**PDI-60MS**)
- OPTION 2: MTS Stereo Encoding and SAP Generator (**PDI-60MS-SAP**)
- Available in all PAL configurations
- PLEASE NOTE: The power supply is a high efficiency switched mode type, which performs over a wide voltage and frequency input range, eliminating the need for additional voltage regulating equipment

PDI-60-SFA 60dBmV Agile Modulator

The **PDI-60SFA** 60dBmV output video and audio modulator offers the user a high degree of performance and flexibility for very nominal cost. The **PDI-60SFA** is tunable for any CATV channel from 2 to 134 (54-860MHz) which includes A-5 to A-1 and UHF/VHF channels 2 to 69. It is PLL controlled with SAW filtering. This offers stable performance and allows maintenance free adjacent channel configuration. It has a composite IF Loop which allows encoder and video override applications. Its video dynamic range insures 87.5% modulation depth over a wide video input range. The power supply, a state of the art high efficiency switched mode type, preforms over a wide voltage and frequency input range. This feature eliminates the need for additional voltage regulating equipment, reducing heat and energy consumption. For a low cost agile modulator, the **PDI-60SFA** would also be considered a best buy.

FEATURES

- +60dBmV RF output level (54-860MHz)
- Phase lock loop frequency control prevents frequency drift
- Simple push button selection for 133 channels
- Selectable CATV or UHF output
- User friendly controls
- SAW filtering for maintenance free adjacent channel configuration
- Excellent video and audio linearity for superior picture quality
- MTS Stereo Encoding optional (**PDI-60SFAS**)
- IF loop through for emergency alert or scrambling encoding
- Switching mode power supply allows operation worldwide
- Plug in power cord allows for any AC plug configuration
- Auxiliary AC outlet
- Test point for ease of monitoring
- UL listed Canada/U.S.
- Available in all PAL configurations
- PLEASE NOTE: The power supply is a high efficiency switched mode type, which performs over a wide voltage and frequency input range, eliminating the need for additional voltage regulating equipment

PDI-60CM, PDI-60CMS & PDI-60CMS-SAP Fixed Frequency Modulator

PDI Communications' **PDI-60CM** is a synthesized, SAW filtered, 60dBmV high performance fixed frequency modulator. This unit is manufactured and thoroughly tested, to comply with and in most cases exceed, all FCC recommended parameters. The **PDI-60CM** provides fixed channel selection for any cable channel from channel 2 through 134 (54-860MHz) plus T-7 through T-12 which includes A-5 to A-1. The power supply, a state of the art high efficiency switched mode type, preforms over a wide voltage and frequency input range. This feature eliminates the need for additional voltage regulating equipment, reducing heat and energy consumption.

FEATURES

- +60dBmV RF output level (54-860MHz)
- Frequency range: 54-860MHz plus sub frequencies channels T-7 through T-12
- FCC offset factory set
- >-60dB spurious performance at full output Level
- Professional grade SAW vestigial sideband filter for true adjacent channel operation
- Separate audio/video and composite IF loops
- BTSC stereo compatible, encoded baseband or 4.5MHz audio Input
- HRC available
- Brushed aluminum face plate
- 5 year warranty
- UL Listed Canada/U.S.
- ISO 9002 Certified
- OPTIONS 1: MTS Stereo Encoding (**PDI-60CMS**)
- OPTIONS 2: MTS Stereo Encoding and SAP Generator (**PDI-60CMS-SAP**)
- Available in all PAL configurations
- PLEASE NOTE: The power supply is a high efficiency switched mode type, which performs over a wide voltage and frequency input range, eliminating the need for additional voltage regulating equipment

PDI-60SF, 60dBmV, Fixed Frequency Modulator

The **PDI-60SF,** 60dBmV output, video and audio modulator offers the user a high degree of performance and flexibility for very nominal cost. The **PDI-60SF** is a fixed frequency modulator for CATV channels 2 to 134. The **PDI-60SF** is PLL controlled with SAW filtering. These features offer stable performance and allow maintenance free operation. The **PDI-60SF** has a composite IF loop for encoder (scrambling) or video override (emergency alert) applications. Its video dynamic circuitry insures 87.5% modulation depth over a wide video input range. The power supply, a state of the art high efficiency switched mode type, preforms over a wide voltage and frequency input range. This feature eliminates the need for additional voltage regulating equipment, reducing heat and energy consumption.

FEATURES

- +60dBmV RF output level (54-860MHz)
- Phase lock loop (PLL) frequency control prevents frequency drift
- SAW filtering for maintenance free adjacent channel configuration
- Excellent video and audio linearity for superior picture quality
- MTS Stereo Encoding optional (**PDI-60SFS**)
- IF loop through for emergency alert or scrambling encoding
- Switching mode power supply allows operation worldwide
- Plug in power cord allows for any AC plug configuration
- Auxiliary AC outlet
- Test point for ease of monitoring
- UL listed Canada/U.S.
- Available in all PAL configurations

- PLEASE NOTE: The power supply is a high efficiency switched mode type, which performs over a wide voltage and frequency input range, eliminating the need for additional voltage regulating equipment

PDI-55-SF Fixed Frequency Modulator

The **PDI-55-SF** is a fixed channel, PLL controlled, video and audio modulator with SAW filtering. It is available for any cable channel between 2 through 134. Its video dynamic range insures 87.5% modulation depth over a wide video input range. The vestigial sideband selectivity allows maintenance free adjacent channel configuration. An efficient power supply enables cool and stable operation. The unit offers high performance, low cost and compact design.

