

ZDM Series

Agile Audio/Video Demodulator



○ Features & Benefits

- Rack Mountable - 1 EIA (1.75") Rack Space
- Agile Demodulator
- LED Display for Easy Channel Selection
- Superior Performance, Broadcast Applications

The ZDM Series are agile audio/video demodulators. Two versions are available, the ZDM-750B for CATV applications and the ZDM-806 for VHF & UHF applications. The ZDM-750B demodulates standard CATV, IRC and HRC channels. It employs a double conversion tuner for optimum "Cherry Picking" of CATV channels in preparation for remodulation. The input frequency range is agile, allowing selection of any CATV channel from 54 to 750 MHz. Baseband audio and video are provided as outputs. The ZDM-806 can demodulate any single VHF & UHF channel in the 54 to 806 MHz frequency range. It is ideal for off-air signal processing (audio/video processing and remodulation) applications. Baseband audio and video are provided as outputs. Both units offer agile channel selection, via front panel LED displays and channel up/down buttons, permits on-the-fly channel changes. A channel lockout mode is also provided to prevent accidental channel changes.

○ Specifications

RF

- Frequency Range
 - ZDM-806: 54-806 MHz
 - ZDM-750: 54-750 MHz
- Channels
 - ZDM-806: VHF, UHF, CATV
 - ZDM-750: VHF, CATV
- Input Level - Range: -5 to +30 dBmV
- Noise Figure: 8-11 dB
- Image Rejection
 - VHF: 65 dB
 - UHF: 50 dB
- Input/Output Impedance: 75 ohm

Video

- Output Level: 1.0 V p-p
- Output Impedance: 75 ohm

Audio

- Output Level: 1.0 V p-p
- Impedance - Unbalanced: 600

General

- Power Requirements
 - Voltage: 117, ±10% VAC
 - Frequency: 60 Hz
 - Power: 2.5 W
- Temperature Range: 0 to +50 °C

Mechanical

- Dimensions (WxHxD):
 - 19.0 x 1.75 x 4.00 in
 - 483 x 44 x 102 mm
- Weight: 4.00 lbs, 1.82 kg

Connector (Rear Panel)

- RF Input: "F" Type, Female
- Video Output: "F" Type, Female
- Audio Output: RCA Phono, female

Controls (Front Panel)

- Channel Selection: Push buttons
- Video Level: Control
- Audio Level: Control

Indicators (Front Panel)

- Power ON: LED, Green
- Channel: LED, 7 Segment, 3 Digit

○ Ordering Information

Model	Stock No.	Description
ZDM-750B	5882B	Agile Audio/Video Demodulator 54-750 MHz CATV Input
ZDM-806	5880	Agile Audio/Video Demodulator 54-806 MHz UHF/VHF Input

ZHC Series

Combiners



○ Features & Benefits

- C-UL Listed
- Rack Mountable - 1 EIA (1.75") Rack Space
- High Isolation
- -20 dB Test Port

The ZHC Series are professional quality, passive and active output combiners. These units are designed for use in headends to combine the outputs of multiple modulators and processors. The ZHC-12 has twelve (12) broadband input ports and one combined output port, while the ZHCA-16 and ZHCA-16c have sixteen (16) input ports and one combined amplified output port and are intended to be “zero loss” combiners. These combiners feature high isolation between ports due to an integrated directional coupler design. The input ports of the ZHC-12 and ZHCA-16 are broadband, accepting signals in the 54 to 450 MHz frequency range. The ZHCA-16c accepts signals in the 54-750 frequency range. The ZHCA-16 and ZHCA-16c employ a single push-pull CATV style hybrid module. The overall gain of the ZHCA-16 and ZHCA-16c is variable using a built-in manual gain control, accessible via a front panel control.

