

Modular Headend System Overview

The Modular Headend System is a combination of various components that are housed in extremely compact units which provide high performance while also optimizing space utilization. Blonder Tongue developed the revolutionary 'Micro Modular' approach in 1995. This approach was extremely unique at the time and has now become a standard for headends in the hospitality, multi-dwelling and private cable industries. In 2000, Blonder Tongue introduced the 'Die-Cast Chassis' and several vendors have copied this advancement reinforcing Blonder Tongue as the industry leader in modular headend products.

Today, Blonder Tongue's Modular Headend System consists of a large family of products in the HE Series with several new introductions just released in the last year. The HE Series includes a fixed channel modulator with integrated stereo capability, an economical agile modulator that delivers superior performance, as well as a high-end agile modulator with integrated stereo capability.

Each system begins with a rack chassis, either a horizontal 4 slot or a vertical 12 slot. The available slots can then be populated with a variety of modular components, including a channelized audio/video modulators (MICM), agile demodulators (MIDM), agile micro modulators (AMCM & AMM), sub-band block converter (MSBC), micro stereo encoder (MISE), as well as digital products like the digital high-definition processor (DHDP) and the Agile QAM Modulator (AQM). These modules are designed to work together to create a complete system of modular headend products.

Although many vendors have imitated the modular approach and advances made by Blonder Tongue over the years, there is a difference among products and vendors and you should not be fooled.

Superior Quality

- Every Blonder Tongue modular unit is tested to meet or exceed all minimum specifications
- Units are designed to ensure a long operating lifetime and backed by an extensive 3 year warranty
- Complete adherence with all FCC requirements and specifications

Advanced Design

- Die-Cast chassis provides superior RFI shielding and protection
- Front panel controls and indicators make balancing and maintenance easy
- The rack chassis units are Listed by UL and the modular components are Recognized and Listed when used as a system

Modular Headend System Components



AMCM-860S

AMCM-860

AMM



MICM

MISE

MSBC

Digital High Definition Processor Series



MIDM

Downconverter

Upconverter

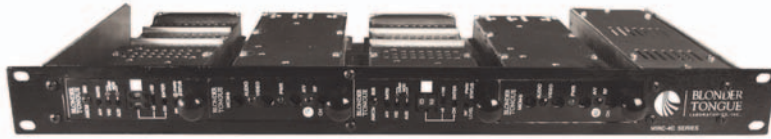


AQM

Modular Headend System

Rack Chassis and Power Supplies

4 Slot Vertical Chassis



MIRC-4D



MIPS-12C

○ Specifications

General

Power Requirements: 100 VAC to 240 VAC, $\pm 10\%$
 Frequency: 50 to 60 Hz
 Temperature Range: 0° to +50° C
 Output: +5 VDC @5.5 Amps, +12 VDC @4 Amps

Mechanical

Dimensions (WxHxD) : 4.16" x 3.5" x 7.50"
 Weight: 1.10 lbs (0.50 kg)
 Connectors/Impedance
 AC Input: IEC
 DC Output: 37 pin D

Indicators

Power 1 ON: LED, green
 Accessories Supplied
 AC Power Cable: 6 Ft, IEC, USA

12 Slot Horizontal Chassis



MIRC-12V

Surveillance Application

The MIRC-4CUBE is extremely well suited for use in surveillance or security type applications. A video camera's baseband video output can be modulated to any cable television channel and combined with existing TV signals to permit any outlet to monitor the camera feeds. This compact chassis can support up to 4 fixed channel or agile modulators and can be mounted in practically any location. The use of Blonder Tongue high performance modulators easily permits placing camera signals on adjacent channels.

○ Specifications

General

Power Requirements: 100 VAC to 240 VAC
 Frequency: 50 to 60 Hz
 Temperature Range: 0° to +50°
 Output Voltage & Current Capacity:
 +12 VDC @ 1.8 Amps
 + 5 VDC @ 1.8 Amps