FEATURES

- +55dBmV RF output level
- Phase lock loop frequency control
- SAW filtering for maintenance free adjacent channel configuration
- MTS Stereo Encoding optional (**PDI-55-SFS**)
- Spurious output -60dBc
- Auxiliary AC outlet
- Cool operation
- Excellent value for your investment dollar
- 2 year warranty
- UL Listed Canada/U.S.
- Available In all PAL configurations

PDI-60AP Agile In, Agile Out Processor

PDI Communications' **PDI-60AP** is a professional quality, user friendly, high performance TV signal processor designed primarily for CATV headend operation. Rock solid PLL controlled tuning by advanced microprocessor insures precise UHF, VHF or CATV (STD-HRC) channel access. Careful design of the input achieves a wide dynamic range and a very low noise figure. Input tuning covers the range of 54 to 806MHz with the ability to properly receive CATV channels already offset 12.5 or 25 kHz as in node operation. The agile output ranges from 54 to 860MHz and is controlled by another PLL circuit with 12.5 or 25kHz offsets. Both the input and output channels have non-volatile memories that restore the channels automatically in the event of a power failure. SAW filtering guarantees broadcast quality pictures. A standby oscillator provides a CW video carrier level for system pilot AGC if the input drops below a useable level.

FEATURES

- +60dBmV RF output with >-60dB spurious response (54-860MHz)
- Microprocessor controlled PLL tuning for precise frequency control
- Non-volatile channel memories
- Externally selectable FCC offsets
- User friendly channel selection
- Wide input AGC holds output constant
- Professional grade SAW filters allow true adjacent channel operation
- Composite IF loop-through for scrambling or IF insertion
- BTSC stereo compatible
- HRC available
- Brushed aluminum faceplate
- 2 year warranty
- UL listed Canada/U.S.
- ISO 9002 certified
- Available in all PAL configurations

- PLEASE NOTE: The power supply is a high efficiency switched mode type, which performs over a wide voltage and frequency input range, eliminating the need for additional voltage regulating equipment

PDI-60AFP Agile In, Fixed Out Processor

The **PDI-60AFP** is a professional quality, user friendly, high performance TV signal processor designed primarily for CATV headend operation. Rock solid PLL controlled tuning by advanced microprocessor insures precise UHF, VHF or CATV (STD-HRC) channel access. Careful design of the input achieves a wide dynamic range and a very low noise figure. Input tuning covers the range of 54 to 860MHz with the ability to properly receive CATV channels already offset 12.5 or 25kHz as in node operation. The fixed channel output ranges from 54 to 860MHz. Necessary 12.5 or 25kHz offsets are factory set depending on the output frequency. The selected input channel has non-volatile memory that restores the channel automatically in the event of a power failure. SAW filtering guarantees broadcast quality pictures. A standby oscillator provides a CW video carrier level for system pilot AGC control if the input drops below a useable level.

FEATURES

- +60dBmV RF output with >-60dB spurious response (54-860MHz)
- Microprocessor controlled PLL tuning for precise frequency control
- Non-volatile channel memories
- User friendly channel selection
- Wide input AGC holds output constant
- Professional grade SAW filters allow true adjacent channel operation
- Composite IF loop-through for scrambling or IF insertion
- BTSC stereo compatible
- HRC available
- Brushed aluminum faceplate
- 2 year warranty
- UL Listed Canada/U.S.
- ISO 9002 certified
- Also available in all PAL configurations

- PLEASE NOTE: The power supply is a high efficiency switched mode type, which performs over a wide voltage and frequency input range, eliminating the need for additional voltage regulating equipment

PDI-60APD HDTV PROCESSOR

The **PDI-60APD** is a professional quality, user friendly, High Definition TV signal processor designed primarily to feed 8VSB digital broadcast signals through a cable system to television receivers or interface converters able to decode the signal. Rock solid PLL controlled tuning by advanced microprocessor insures precise UHF, VHF or CATV channel access. Careful design of the input achieves a wide dynamic range and very low noise figure. Input tuning covers the range of 54 to 860 MHz. The agile output ranges from 54 to 860MHz and is controlled by another PLL circuit with 12.5 or 25 kHz offsets. Both the input and output channels have non-volatile memories that restore the channels automatically in the event of a power failure. SAW filtering guarantees broadcast quality pictures. An external IF loop is available on the rear of the unit enabling the processor to serve as a digital up converter in high speed internet CMTS and other digital systems.

FEATURES

- +55dBmV RF output with very low spurious response (54-860MHz)
- Microprocessor controlled PLL tuning for precise frequency control
- Non-volatile memories restore channels after a power failure
- Externally selectable FCC offsets for ease of operation
- User friendly channel selection by push-button
- Professional grade SAW filters allow true adjacent channel operation
- Loop-through for external IF insertion
- 134 channel up converter for flexibility
- Auxiliary AC convenience outlet
- 2 year "no-hassle" warranty

- PLEASE NOTE: The power supply is a high efficiency switched mode type, which performs over a wide voltage and frequency input range, eliminating the need for additional voltage regulating equipment

PDI-60AD Agile Demodulator

The **PDI-60AD** is a frequency agile, television demodulator that covers a range of 54 to 811MHz and provides baseband audio and video outputs for any channel in that spectrum. Its user friendly channel selection is by simple front panel push button with non volatile memory. Rock solid PLL tuning by the addition of an advanced microprocessor ensures precise UHF/VHF or CATV (STD/HRC) channel access. AGC circuitry adjusts for input signal variations. The unit exhibits excellent video and adjacent channel performance. A video filter allows optional picture enhancement. Broadband multiplex audio output permits use in BTSC stereo applications.