○ Specifications

RF	ZHC-12	ZHCA-16	ZHCA-16c
Number of Inputs:	12	16	16
Frequency Range MHz:	54-450	54-450	54-750
Input Level - Max dBmV:	NA	+57	+57
Output Level - Max dBmV:	NA	+48	+48
Cross Modulation dBc:	NA	-57	-57
Overall Unit Gain dB:	NA	0	0 to -3
Gain Control Range dB:	NA	9	9
Insertion Loss dB:	16	NA	NA
Isolation dB:	40	40	40
Flatness dB:	3	3	3
Impedance - All Ports ohm:	75	75	75
General			
Power Requirements			
Voltage VAC:	NA	117 ± 10%	117 ± 10%
Frequency Hz:	NA	60	60
Power W:	NA	10	10
Temperature Range °C:	NA	0 to +50	0 to +50
Mechanical			
Dimensions (WxHxD):	19.0 x 1.75 x 2.88	19.0 x 1.75 x 2.88	19.0 x 1.75 x 2.88
	483 x 44 x 73	483 x 44 x 73	483 x 44 x 73
Weight lbs (kg):	2.0 (0.91)	3.0 (1.36)	3.0 (1.36)
Connectors (Rear Panel)			
RF Input & Output:	"F" Type Female	"F" Type Female	"F" Type Female
Connectors (Front Panel)			
Test Port:	"F" Type Female	"F" Type Female	"F" Type Female
Controls (Front Panel)			
Gain:	NA	Control	Control

Refer to product instruction manual for additional specification measurements and notes.

○ Ordering Information

Model	Stock No.	Description
ZHCA-16	5958	Active Combiner 50-450 MHz, 16 Ports
ZHC-12	5959	Passive Combiner 50-450 MHz, 12 Ports
ZHCA-16C-750	7757	Active Combiner 50-750 MHz, 16 Ports

MCX-Uz Series

Channel Converters



The MCX-Uz is a low cost, professional quality, single channel converter. This unit is designed for use in commercial grade, MATV or SMATV headends. The MCX-Uz features single conversion circuitry for channel changes, eliminating the need for double conversion or external traps and filters. Some channel conversions are forbidden (see chart) and will require the double conversion process used in Blonder Tongue's CAP Series (Channelized Heterodyne Processor) or SAIP Series (Agile Input, Channelized Agile Output Heterodyne Processor). The MCX-Uz converts any UHF channel (470 to 806 MHz) to any VHF channel in the 50 to 216 MHz frequency range (with exceptions). These converters feature crystal controlled PLL synthesizers and a balanced mixer design, thereby allowing operation in adjacent channel systems. The unit is both electrically and mechanically compatible with Blonder Tongue's Low Cost Single Channel VHF Strip Amplifier (ZSCA) and Bandpass Filter (BPF-z).

Features & Benefits

- Rack Mountable - 1 EIA (1.75") Rack Space
- UHF to VHF Channel Conversion
- Crystal Controlled PLL Synthesizer Permits Use in Adjacent Channel Systems
- Balanced Mixer Design Provides Maximum Isolation Between Local Oscillator, Input and Output
- Excellent Image Rejection Characteristics

Specifications

RF

- Frequency Range
 - Input: 470-806 MHz
 - Output: 50-216 MHz
- Flatness: 0.8 dB
- Input Signal Level
 - Minimum: -4.0 dBmV
 - Gain: 20 dB
 - Gain Control Range: 10 dB
- Noise Figure: 9.0 dB
- Frequency Stability: ± 15 kHz
- Selectivity
 - ± 9 MHz: -25 dB
 - ± 21 MHz: -50 dB
- Spurious Outputs - L.O. Related
 - At Output: -38 dBmV
 - At Input: -30 dBmV
- Image Rejection: -55 dB
- Hum Modulation: -60 dB
- Impedance - All Ports: 75 ohm
- Return Loss
 - Input: 14 dB
 - Output: 14 dB

General

- Power Requirements
 - Voltage: 117, $\pm 10\%$ VAC
 - Frequency: 60 Hz
 - Power: 12 W
- Temperature Range: -20 to +50 $^{\circ}\text{C}$

Mechanical

- Dimensions (WxHxD):
 - 19.0 x 1.75 x 2.00 in.
 - 483 x 44 x 51 mm
- Weight: 4.0 lbs., 1.82 kg

Connectors (Rear Panel)

- RF Input: "F" Type, Female
- RF Output: "F" Type, Female

Connectors (Front Panel)

- Test Port: "F" Type, Female

Controls (Front Panel)

- RF Output Level: Control

Indicators (Front Panel)

- Power ON: LED, Green

Refer to product instruction manual for additional specification measurements and notes.