MIRC-4CUBE

○ Ordering Information

Model	Stock No.	Description
MIRC-4D	7711	HE-4 Series Rack Chassis & Power Supply 19" Rack Mount
MIRC-12V	7715	HE-12 Series Vented Rack Chassis 19" Rack Mountable 2 RU Chassis for 12 Modular Units
MIPS-12C	7722C	HE-12 Series Power Supply 5.5 A on 5 VDC line, 4 A on 12 VDC line
MIRC-4CUBE-CH	7703	4 Slot Vertical Chassis Supports combinations of up to 4 MICM, AMCM or MIDM units
MIRC-4CUBE-PS	7702	4 Slot Vertical Chassis Power Supply Unit
Accessories		
Model	Stock No.	Description
MIBP-1	7787	Blank Panel Insert Single Modular Panel compatible with HE-12 / MIRC-12 Chassis
MIBP-2	7788	Blank Panel Insert Dual Modular Panel compatible with HE-12 / MIRC-12 Chassis

Agile Modulator

HE-12/HE-4 Series - AMCM-860 Series

Headend



The AMCM-860 is a professional quality agile audio/video modulator with an output frequency range of 54-860 MHz. It joins Blonder Tongue's family of modular headend components and works in conjunction with the MIRC-12V rack chassis and MIPS-12C power supply.

The unit provides a modulated aural & visual carrier on any channel in the 54 to 860 MHz range. Frequency plans including Standard CATV, IRC, HRC and Broadcast are accommodated via front panel selection. Channel tuning is easily accomplished with the use of front panel switches following the entry instructions. All channels with appropriate FCC offsets are pre-programmed and tuned electronically via microprocessor.

The unit accepts any standard audio/video source such as satellite receivers, television camera, video tape recorders or demodulators. The advanced design ensures access for all level and over-modulation controls via the front panel with LED indicators for each. Internal selectable jumper settings allow for compatibility of features such as defeatable audio pre-emphasis for BTSC compatibility.

Special features have been built into the unit firmware to ensure the best possible user experience. This includes the ability to alert an operator to any inadvertent or designed change to the unit switches by flashing a red error indicator. The indicator will continue to flash until the condition is corrected or the unit is reset.

○ Features & Benefits

- Meets FCC Docket 21006 Aeronautical Frequency Offset Requirements
- Fully Compatible With BTSC Encoded Stereo Audio
- Front Panel Accessible Level Controls for Easy Set-Up and Adjustments
- Die-Cast Chassis Offers Superior Protection Against Ingress or Egress
- Supports All Broadcast and CATV Channels, Including HRC and IRC Assignments from 54 to 860 MHz

○ Specifications

RF

Frequency Range: 54-860 MHz
Channels: CATV, VHF, UHF (STD,HRC,IRC)
FCC Offset (pre-programmed):
0, +12.5, or 25 kHz
Output Level - Min: +45 dBmV
Output Level Adjust: 15 dB
Aural/Visual Carrier Ratio: -10 to -17 dB
Visual Carrier Frequency Tolerance
Standard Channels: ± 5 kHz
FCC Aeronautical Channels: ± 3 kHz max
4.5 MHz Aural Inter Carrier Frequency: ± 1 Hz
Channel Selectivity:
Adjacent Aural and Below: -40 dB
Adjacent Picture and Above: -50 dB
Spurious Outputs: -60 dBc
C/N Ratio In Channel: 65 dB
Broadband Noise: -76 dBc
Output Impedance: 75 Ohm
Output Return Loss: 12 dB

Video

Input Level: 1.0 V p-p
Frequency Response
fv-0.5 MHz to fv+4.2 MHz: ± 1.0 dB
P-P Video to RMS Hum Ratio: 65 dB
Video Signal-to-Noise Ratio,
NTC-7 Weighted: 62 dB
Differential Gain: 2.0 %
Differential Phase: 1.0 °
Over Modulation Indicator: 87.5, ± 2.5 %
Input Impedance: 75 Ohm
Input Return Loss: 24 min, dB

Audio

Input Level: 140 mV RMS
Ext. 4.5 MHz Input Level: 40 ± 1 dBmV
Frequency Range: 20 Hz to 20 kHz
Pre-Emphasis-Mono: 75 μ s

Frequency Response: ± 1.0 dB
IF Pre-Emphases Defeated: +0.5 dB
Audio Signal-to-Noise: 58 dB
Total Harmonic Distortion: 0.6 %
Over Modulation Indicator: 25, ± 2 kHz
Input Impedance: Greater than 10k Ohm,
Unbalanced

General

Power Requirements: 5 W
Voltage:
12 VDC @235 mA
5 VDC @425 mA
Temperature Range: 0 to +50 ° C