FEATURES

- PLL tuning for precise frequency control
- User friendly channel selection
- Wide input AGC holds output constant
- Adjustable audio and video output
- Video filter for optional picture enhancement
- MPX stereo output
- Auxiliary AC output
- UL Listed Canada/U.S.
- ISO 9002 certified
- Available in all PAL configurations

PDI-SR-IRD VideoCipher®RS Integrated Receiver, Descrambler

The **PDI-SR-IRD** is a high performance, microprocessor controlled, professional grade satellite receiver; designed for cable system operation. The receiver employs a phase locked loop demodulator to provide crisp clear video under weak signal conditions. The descrambler equipped unit has been licensed by General Instrument Corporation to meet all VIDEOCIPHER®RS requirements. The standard 950 to 1750MHz tuning range allows direct compatibility for international CCIR standards. Front panel access to the descrambler module allows quick module identification and easy removal. front panel displays are provided for channel selection, Relative Signal Strength, VC Sync, Bypass and Authorize.

FEATURES

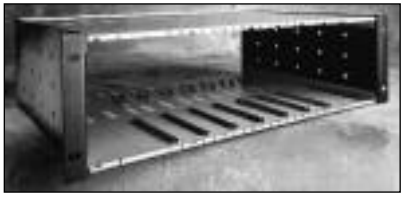
- RF INPUT - Receives either C-Band or Ku-Band signals from a 950-1450MHz LNB or a 950-1750MHz LNB
- 70MHz IF - The selected RF input signal is converted to a 70MHz Intermediate Frequency
- LNB Power - 18Vdc
- H/V Switching
- Channel Selection
- Ku Band Operation
- Audio Subcarrier outputs
- 1 year warranty
- UL Listed Canada/U.S.
- ISO 9002 certified

PDI-5061M & PDI-5061MS 45dBmV Agile Modulator System

This **6 in 1 microprocessor controlled**, agile modulator system is space saving and user friendly. It consists of 6 individual, vertically mounted, agile modulators, an efficient switching type power supply module and a micro controller module in one 5-1/4" high housing. Each modulator is SAW filtered and provides precise channel selection for all VHF and cable channels from channel 2 through 134 (54-860MHz) which includes A-1 to A-5. Channel selection is easily accomplished with up/down push switches from the front panel of the micro controller. The number is displayed simultaneously on the micro controller LCD screen and on the modulator module 7 element LED. Additional adjustments for depth of modulation, audio deviation and audio to video ratio for each modulator are read on an LCD screen with an "N" (normal), "L" (low) and "H" (high). This allows easy setup by the technician without expensive test equipment. The micro controller also allows easy selection of HRC, IRC or STANDARD and 0, 12.5 and 25kHz offsets with the front panel push switches. Channel selections are protected by a non-volatile memory that restores the channel automatically in the event of a power failure. A composite IF loop is provided for scrambling or EAS operation.

FEATURES

- +45dBmV output with very low spurious response (54-860MHz)
- Microprocessor controlled PLL tuning for precise frequency control
- User friendly setup because of internal test circuitry which constantly monitors modulator operating parameters and displays results on the LCD screen
- Non-volatile channel memory
- Professional grade SAW filters for true adjacent channel operation
- Composite IF loop-through for scrambling or EAS insertion
- BTSC stereo compatible
- ISO 9002 certified
- MTS Stereo Encoding optional (**PDI-5061MS**)
- Available In all PAL configurations
- UL listed Canada/U.S.



ADVANCED 12 in 1 MODULATOR SYSTEM WHITE PAPER
MODEL PDI-50121

PDI's next generation 12 in 1 modulator system provides exceptional feature and performance characteristics not commonly found in the average 12 in 1 modulator system.

EXCLUSIVE FEATURES:

1. Sealed compartmentalized power input and RF control sections for high RFI integrity. The powering section within the modulator module is isolated from the RF section to eliminate possible "cross talk" on the DC power lines.

2. PDI's unique cast aluminum alloy housing is an extra one inch in length. This provides additional finger room when working with 12 in 1 PDI pre-racked headends. The PDI-50121 modulator is 100% compatible with competitive 12 in 1 systems.

3. DC power is coupled to the RF section with soldered feed-thru capacitors.

4. A metal Meatex braid is used on the mating surface between the cover and chassis. The braid improves RFI shielding over a case to module seal, ensuring the unit exceeds FCC integrity requirements.

5. Will accept 4.5MHz audio carrier for microwave or external stereo applications.

6. Unique air flow channels are molded into the vertical sides of the housing, insuring superior cooling characteristics and longer life.

7. The modulator uses dual precision SAW filters, video & audio and audio only, providing 10 dB additional isolation. This improves the modulator's intermodulation characteristics.

ADDITIONAL FEATURES:

8. Nickel plated brass "F" connectors are standard, replacing cast "F" connectors. This provides a considerably stronger "F" connector and it insures superior RF connectivity.

9. Grounding lugs are provided to minimize ground loops.

10. Connector identification is molded into the casting.

11. The PDI-50121's advanced modulator chip offers improved stability, performance and circuit simplicity.

12. Sound THD (Third Order Distortion) is <1% maximum.

13. The PDI-50121 is BTSC Stereo compatible with a single space stereo module. Competitive units require two spaces.

Prepared by PDI Engineering

ADVANCED MODULATOR SYSTEM
PDI-50121CM 12 IN 1 MULTI MOD™ Fixed Frequency Modulator System

The **PDI-50121CM** is a **12 in 1**, die-cast housed, space saving, fixed channel modulator system. It consists of 12 individual, vertically mounted, fixed frequency modulators and an efficient switching type power supply module mounted in one 3-1/2" high housing. It is designed for 19" rack mounting. Each modulator has **two SAW filters** and is factory set to the desired channel and proper offset. Precise frequency is maintained with PLL circuitry. Recessed front panel controls are preset, at the factory, for 87.5% depth of modulation, ±25kHz audio deviation, and -15dBc video audio ratio. RF is set at maximum. It offers excellent video performance and high reliability in a 2U rack.