Ordering Information

Model	Stock No.	Description
MCX-UZ	1479	Channel Converter 470-806 MHz (UHF), 50-220 MHz (VHF)

ZSCA

Strip Amplifier



○ Features & Benefits

- Front Panel Accessible Level Controls for Easy Set-Up and Adjustments
- Rack Mountable - 1 EIA (1.75") Rack Space
- Automatic Gain Control with Wide Dynamic Range
- UL Listed with Three Year Product Warranty
- AC Convenience Outlet

The ZSCA is a low cost, professional quality, 2 Volt, VHF strip amplifier. This unit is designed to amplify and stabilize the level of a single VHF channel in a MATV or SMATV headend. The ZSCA features automatic gain control (AGC) and double bandpass filtering (both input and output) to ensure amplification of only the desired channel. This strip amplifier offers low noise, high output capability, and a wide AGC window, thereby providing a very stable, low distortion signal. An adjustable aural carrier trap permits further reduction in distortion products.

An integrated diplexer allows combining of alternate channels by looping the strip amplifiers in series. Input and output test ports allow for easy setup and testing without disrupting service. Level controls are provided for aural trap depth and RF output level. All controls and test ports are located on the front panel for ease of operation. The unit is both electrically and mechanically compatible with Blonder Tongue's Low Cost Bandpass Filter (BPF-z) and UHF to VHF Channel Converter (MCX-Uz).

○ Specifications

RF

Frequency Range: 54-216 MHz
 Channels: VHF
 Maximum Input Level: 25.0 dBmV
 Output Level
 Maximum: 66.0 dBmV
 For Adjacent Channel: 60.0 dBmV
 Output Level Range: 10 dB
 Gain - Min: 52.0 dB
 Noise Figure: 6.0 dB
 AGC Range: 30 dB
 AGC Stiffness: <1.0 (66) dB, <1.5 (59) dB
 Bandpass Flatness: ± 0.75 dB
 Alternate Channel Rejection: -30 dB
 Aural Carrier Trap Range: 10 dB
 Impedance - All Ports: 75 ohm
 Input Return Loss: 14 dB
 Output Return Loss: 14 dB

General

Power Requirements
 Voltage: 117, $\pm 10\%$ VAC
 Frequency: 60 Hz
 Power: 10 W
 Fuse: 1/8 A
 Temperature Range: 0 to +50 °C

Mechanical

Dimensions (WxHxD):
 19.0 x 1.75 x 2.0 in.
 483 x 44 x 51 mm
 Weight: 4.0 lbs., 1.82 kg

Connectors (Rear Panel)

RF Input: "F" Type, Female
 Thru Input: "F" Type, Female
 Diplexed Output: "F" Type, Female

Connectors (Front Panel)

Input Test Port: "F" Type, Female
 Output Test Port: "F" Type, Female

Controls (Front Panel)

Output Level: Control
 Aural Carrier Trap: Control

Indicators (Front Panel)

Power ON: LED, Green

○ Ordering Information

Model	Stock No.	Description
ZSCA	4451B	Single Channel VHF Strip Amplifier 54-216 MHz

ZSCA-FM

FM Strip Amplifier



○ Features & Benefits

- Rack Mountable - 1 EIA (1.75") Rack Space
- Front Panel Level Controls, Rear AC Convenience Outlet
- Low Noise, High Output Capability VHF Strip Amplifier
- Automatic Gain Control with Wide Dynamic Range
- Adjustable Aural Carrier for Lower Distortion
- Input & Output Test Ports

The ZSCA is a low cost, professional quality, 1 Volt, VHF strip amplifier. This unit is designed to amplify and stabilize the level of a single or multiple FM channel in a MATV or SMATV headend. This strip amplifier offers low noise, high output capability, and a wide AGC window, thereby providing a very stable, low distortion signal.