Mechanical

Dimensions (WxHxD):
1.15 x 3.5 x 7.5 in
29 x 89 x 101 mm
Weight: 0.8 lbs, .36 kg

Connectors (Rear Panel)

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

Controls (Front Panel)

Frequency Selection: Push-Button Switches
Video Level: Control
A/V Ratio: Control
Audio Level: Control
RF Output Level: Control
Channel Enter: Push Button

Indicators (Front Panel)

Power ON: 2 color LED, Red/Green
Video Over Modulation: LED, Red
Audio Over Modulation: LED, Red

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

○ Ordering Information

Model	Stock No.	Description
AMCM-860	7766A	Modular Agile Audio/Video Modulator (HE 12 Series) +45 dBmV, 54-860 MHz Agile
AMCM-860H	7766HA	Modular Agile Audio/Video Modulator (MIRC-4 Series) +45 dBmV, 54-860 MHz Agile

Stereo Agile Modulator

HE-12/HE-4 Series - AMCM-860S



○ Features & Benefits

- Integrated Stereo Encoder
- Meets FCC Docket 21006 Aeronautical Frequency Offset Requirements
- Front Panel Accessible Level Controls for Easy Set-Up and Adjustments
- Die-Cast Chassis Offers Superior Protection Against Ingress or Egress
- Supports All Broadcast and CATV Channels, Including HRC and IRC Assignments from 54 to 860 MHz

○ Specifications

RF

Frequency Range: 54-860 MHz
Channels: CATV, VHF, UHF (STD,HRC,IRC)
FCC Offset (pre-programmed):
0, +12.5, or 25 kHz
Output Level - Min: +45 dBmV
Output Level Adjust: 15 dB
Aural/Visual Carrier Ratio: -10 to -17 dB
Visual Carrier Frequency Tolerance
Standard Channels: ± 5 kHz
FCC Aeronautical Channels: ± 3 max kHz
4.5 MHz Aural Inter Carrier Frequency:
 ± 150 Hz
Channel Selectivity:
Adjacent Aural and Below: -40 dB
Adjacent Picture and Above: -50 dB
Spurious Outputs: -60 dBc
C/N Ratio In Channel: 65 dB
Broadband Noise: -76 dBc
Output Impedance: 75 Ohm
Output Return Loss: 12 dB

Video

Input Level: 1.0 V p-p
Frequency Response
fv-0.5 MHz to fv+4.2 MHz: ± 1.0 dB
P-P Video to RMS Hum Ratio: 65 dB
Video Signal-to-Noise Ratio,
NTC-7 Weighted: 62 dB
Differential Gain: 2.0 %
Differential Phase: 1.0 °
Over Modulation Indicator: 87.5, ± 2.5 %
Input Impedance: 75 Ohm
Input Return Loss: 24 min, dB

Audio

Input Level: 140 mV RMS minimum
Input Impedance: 10k Ω , Unbalanced
Total Harmonic Distortion (%): 1.0
Stereo Separation:
50 Hz - 100 Hz: 15 dB
100 Hz - 1 kHz: 25 dB
12 kHz: 18 dB

General

Power Requirement: 5 W
Voltage:
12 VDC @235 mA
5 VDC @425 mA
Temperature Range: 0 to +50 ° C

Mechanical

Dimensions (WxHxD):
1.15 x 3.5 x 7.5 in
29 x 89 x 191 mm
Weight: 0.8 lbs, .36 kg
Connectors (Rear Panel)
Video Input: "F" Type, Female
L/R Audio Input: RCA Phono (2)
RF Output: "F" Type Female

Controls (Front Panel)

Channel Selection:
Push-Button Switches, UP/ON
Video Level: Control
A/V Ratio: Control
Audio Level: Control
RF Output Level: Control
Channel Enter: Push Button

Indicators (Front Panel)

Channel Indicator: 2 Digit LED, Red
Power ON: LED, Green
Video Over Modulation: LED, Red
Audio Over Modulation: LED, Red
Stereo Indicator: LED, Red

The AMCM-860S provides modulated aural and visual carriers on any channel in the 54 to 860 MHz range. Standard CATV, IRC, HRC and Broadcast channel frequency plans are all accommodated. Pre-programmed FCC 21006 offsets provides frequency compliance on all mandated channels automatically.