FEATURES

- Sealed cast housing for improved cooling and high RFI integrity
- +45dBmV output with >-60dB spurious response
- Precise frequency control with PLL circuitry
- Easy setup
- Dual SAW filtering for advanced adjacent channel operation
- BTSC stereo compatible
- Available in all PAL configurations
- UL listed Canada/U.S.
- **See Advanced Modulator System white paper (page 12)**

ADVANCED MODULATOR SYSTEM
PDI-50121AM Agile Modulator System

The **PDI-50121AM** is a **12 in 1**, die-cast housed, space saving, frequency agile modulator system. It consists of 12 individual, vertically mounted, frequency agile modulators and an efficient switching type power supply module mounted in one 3-1/2" high housing. It is designed for 19" rack mounting. Each modulator has **two SAW filters** and provides precise channel selection for all CATV channels 2 through 134 (54-860MHz) which includeds A-1 to A-5, UHF/VHF channels 2 to 69 and HRC. Channel selection is easily accomplished with up/down push switches on the front panel of each modulator. The channel number is shown on the respective LED display. Recessed front panel controls are preset at the factory for 87.5% depth of modulation, ±25kHz audio deviation, and -15dBc video audio ratio. RF is set at maximum. Channel selections are protected by a non-volatile memory that restores the channel automatically in the event of a power failure.

FEATURES

- Sealed cast housing for improved cooling and high RFI integrity
- +45dBmV output with >-60dB spurious response
- Microprocessor controlled PLL tuning for precise frequency control
- Easy setup
- SAW filtering for true adjacent channel operation
- 4.5MHz input
- BTSC stereo compatible
- Available in all PAL configurations
- UL listed Canada/U.S.

- **See Advanced Modulator System white paper (page 12)**

PDI-50121AD AGILE DEMODULATOR

The **PDI-50121AD** is a space saving frequency agile demodulator with SAW filtering. Input tuning covers the range of 54 to 811MHz with the ability to properly receive CATV channels already offset 12.5 or 25 kHz as in node operation and provides baseband Audio and Video outputs for any channel in that spectrum. Its "user friendly" selection is simple front panel push buttons with non-volatile memory. Rock solid PLL tuning by its advanced microprocessor guarantees precise UHF/VHF or CATV (STD/HRC/IRC) channel access. A video filter ensures optimal picture enhancement.

FEATURES

- PLL tuning for precise frequency control
- User friendly channel selection
- Wide input AGC holds output constant
- Adjustable audio and video output
- Band set mode selector
- UL Listed Canada/U.S.
- ISO certified

Twelve **PDI-50121AD** demodulators in housing

PDI-50121SE MTS STEREO ENCODER

The **PDI-50121SE** is a high quality MTS Stereo Encoder accepting Left and Right audio signals and generating a composite BTSC format stereo signal. The **50121SE** is specially designed to work with our **PDI-50121CM** series **MULTI MOD™** system without the need of complicated wiring or special instrumentation for set up. Basically it is a"plug and play" unit. With a simple flip of a front panel switch, the **PDI-50121SE** is able to work with all manufacturer's modulator systems.

FEATURES

- Easy set-up
- BTSC format stereo output
- Broadcasts Surround Sound information
- Single left and right level control
- UL Listed Canada/U.S.
- ISO 9002 certified

PDI-HC12,HC24 1GHz High Isolation, High Performance 12/24 Channel Combiner

The **PDI-HC12** and **PDI-HC24** are high quality, high isolation, passive headend combiners. They provide a simple methods for combining 12 or 24 channel outputs from modulators or processors to a single output.

FEATURES

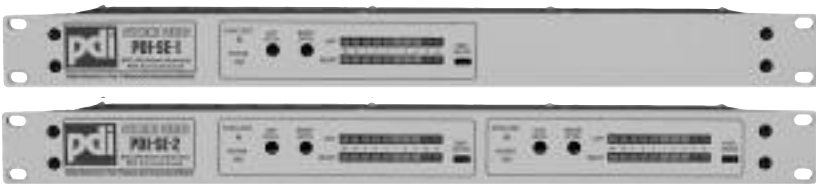
- 12 or 24 inputs
- Insertion Loss flat at 21dB from 5 to 1000MHz (HC12)
- Insertion Loss 19dB at 5 to 21dB at 1000MHz (HC24)
- High Isolation
- 2 year warranty

PDI-HC16A 1GHz High Isolation, High Performance 16 Channel Amplified Combiner

PDI-HC16A is a high quality, high isolation, active headend combiner. The **PDI-HC16A** provides a simple method for combining 16 channel outputs from modulators or processors to a single output with +7dB overall gain. A manual gain control is accessible through the front panel for precise settings.

FEATURES

- 16 inputs
- High isolation
- Variable Gain control
- 2 year warranty
- +7dB gain
- Directional Coupler Design
- -30dB test point



PDI-SE-1 PDI-SE-2 Stereo Generators

The **PDI-SE-1** and **PDI-SE-2** stereo encoders, utilizing new technology, offer the CATV system operator low cost, user friendly ways to upgrade existing channels for BTSC Stereo. They will work with most CATV video modulators. Incorporated in the unit is dbx® licensed companding giving the subscriber rich SURROUND SOUND Stereo. Balancing of stereo signals from any local source is easily accomplished using front panel controls and deviation meters. The **PDI-SE-1** and **PDI-SE-2** require only 1 3/4" of rack space to hold either one or two encoders.