An integrated diplexer allows combining of alternate channels by looping the strip amplifiers in series. Input and output test ports allow for easy setup and testing without disrupting service. Level control is provided for output level. All controls and test ports are located on the front panel for ease of operation. The unit is both electrically and mechanically compatible with Blonder Tongue's Low Cost Bandpass Filter (BPF-z), Strip Amplifier ZSCA and UHF to VHF Channel Converter (MCX-Uz).

○ Specifications

RF

- Frequency Range: 88-108/92-108 MHz
- Maximum Output Level: 64 dBmV
- Maximum Input Level: 42 dBmV
- Minimum Input Level: 12 dBmV
- Output Level Range: 15 dB
- Gain - Min: 52.0 dB
- AGC Range: 30 dB
- AGC Stiffness: ± 1 at output dB
- Aural Carrier Trap Range: 10 dB
- Impedance - All Ports: 75
- Input Return Loss: 5.5 dB
- Output Return Loss: 5.5 dB

General

- Power Requirements
 - Voltage: 108-120 VAC
 - Frequency: 60 Hz
 - Power: 10 W
- Fuse: 1/8 A
- Temperature Range: 0 to +50 °C

Mechanical

- Dimensions (WxHxD):
 - 19.0 x 1.75 x 3.0 in.
 - 483 x 44 x 76 mm
- Weight: 4.0 lbs.. 1.82 kg

Connectors (Rear Panel)

- RF Input: "F" Type, Female
- Thru Input: "F" Type, Female
- Diplexed Output: "F" Type, Female

Connectors (Front Panel)

- Input Test Port: -20 dB "F" Type, Female
- Output Test Port: -30 dB "F" Type, Female

Controls (Front Panel)

- AGC RF Gain: 15 dB

Indicators (Front Panel)

- Power ON: LED, Green

○ Ordering Information

Model	Stock No.	Description
ZSCA-FM	4465	FM Strip Amplifier Low Noise 88-108 MHz Strip Amplifier

ZFMSM Series

Agile FM Stereo Modulator



○ Features & Benefits

- Rack Mountable - 1 EIA (1.75") Rack Space
- High Performance FM Audio Modulator
- Superior Signal to Noise and Audio Separation Performance
- Switchable Mono or Stereo Capability
- Front Panel Level Controls, Rear AC Convenience Outlet
- Rack Mountable - 1 EIA (1.75") Rack Space

○ Specifications

The ZFMSM is a low cost, professional quality, agile FM stereo modulator. The unit accepts either monaural or stereo (left & right) inputs and modulates the input to any standard FM channel assignment in the frequency range of 88-108 MHz. Frequency selection is via a front panel up/down switch with a digital display. The ZFMSM modulator retains the frequency setting in the even of power interruption. The modulator can be used in a stand alone configuration or in conjunction with the ZSCA-FM wide band (88-108 MHz) amplifier. An output test port allows for easy setup and testing without disrupting service. All controls and test ports are located on the front panel for ease of operation.

RF

- Frequency Range: 88-108 MHz
- Frequency Step: 200 KHz
- Output Level - Min: +45 dBmV
- Output Level Adjust: 10 dB
- Frequency Stability: +10 KHz
- Audio Input Level
 - Min: 12 dBmV
 - Max: 42 dBmV
- Audio Frequency Range: 30 Hz to 15 kHz
- Audio S/N Ratio: >60 dB
- Audio Separation: >30 dB

General

- Power Requirements
 - Voltage: 120, $\pm 10\%$ VAC
 - Frequency: 60 Hz
 - Power: 10 W
- Temperature Range: 0 to +50 °C

Mechanical

- Dimensions (WxHxD):
 - 19.0 x 1.75 x 3.01 in
 - 483 x 44 x 121 mm
- Weight: 4 lbs, 1.82 kg

Connectors (Rear Panel)

- Audio Input: L/R "F" Type Female
- RF Output: "F" Type Female
- Test Port: "F" Type Female

Controls (Front Panel)

- Frequency Setting: Up/Down Control
- Aural Modulation Adj.: Control
- RF Output Level: Control

Indicators (Front Panel)

- Power ON: LED, Green
- Frequency Display: 4 Digit LED Screen

○ Ordering Information

Model	Stock No.	Description
ZFMSM	5872	Agile FM Stereo Modulator Agile Low Noise 54-216 MHz Modulator