Setting the desired output channel is easily accomplished with the LED channel display and using push button up/down switches. Once the desired channel is reached on the display the "enter" push button must be depressed to evoke the change. This feature prevents interference to other channels in the headend by going directly to the desired output channel rather than stepping through channels as indicated on the display. The enter button feature also guards against accidental up/down button touches that would otherwise cause inadvertent channel change. Should the "enter" button not be pushed within 30 seconds, the display will return to the original channel in memory.

The modulator utilizes SAW filtering with FCC group delay pre-distortion to provide true vestigial sideband selectivity and superior adjacent channel performance. The AMCM-860S takes baseband L/R audio and video from any standard source such as satellite receivers, video tape recorders, DVD players or television demodulators and modulates to the desired output channel.

○ Ordering Information

Model	Stock No.	Description
AMCM-860S	7766S	Modular Agile Stereo Audio/Video Modulator (HE 12 Series) +45 dBmV, 54-860 MHz Agile

Agile Modulator

HE-12/HE-4 Series - AMM Series



The AMM Series are economical CATV agile audio/video modulators. They join Blonder Tongue's family of modular headend components and work in conjunction with the MIRC-12V rack chassis and MIPS-12C power supply. Two bandized models are available to cover channel frequencies between 54-806 MHz. The AMML-550 provides channel coverage from 2-78 (54-550 MHz) and the AMMH-806 from channels 55-125 (408-806 MHz).

The AMM-806 combines the frequency ranges of the AMML and AMMH into a single unit for CATV channels 2-125. Channel selection is done by easy to use front panel DIP switches. FCC frequency offsets per Docket 21006 are automatic via the units internal pre-programmed micro processor. The AMM Series accept standard audio/video sources such as satellite receivers, television camera, video tape recorders or demodulators. The advanced design ensures access for all level and over-modulation controls via the front panel. The audio pre-emphasis can be disabled internally for use with a BTSC Stereo Encoder.

○ Features & Benefits

- Economical Frequency Agility
- Die Cast Chassis Offers Superior RFI Protection
- CATV Channel Range 2 to 125 via Two Models
- FCC Docket 21006 Compliance for Aeronautical Frequency Offsets
- BTSC Compatible

○ Specifications

RF

- CATV Frequency Range:
 - AMML-550: 54-550 MHz (Ch's 2-78, 95-99)
 - AMMH-806: 408-806 (Ch's 55-94, 100-125)
 - AMM-806: 54-806 (Ch's 2-125)
- Output Level: 35-45 dBmV, Continuously Variable
- Aural/Visual Carrier Ratio: -12 to -18 dB
- Visual Carrier Frequency Tolerance
 - Standard Channels: ± 10 kHz
 - FCC Aeronautical Channels (AMML Only): ± 5 kHz
- 4.5 MHz Aural Inter Carrier Frequency: ± 150 Hz (max)
- Spurious Outputs: -60 dBc
- C/N Ratio In Channel: 60 dB
- Broadband Noise: -75 dBc
- Output Impedance: 75 Ohm
- Output Return Loss: 10 dB

Video

- Input Level: 1.0 V p-p
- Frequency Response
 - fv-0.5 MHz to fv+4.2 MHz: ± 1.0 dB
- Input Impedance: 75 Ohm
- Input Return Loss: 18 min, dB
- Differential Phase: 2.0°
- Differential Gain: 1.0%
- Group Delay Response:
 - Meets FCC CATV Predistortion Requirements for Color Operation

Audio

- Input Level: 0.4 to 4.0 V p-p
- Frequency Range:
 - 30 Hz to 15 kHz, ± 0.5 dB
 - (Exceeds 100 kHz with Pre-emphasis Defeated)
- Input Impedance: 10k Ohm, Unbalanced
- Distortion: 30 Hz to 15 KHz 0.6%

General

- Power Requirements
 - 12 VDC @ 155mA
 - 5 VDC @ 265A
- Temperature: 0° to 50° C

Mechanical

- Dimensions (WxHxD):
 - 1.15 x 3.5 x 7.5 in
 - 29 x 89 x 191 mm
- Weight: 0.8 lbs, .36 kg

Connectors (Rear Panel)

- Video Input: "F" Type, Female
- Audio Input: RCA Phono
- RF Output: "F" Type Female
- Power: Header, 3 Pin

Controls (Front Panel)