FEATURES

- Left and right level control
- LED metering
- dbx® licensed companding
- Baseband or optional 4.5MHz output
- Requires just 1 3/4" of rack space
- 2 year warranty
- UL Listed Canada/U.S.
- ISO 9002 certified

PDI-60ENC Scrambling Encoder

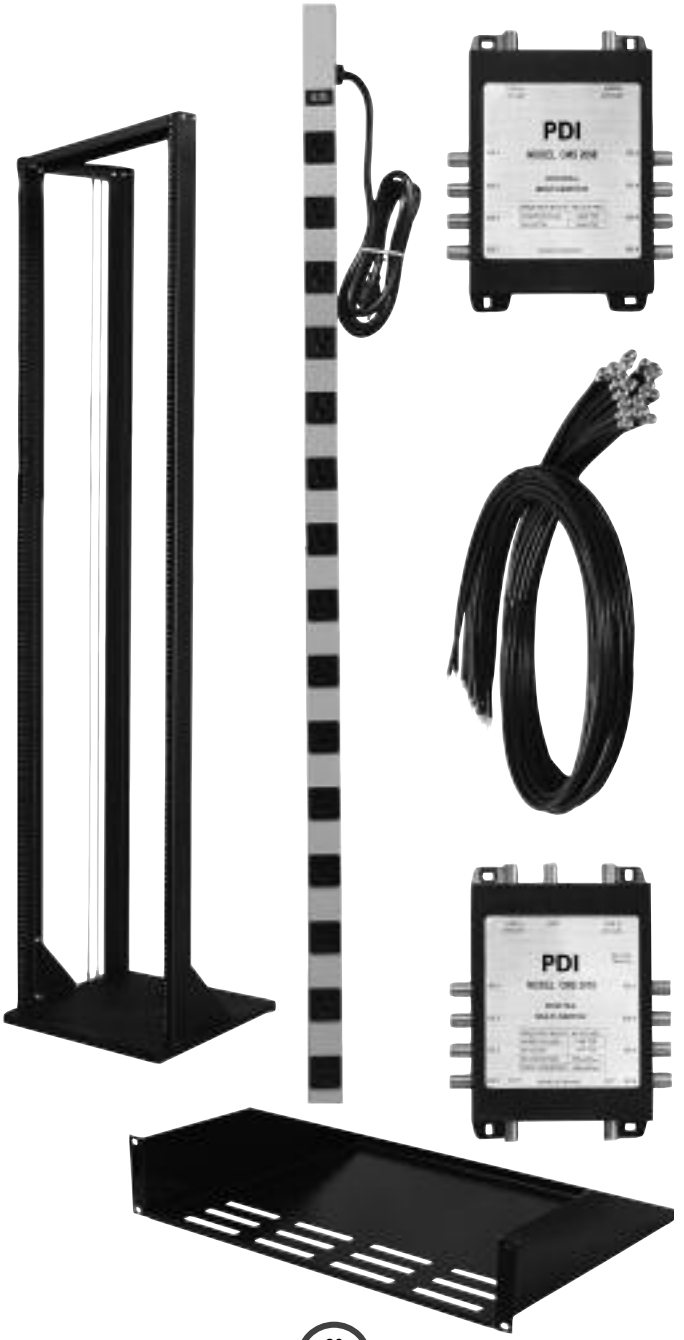
The **PDI-60ENC** Scrambling Encoder offers the CATV operators a cost effective method for providing premium channel security. Utilizing a new design, the PDI-60ENC injects two specially modulated jamming carriers into the composite IF loop of the television modulator or processor. These jamming carriers have both AM and FM characteristics which scramble the video and place an annoying noise in the audio. Decoding filters unscramble the channel by removing the jamming carriers.

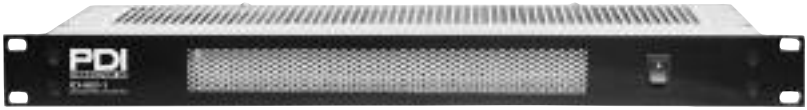
FEATURES

- Pre-Emphasis amplifier
- High spectral purity (-60dBc)
- Adjustable output level
- Auxiliary AC outlet
- Cool operation
- Brushed aluminum face plate
- Low cost
- 2 year warranty
- UL Listed Canada/U.S.
- ISO 9002 certified

ACCESSORIES

PDI offers a full range of headend accessories including racks, shelving, coaxial jumper cable, terminators and power strips. Call for more details.





PDI-HEF-1 Rack Mounted Cooling Fan

The **PDI-HEF-1** is a 19" rack mounted cooling fan to be used with 12 in 1 modulator systems in a non-air conditioned environment.

FEATURES

- Long life
- Quiet operation

PDI-860-2W-HE CATV PHD 2 Way Amplifier

The model PDI-860-2W-HE is an indoor distribution amplifier designed for use in multi-dwelling units.The dual hybrid power doubling amplifiers are contained in a wall mount aluminum housing with large heat sink fins for heat dissipation. The unit is designed to operate up to 860 MHz. When fully loaded with 134 forward channels, the PDI-860-2W-HE has a gain of +33 dB. The -20 dB test points are external for easy testing. The RF input has a plug-in surge arrestor and the AC input has a fuse for added protection. The PDI-860-2W-HE comes with an optional return-path 22 dB gain amplifier for future or present requirements. Forward and Reverse Gain and Slope controls are located beneath the metal cover for maintaining RFI integrity.

FEATURES

- Compliant with FCC rules on emissions-no RFI ingress or egress
- Very flexible adjustment includes variable gain and slope controls and plug-in equalizers and pads
- Finned aluminum housing allows effective heat dissipation
- Input and output connections are through housing pin connectors for maximum RFI protection
- 24 VAC led for power indication
- Plug-in surge arrestor for transients protection
- Optional plug-in hybrid return amplifier for simple 2 way performance upgrade
- Wall mounting with external mounting brackets allows for simple installation
- Auto ranging power supply accepts input voltages from 100-240 volts, 50 or 60 Hz with no adjustment
- External input and output test points for ease of maintenance
- ISO 9002 approved

WHY BUY PDI FILTERS?

PDI's Filters Offer Top Performance For Less Money: PDI offers specifications as good or better than any competitor on the market. We also offer prices that are an excellent value.

PDI Custom Builds To Meet Your Exact Requirements: With PDI, you never have to settle for anything less than perfection. Your custom filter will meet or exceed your required specifications. Satisfaction is 100% guaranteed!!!

PDI Provides An Evaluation Unit In Days, Not Weeks: With PDI, you do not have to wait for weeks. When our customers place an order, results occur fast!!

Orders Are Filled In Weeks, Not Months: We can fill large orders in a matter of weeks. In many cases, your units will be shipped within a week..

You Can Expect Superior Performance: Outstanding quality control ensures that your units will meet and in most cases, exceed specifications.

PDI Products Have Been Certified For Use By MSO's Worldwide: Our success in meeting customers requirements has kept them coming back for more. Our units have been installed in systems all over the globe for many years.

Filters For Any Application:

PCS Interference Filters
High/Low Pass Filters
Tier & Custom Tier Filters
Brick Wall Filters
Wide Bandpass Filters
Band Rejection Filters
General Bandpass Filters
Highly Selective Bandpass Filters
Noise Filters For Fiber Optic Systems
Pilot Carrier Traps
Split Band Filters For Fiber Optic Networks
Channel Deletion Filters

FILTER PRODUCT LINE OVERVIEW

PDI-1626
Channel Deletion Filters

The PDI-1626 is a highly stable filter that will remove all signal information in any 6 MHz passband from 54 to 860 MHz with minimal effect on the adjacent channels. These filters are an 8 cavity design and are used primarily to delete an unwanted television channel on a cable system at a multiple dwelling unit or a node so a substitute channel or data may be inserted. The filters will pass 60/90 VAC at 14 amps as an extra cost option and are available in a 19" rack, wall mount, outdoor pedestal or strand mount housing with an optional built-in reinsertion point. Other customized versions are available on special order.

PDI-1626HP & PDI-1626LP
Brick Wall Filters

The PDI-1626HP and PDI-1626LP are sharp cutoff high and low pass filters used primarily for reinserting blocks of new programming in various portions of the CATV spectrum. They can also be used to split a CATV cable feed to interface with a fiber optics system. Cut off frequencies are customer specified. These filters are temperature and low frequency vibration stable. The units use "F" type connectors and are rack mounted utilizing 3-1/2" front panels.

PDI-623
Bandpass Filters

These single channel and multi channel bandpass filters are enclosed in our standard, rugged, weatherproof case for use at the tap in single channel applications. The model PDI-623 may also be utilized to improve overall system performance when interconnected with your headend processing equipment.

PDI-EV619LP & PDI-EVR-619LP
Lowpass Filters

The PDI-EV619LP & EVR619LP are lowpass filters that will pass all frequencies from DC to a prescribed frequency. They exhibit approximately 1dB of insertion loss for the desired frequencies with the exception of 3dB at the upper passband edge. They can be custom built to pass frequencies to 860MHz. The filters come with "F" fittings and are available for 19" rack or wall mounting.

PDI-5411
Trunk Filter

The PDI-5411 is a power passing, temperature stable filter designed for trunk or distribution cable applications. It is extremely valuable for blocking sub channel noise from motels and apartment complexes feeding back on a return path. All filter configurations, single channel notch, low pass, high pass, tier or bandpass are available.

FILTER PRODUCT LINE OVERVIEW cont.

PDI-604
Single Channel Level Adjuster

The PDI-604 is a filter designed to allow adjusting the level of single channel without effecting the adjacent channels. This device is a very cost effective and simple method adjusting levels that cause interference or overloads. It is ideal for antenna interference, private cable, and residential use.

PDI-FV623 & PDI-FVR-623
Noise Filter For Fiber Optic Systems

The PDI-FV623 Wide Bandpass Filter allows signals between two customer specified 3 dB points (knees) to be passed. Anything outside this bandwidth is rejected.

PDI-EV643 & PDI-EVR643
Pilot Carrier Trap

The Pilot Carrier Trap suppresses pilot carriers used in AML transmissions. The small size and temperature stability make it suitable to be installed in the AML receiver. It is used to remove pilot carriers in CATV applications.

PDI-FVX619
Split Band Filter For Fiber Optic Networks

The PDI-FVX619 is a selective diplex filter which provides customer specified 1 dB points that cross over so the passband is removed from the filter knee ensuring low group delay. The passband has less than 1 dB ripple to 750 MHz.

PDI-605CEQL & PDI-605CEQV
Cable Equalizer or Simulator

The PDI-605CEQL and PDI-605CEQV are inline equalizing devices that either compensate or simulate specific lengths of cable. They are designed to the highest frequency (pivot point) of any system, up to 1 GHz.

PDI-DFN619
High Performance Diplex Filter Network

The PDI-DFN619 high performance filters are used to separate or combine sub-VHF and VHF frequencies. Designed for headend applications to launch and/or combine upstream and downstream signals.