- Channel Selection: Dip Switches
- Video Level: Control
- A/V Ratio: Control
- Audio Level: Control
- RF Output Level: Control

Indicator (Front Panel)

- Power ON: LED

○ Ordering Information

Stock No.	Model	Description
AMML-550	7761	Modular Agile Audio/Video Modulator, +45 dBmV, 54-550 MHz Agile
AMMH-806	7762	Modular Agile Audio/Video Modulator, +45 dBmV, 408-806 MHz Agile
AMM-806	7763	Modular Agile Audio/Video Modulator, +45 dBmV, 54-806 MHz Agile

Audio/Video Modulator

HE-12/HE-4 Series - MICM Series



○ Features & Benefits

- 5-860 MHz Channelized Audio/Video Modulator
- SAW Filtered to True Adjacent Channel Response
- Die-Cast Chassis Offers Superior Protection Against Ingress or Egress
- Front Panel Accessible Level Controls for Easy Set-Up and Adjustment
- Integrated Stereo Encoder Available

The MICM-45 is a professional quality, channelized, heterodyne audio/video modulator which provides modulated RF carrier output on any single VHF channel, including: broadcast TV (2-13), CATV (14-135). It is ideal for placing audio and video onto any unused VHF channel. Any standard audio/video source can be used, such as satellite receivers, television cameras, video tape recorders, or television demodulators. The MICM-45 utilizes SAW filtering with FCC group delay pre-distortion to provide true vestigial sideband selectivity which makes it perfect for use in adjacent channel systems.

The MICM-45C takes baseband audio and video and modulates these signals onto the desired output channel. The MICM-45S takes baseband L/R audio and video and modulates these signals into the desired output channel. The heterodyne conversion process used in the unit employs a crystal referenced, PLL synthesized local oscillator. This guarantees rock solid, no-drift output for the life of the modulator. The MICM-45 meets FCC Docket 21006 aeronautical frequency offset requirements (± 5 kHz video carrier accuracy). The modulator accepts standard polarity (sync negative) video in the range of 0.7 to 2.5 V p-p. It has field defeatable audio pre-emphasis to provide stereo compatibility with any external BTSC stereo generator providing a composite stereo baseband output.

The MICM-45S is a stereo A/V modulator providing a stereo audio and video modulated RF carrier on any single VHF channel. All other features and specifications are identical to the MICM-45C except as noted.

○ Specifications

RF

Frequency Range:
54-860 MHz (Broadcast 2-13, Cable 14-135)
Output Level: +45 dBmV
Output Level Range: 10 dB continuously adjustable
Aural/Visual Carrier Ratio:
-11 to -19 dB continuously adjustable
Visual Carrier Frequency Tolerance:
 ± 10 kHz (standard channels) ± 5 kHz (aeronautical channels)
Aural Carrier: 4.5 MHz above visual
Frequency Setting: ± 1.5 kHz
Spurious Outputs: -60 dBc, min
C/N Ratio In Channel: 60 dB
Broadband Noise: -90 dB
Output Return Loss: 12 dB
IF (Internal) Frequency: 45.750 MHz

Video

Input Level: 1.0 V p-p for 87.5 % Modulation
Frequency Response
fv -0.5 MHz to fv +4.2 MHz: ± 1.0 dB
Video C/N: 60 dB (4 MHz BW)
P-P Video to RMS Hum Ratio: 60 dB
Differential Gain: ± 4.0 % @ 87.5% Modulation
Differential Phase: $\pm 2^\circ$ @ 87.5% Modulation
Input Return Loss: 18 dB

Audio

Input Level:
140 mV RMS for 25 kHz Peak Deviation
Input Impedance: 10k Ohm, Unbalanced
Frequency Range:
20 Hz to 20 kHz (MICM-45C)
Frequency Response:
 ± 1.0 dB, (50 Hz to 12 kHz) Reference to Std.

75 μ s Pre-emphasis (MICM-45C)
 ± 0.3 dB (50 Hz to 50 kHz) (MICM-45S)
in Stereo Configuration w/o pre-emphasis
Total Harmonic Distortion (%):
1.0 at 25 kHz Deviation
Stereo Separation (MICM-45S):
50 Hz - 100 Hz: 15 dB
100 Hz - 1 kHz: 25 dB
12 kHz: 18 dB
Aural Intercarrier: ± 5 kHz (0° to +50° C), std.