PDI-619-TF
Tier Filter

PDI's model PDI-619-TF multi channel filters are designed with unique hybrid circuitry developed to achieve the tightest adherence to specifications in the industry. Filters are available in any configuration required.

FILTER PRODUCT LINE OVERVIEW cont.

PDI-DPFO
Outdoor Diplex Filter Network

The PDI-DPFO is a band-splitter in an outdoor housing. It separates a desired spectrum into a low band and high band or conversely combines these bands into a common output. These filters are used to insert or remove sub-band signals from distribution systems. They help to control the flow, level and direction of television and data in the distribution system. The filters are contained in a sealed housing, heavily tin plated to prevent rust with a grounding boss for safety.

PDI-EVBE1G
Bandwidth Expander

The PDI-EVBE1G is deployed in situations when a channel elimination filter network or any filter network needs to extend it's bandwidth to 1 GHz. This is necessary because many channel elimination filters in use have limited bandwidths of 400, 450, or 550 MHz. Typical operation of the device allows for total compatibility of the EVBE1G unit with all brands of channel elimination filters. In certain situations there could exist custom tuning requirements.

PDI-PBPO & PDI-EVPBP
14 Amp Power Bypass

The PDI-EVPBP and PDI-PBPO are bypass power devices that route power around passive devices that cannot be power operated. The PBPO is a strand mount outdoor device. This unit is capable of handling 14 amps 60/90 VAC/VDC. The RF pass band is 5 MHz to 1 GHz. The EVPBP is a rack mounted indoor device that routes power around passive devices that cannot be power operated.

PDI-HPF
5-40 MHz Reverse Filters

The PDI-HPF is a high-pass filter that suppresses all spurious sub low noise from entering the return path of a CATV system by blocking 5 - 40MHz and passing 54MHz through 1GHz. Other window versions are available on special order.

PDI-EV623 & PDI-EVR623
General Bandpass Filters

The PDI-EV623 & PDI-EVR623 are very stable bandpass filters with good selectivity used to eliminate adjacent channel or off air interference in CATV or similar headends. They cover the frequency spectrum from 5 to 860 MHz. They offer excellent operating characteristics such as high return loss, low insertion loss and high undesirable signal rejection. They are available for either wall or rack mounting.

MODULATOR & CHANNEL ELIMINATION FILTER COMBINATION PACKAGES

APPLICATIONS:

- Channel Addition/Deletion
- Local Channel Insertion For:
  - Security Channels
  - Closed Circuit T.V.
  - Community Information Channel
- 860MHz Frequency Range

CALL 800-242-1606 FOR MORE DETAILS

TECHNICAL TERMINOLOGY

AC CONVENIENCE OUTLET - A convenient socket on the back of headend processing equipment for obtaining AC power for auxiliary units.

AUTOMATIC GAIN CONTROL - (AGC) Circuitry in a headend processing device that adjusts the gain keeping the output level constant regardless of input level.

AMPLIFIER - A device that is powered from a source other than the input signal and increases the operating level of the input signal. In cable systems its use is to rebuild the signal attenuated by cable and passives.

ANALOG - A class of devices or circuits where the output varies as a continuous function of the input.

AUDIO MODULATION - When audio is placed onto an aural carrier by frequency modulation. To minimize over-modulation, which would cause distortion, the frequency deviation is set to ±25kHz deviation for monaural sound and ±50kHz deviation for stereo.

AUDIO INPUT IMPEDANCE - It is generally 600 ohms balanced or unbalanced. This is the matching point between the audio source and the modulator.

AUDIO CARRIER ADJUSTMENT - This control sets the ratio between video and audio levels. The setting usually is between 15dB and 17dB below the video carrier.

AUDIO INPUT - The connection point for the audio source information.

AUDIO/VIDEO RATIO - It is the difference between the audio level and the video level. Once set the ratio remains the same for any setting of the video RF level.

AUDIO IF LOOP - A control point at 41.25MHz for inserting scrambling or other audio information into the modulator.

AUDIO LINEARITY - Refers to the undistorted reproduction of the audio signal.

AURAL CARRIER - Is the vehicle for the transmission of audio information by modulation.

TECHNICAL TERMINOLOGY cont.

BASEBAND – The frequency spectrum occupied by all of the transmitted signals used to modulate a carrier.

BTSC – This refers to the Broadcast Television System Committee. It is an Electronics Industries Association Committee that created the analog TV stereo system we use.

CARRIER TO NOISE RATIO - Is the relationship of carrier amplitude to noise voltage amplitude. It is expressed in decibels (dB).

CHANNEL DISPLAY - A segmented light emitting diode display that shows the TV channel in operation.

COMBINER - A device used to combine 12 or more TV channels into a single cable. It exhibits high isolation between ports and good return loss to maintain picture fidelity.

CHROMA/LUMINANCE DELAY - The distortion caused by the difference in time for the arrival of the black and white and the color signals. The result is the color is shifted with respect to the black and white causing a mis-registration effect like seen in some color comic papers.

COMPOSITE IF LOOP - A connection point on a modulator containing both audio and video information at IF frequencies. It is used to connect emergency alert or scrambling encoders.

DEMODULATOR - A processing unit that takes modulated video and audio signals at RF and converts them to baseband signals.

DEPTH OF MODULATION - The degree to which a video carrier wave is modulated. It is usually 87.5%.

DIFFERENTIAL GAIN - The variance in gain of the chroma signal measured in relation to the luminance level.

DIFFERENTIAL PHASE - The variance in phase of the chroma signal measured as a function of the luminance level.