General

Power Requirements
External: 12 VDC @ 160 mA
+5 VDC @ 130 mA (MICM-C)
+5 VDC @ 180 mA (MICM-S)
Temperature Range: 0° to +50° C

Mechanical

Dimensions (WxHxD):
1.20 x 3.5 x 7.50 in, 29 x 89 x 191 mm
Weight: 0.65 lbs (0.30 kg)

Connectors/Impedance

Audio Input: RCA Phono, female (MICM-45C)
L/R Audio Inputs: RCA Phono, female
Video Input: 75 Ohm "F" type, female
RF Output: 75 Ohm "F" type, female

Controls

Video Level: Pot
Audio Level: Pot
Aural Carrier Level: Pot
RF Output Level: Pot

Indicators

Power ON: LED, green
Video Over Modulation: LED, red (MICM-45S)
Audio Over Modulation: LED, red (MICM-45S)
Stereo Indicator: LED, red (MICM-45S)

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

○ Ordering Information

Model	Stock No.	Description
MICM-45C	7797C 600	HE-12 & HE-4 Series Channelized Audio/Video Modulator, +45 dBmV, 54-600 MHz
MICM-45C	7797C 860	HE-12 & HE-4 Series Channelized Audio/Video Modulator +45 dBmV, 600-860 MHz
MICM-45S	7797S 600	HE-12 & HE-4 Series Channelized Stereo Audio/Video Modulator +45 dBmV, 54-600 MHz
MICM-45S	7797S 860	HE-12 & HE-4 Series Channelized Stereo Audio/Video Modulator +45 dBmV, 600-860 MHz

Agile Demodulator

HE-12/HE-4 Series - MIDM



The MIDM is a professional quality agile audio/video demodulator and is intended for both CATV and VHF & UHF applications. The unit is in a "single width" Die-Cast housing that allow deployment of up to 12 demodulator units in a MIRC-12 chassis.

The MIDM demodulates standard CATV, IRC and HRC channels and is capable for "Cherry Picking" of CATV channels in preparation for remodulation. The input frequency range is agile, allowing selection of any CATV channel from 54 to 806 MHz. Baseband audio and video are provided as outputs. It is ideal for off-air signal processing (audio/video processing and remodulation) applications. Baseband audio and video are provided as outputs. The MIDM features rock solid, phase lock loop (PLL) synthesized frequency control. Agile frequency selection is accomplished via front panel channel up/down buttons with a LED channel readout for easy on-the-fly channel changes. A channel lockout mode is also provided to prevent accidental channel changes. Non-volatile memory maintains the programmed channel selection in case of power loss. The MIDM is compatible with any modulators requiring a baseband input, and can be used in any combination with the MIPS-12C power supply in a MIRC-12 chassis.

○ Features & Benefits

- Die-Cast Chassis Offers Superior Protection Against Ingress or Egress
- Demodulates Any Channel 54-806 MHz
- LED Display Makes Agile Channel Selection Easy
- Compatible with MICM-45 Modulator for Compact Off-Channel Processor Solution

○ Specifications

RF

- Frequency: Range:
54-806 MHz, VHF, UHF, CATV (Std., IRC, HRC)
- Input Level Range: -5 to +30 dBm VHF/UHF,
+2 to +12 dBmV (CATV)
- Noise Figure: 8 dB
- Image Rejection: VHF 60 dB
- Input Impedance: 75 Ohm

Video

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

Audio

- Output Level: 1 Vp-p
- Output Impedance: 600 Ohm, Unbalanced

General

- Power Requirements - External:
12 VDC @ 140 mA
5 VDC @ 150 mA
- Temperature Range: 0° to +50° C

Mechanical

- Dimensions (WxHxD):
1.0 x 3.5 x 7.50 in
29 x 89 x 191 mm
- Weight: 1.2 lbs (0.56 kg)

Connectors/Impedance

- Audio Output: RCA Phono, Female
- Video Output: 75 Ohm "F" Type, Female
- RF Input: 75 Ohm "F" Type, Female
- Power: Locking Header, 3 Pin

Controls

- Channel Selection: Push Buttons
- ANT/CATV: Push Button
- Power On/OFF: Push Button
- Channel Lock: Push Button
- Audio Level: Pot
- Video Level: Pot