DIGITAL – A class of devices or circuits in which the output varies in discreet steps. Binary code is used to represent information.

DISTORTION – Is an abnormal change in the desired waveform of a signal causing unfaithful reproduction of audio or video signals.

TECHNICAL TERMINOLOGY cont.

ENCODER - A device that converts signals or data into a desired form. In CATV it is used to insert messages or scramble TV pictures.

FREQUENCY RESPONSE - The gain verses frequency characteristic of a device or a system relative to the ideal. It is also referred to as peak to valley response.

FREQUENCY RANGE - The operating bandpass or frequency width of a device or system beyond which the power output is attenuated below a specific limit.

FREQUENCY STABILITY – Is the degree to which electronic components and equipment can maintain a constant frequency through variations of temperature, voltage, current and similar factors. It is usually expressed in kHz or in parts per-million (ppm).

GAIN - An increase in power when a signal is transmitted from one point to another. It is usually expressed in decibels.

HETERODYNE - The mixing together of two frequencies to produce two other frequencies equal to the sum and difference of the first two.

HUM - The effects of low frequency electromagnetic fields or currents exhibited as vertically moving horizontal bars on a television screen.

IMPEDANCE – The total opposition a circuit offers to the flow of alternating current at a given frequency. Its symbol is "Z." Its measurement unit is the ohm.

IF LOOP – Is the connection point on a modulator for controlling scrambling encoding for both the video and audio signals.

IRD – This is an integrated receiver-decoder. It consists of a satellite receiver and a descrambler.

ISO 9002 – This is the International Standards Organization quality standard covering manufacturing.

MICROPROCESSOR – A single chip used as part of an automatic control system that contains a control unit, central processing circuitry, arithmetic and logic functions. It instructs other logic chips as to what to do.

MODULATOR – A device for combining two signals with the result that a part of one signal (the carrier) is varied in step by the other, called the modulating signal.

MULTIBURST – A waveform containing six packets of special frequencies, 0.5MHz to 4.1MHz. It is useful as an indicator of a modulator's or processor's in-band frequency response and flatness.

TECHNICAL TERMINOLOGY cont.

NOISE – An unwanted frequency current or voltage signal appearing over a wide frequency spectrum and having no useful purpose.

NOMINAL INPUT – The middle of a value range. The input range of a processor may be 0 to 10dB. Nominal input is 5dB.

NTSC – Refers to the National Television System Committee. This organization developed the television standard currently in use in the United States, Canada, Japan, South America and elsewhere.

OFFSET – In CATV the frequency offset required by the FCC, 12.5kHz and 25kHz, to keep leaking cable signals from interfering with aeronautical communications.

OPERATING TEMPERATURE – The recommended temperature of a device during its operation.

PAL – Refers to Phase Alternate Line. This is the television system used in Europe and other parts of the world. The subcarrier derived from the color burst is inverted in phase from one line to the next to help cancel out phase errors which affect the hue in color transmissions.

PHASE LOCKED LOOP – (PLL) A very efficient corrective circuit that acts as a phase detector. It compares the frequency of a known oscillator with a received signal and uses the output of the detector to keep the oscillator in phase with the incoming frequency.

POWER SUPPLY – Generally a transformer, rectifier and filter assembly that produces the power needed to operate an electronic device.

PRE-EMPHASIS – In FM, a process designed to selectively emphasize the magnitude of some of the frequency components prior to transmission. Its purpose is to reduce noise and distortion.

PRE-EMPHASIS AMPLIFIER – An amplified network inserted into a scrambler to emphasize one range of frequencies.

PROCESSOR – In CATV, a headend channel control device that receives a TV channel at RF, cleans up the signal at IF then converts the channel to a desired frequency and outputs the signal at a controlled level to a combining network and into the cable system.

POWER LEVEL INDICATOR – In CATV, a signal level meter that measures output in dB.

TECHNICAL TERMINOLOGY cont.

RECEIVER – A device used at the end of a communications link to accept a signal and process it for local use.

SECAM – Refers to Systeme Electronique Couleur Avec Memoire. This standard is used in France, Russia, eastern European and some African countries. It uses an 819-line scan picture that offers better resolution than NTSC (525) or PAL (625). The three systems are not compatible.

SEPARATION – In stereo operation, the degree the information on one channel is away from the other. It is expressed in decibels. The higher the dB number is, the better.

SIGNAL TO NOISE RATIO – Is the relationship of signal amplitude to noise voltage amplitude. It is expressed in decibels (dB).

SPURIOUS OUTPUT – In CATV headend processing equipment, the unwanted output signal appearing on a frequency other than the fundamental signal frequency. When this signal is down 60 dB or better it has no effect on the desired TV pictures.

STEREO/MONO SWITCH – A switch used to eliminate the pre-emphasis network in a modulator when an external stereo encoder is connected.

SURFACE ACOUSTIC WAVE FILTER – (SAW) A very effective filter used at IF frequencies in CATV headend equipment to set the ideal bandpass response to prevent adjacent channel interference.

TEST POINT – A port to connect signal meters or test equipment to measure equipment parameters without affecting primary operation. The measured levels will be down either 20 or 30dB.

VESTIGIAL SIDEBAND – In an amplitude modulated signal, the part of one sideband remaining after going through a selective filter.

VIDEO MODULATION – In television, amplitude modulation of the carrier wave with pulses and waves corresponding to the picture, sync and blanking signals.

VIDEO INPUT – The port on a modulator where, at baseband, the picture portion of a television broadcast is inserted.

VIDEO IF LOOP - A control point at 45.75MHz for inserting scrambling or other video information into the modulator.

VOLTAGE – Is the force that causes current to flow through an electrical conductor.