Indicators

- Channel: 2 Digit, 7 Segment LED

○ Ordering Information

Model	Stock No.	Description
MIDM-806C	7740C	HE-12 Series Agile Audio/Video Demodulator 54-806 MHz UHF/VHF/CATV Input (STD,HRC,IRC)

Modular Sub Band Converter

HE-12/HE-4 Series - MSBC



The MSBC is a modular sub band block up-converter designed for use in Blonder Tongue's HE Series rack chassis'. The unit provides sub-band capability to MIDM-806C demodulators by block converting sub-band channels T7 to T13 to receivable VHF channels 7 to 13. The MIDM-806C A/V outputs can then be connected to a modulator such as a MICM-45C, AMCM 860 or AMM Series for a complete modular headend processing solution.

○ Features & Benefits

- Up-converts Entire Sub-band to Channels 7-13
- 3 dB Conversion Gain
- Die Cast Chassis Provides Unsurpassed RFI Shielding

○ Specifications

RF

- Input Frequency Range:
5.75-47.75 MHz (Channels T7-T13)
- Output Frequency Range:
174-216 MHz (Channels 7-13)
- Recommended Input Level Range:
0 to +20 dBmV
- Conversion Gain: 3 dB
- Flatness: 1.5 dB P/V168.25 MHz
- LO Frequency Accuracy @ 25° C: +/- 500 Hz
- Intermod Distortion: -60 dBc
(In band Ch. 7-13 @ 0 to + 20 dBmV input)
- Input/Output Impedance: 75 Ohm
- Return Loss
 - Input: 15 dB
 - Output: 17 dB

General

- Power Requirement:
12 VDC @ 100 mA, 1.2 Watts
- Temperature Range: 0 to 50° C

Mechanical

- Dimensions:
1.15 x 3.5 x 7.5 in.
29 x 89 x 191 mm

Weight: 13.5 oz.

Connectors (Rear)

- Sub-Band Input: "F" Type Female
- RF Output: "F" Type Female
- Power: Locking Header 3 Pin

Indicators

- Power Green LED

○ Ordering Information

Model	Stock No.	Description
MSBC	7727	HE12 & HE4 Series Sub-Band Block Up-Converter

Stereo Encoder

HE-12/HE-4 Series - MISE



The MISE Stereo Encoder provides an economical solution for service providers wanting to deliver programs in stereo. The MISE is intended for use with Blonder Tongue's MIRC-12 rack chassis' with its associated power supply. The modular design provides an efficient compact means to accommodate 6 encoders coupled with 6 modulators or 12 encoders in 2RU's of precious rack space. The MISE accepts baseband left and right audio inputs from sources such as a satellite receiver, demodulator, VCR or DVD and generates a composite BTSC stereo signal. The composite signal in turn is applied to a compatible modular audio/visual modulator such as a MICM-45B or AMCM-806. It is also compatible with any modulator that has a pre-emphasis defeat feature. The MISE features 24 dB stereo separation, a pilot lock indicator and a test tone generator to meet any demanding stereo insertion need.

○ Features & Benefits

- Modular Design Minimizes Rack Space
- 24 dB Stereo Separation with low Distortion
- Build-in Test Tone for Audio Level Calibration with Modulator
- Pilot Lock & Power LED Indicator

○ Specifications

Audio Input

Input Impedance:
20K Ohms (unbalanced)
40K Ohms (balanced)
Input Level: 250mVrms to 2.5Vrms

Video Input

Input Impedance: 10K Ohms
Input Level Range: 0.5 Vp-p to 2.0 Vp-p

Composite Output

Output Impedance: 100 Ohms
Output Level: 1.1 Vp-p at 100% Modulation

Stereo Performance

Stereo Separation: 24 dB Typical, 20dB Min.
Harmonic Distortion: 0.25%
S/N Ratio: 65 dB
Frequency Response: ± 1 dB from 50Hz to 12KHz

Test Tone

Frequency: 10.396 KHz \pm 50Hz
Amplitude: 0.5 Vp-p \pm 10%

General

DC Power Input: +12 VDC @ 200 mA
Operating Temp. Range: 0° to +50° C

Mechanical

Dimensions W x H X D:
1.15 x 3.5 x 7.5 in
29 x 89 x 191 mm
Weight: .73lbs., .33 Kg

○ Ordering Information

Model	Stock No.	Description
MISE	7725B	HE-12 & HE-4 Series Micro Stereo Encoder