



INSTRUCTION MANUAL

AM Series

Agile Modulator with Emergency Alert System

Model	Stock No.
AM-60-550	59416
AM-60-806	59419

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We recommend that you write the following information in the spaces provided below.

Purchase Location Name:	
Purchase Location Telephone Number:	
AM Series Serial Number:	

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Document Number: USA 651217400F

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Section 1 — General & Safety Instructions



The STOP sign symbol is intended to alert you to the presence of REQUIRED operating and maintenance (servicing) instructions that if not followed, may result in product failure or destruction.



The YIELD sign symbol is intended to alert you to the presence of RECOMMENDED operating and maintenance (servicing) instructions.



The LIGHTNING flash symbol is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock.

**TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER FROM THIS UNIT.
 NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE

NOTE TO 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.

Safety Instructions

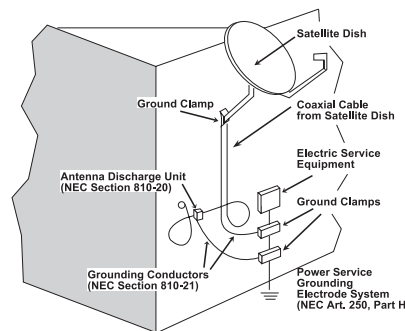


**YOU SHOULD ALWAYS FOLLOW THESE INSTRUCTIONS TO HELP ENSURE
 AGAINST INJURY TO YOURSELF AND DAMAGE TO YOUR EQUIPMENT.**

- Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature per manufacturer's recommendation.
- Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).
- Read all safety and operating instructions before you operate the unit.
- Retain all safety and operating instructions for future reference.
- Heed all warnings on the unit and in the safety and operating instructions.

Safety Instructions - continued

- Follow all installation, operating, and use instructions.
- Unplug the unit from the AC power outlet before cleaning. Use only a damp cloth for cleaning the exterior of the unit.
- Do not use accessories or attachments not recommended by Blonder Tongue, as they may cause hazards, and will void the warranty.
- Do not operate the unit in high-humidity areas, or expose it to water or moisture.
- Do not place the unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious personal injury and damage to the unit. Install the unit only in a mounting rack designed for 19" rack-mounted equipment.
- Do not block or cover slots and openings in the unit. These are provided for ventilation and protection from overheating. Never place the unit near or over a radiator or heat register. Do not place the unit in an enclosure such as a cabinet without proper ventilation. Do not mount equipment in the rack space directly above or below the unit.
- Operate the unit using only the type of power source indicated on the marking label. Unplug the unit power cord by gripping the plug, not the cord.
- The unit is equipped with a three-wire ground-type plug. This plug will fit only into a ground-type power outlet. If you are unable to insert the plug into the outlet, contact an electrician to replace the outlet. Do not defeat the safety purpose of the ground-type plug.
- Route power supply cords so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.
- Be sure that the outdoor components of the antenna system are grounded in accordance with local, federal, and National Electrical Code (NEC) requirements. Pay special attention to NEC Sections 810 and 820. See the example shown in the following diagram:



- We strongly recommend using an outlet that contains surge suppression or ground fault protection. For added protection during a lightning storm, or when the unit is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the lines between the unit and the antenna. This will prevent damage caused by lightning or power line surges.
- Do not locate the antenna near overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing the antenna, take extreme care to avoid touching such power lines or circuits, as contact with them can be fatal.
- Do not overload wall outlets or extension cords, as this can result in a risk of fire or electrical shock.
- Never insert objects of any kind into the unit through openings, as the objects may touch dangerous voltage points or short out parts. This could cause fire or electrical shock.
- Do not attempt to service the unit yourself, as opening or removing covers may expose you to dangerous voltage and will void the warranty. Refer all servicing to authorized service personnel.
- Unplug the unit from the wall outlet and refer servicing to authorized service personnel whenever the following occurs:
 - The power supply cord or plug is damaged;
 - Liquid has been spilled, or objects have fallen into the unit;
 - The unit has been exposed to rain or water;
 - The unit has been dropped or the chassis has been damaged;
 - The unit exhibits a distinct change in performance.
- When replacement parts are required, ensure that the service technician uses replacement parts specified by Blonder Tongue. Unauthorized substitutions may damage the unit or cause electrical shock or fire, and will void the warranty.
- Upon completion of any service or repair to the unit, ask the service technician to perform safety checks to ensure that the unit is in proper operating condition.

Returning Product for Repair (or Credit)

A Return Material Authorization (RMA) Number is required on all products returned to Blonder Tongue, regardless if the product is being returned for repair or credit. Before returning product, please contact the Blonder Tongue Service Department at 1-800-523-6049, Ext. 4256 or visit our website: www.blondertongue.com for further information.

Description

The AM Series are professional quality agile audio/video modulators equipped with an Emergency Alert System (EAS) feature, which can also be used for an alternate IF input. The units provide an audio and video modulated RF carrier on any channel from 54 to 550 or 806 MHz depending upon the model. Any standard audio/video source can be used, such as satellite receivers, television cameras, video tape recorders, or television demodulators.

Channel tuning is easily accomplished with the use of front panel channel up/down push buttons. Frequency plans include CATV Standard EIA, IRC, HRC & Broadcast. All channel frequency information with appropriate FCC offsets is pre-programmed and tuned electronically via a microprocessor.

The AM Series have optional features to fit many different applications. A stereo audio option, Option 05, also allows the integration of a BTSC stereo encoder module into the AM Series. This optional stereo encoder converts stereo left and right audio into a composite BTSC stereo audio signal. The factory installed option provides 20 dB of stereo separation, less than 1.0% total harmonic distortion and 60 dB signal to noise ratio.

The EAS / Alternate IF feature allows a choice between manual and automatic selection of the EAS/ALT IF input signal. This is done through a 3 position terminal strip on the rear of the unit. In the manual mode the EAS/ALT IF feature is activated by a contact closure switch, which completes a ground connection. In the automatic mode, two positions on the terminal strip are jumpered together enabling an automatic detection circuit in the unit. When an EAS/ALT IF signal is routed to the EAS/ALT IF port the unit automatically switches to that alternate signal.

The AM Series meets FCC Docket 21006 aeronautical frequency offset requirements (5 kHz video carrier accuracy). A high in-channel carrier to noise performance of 63 dB typical is achieved by the unit. A custom SAW IF filter is employed to provide true vestigial sideband selectivity with built-in FCC group delay equalization. A state of the art converter design with pre-programmed microprocessor controlled channel tuning ensures that the Blonder Tongue AM Series are the ideal agile modulator for any demanding CATV headend need.

Options

02	Video Input Connector BNC 75 Ohm
04	Sub Band Output (AM-60-550 only)
05	Stereo Audio
07	Video AGC
08	Audio AGC
09	Balanced Audio Input

Input

Connector Standard: Option 2: Impedance: Return Loss: Video Input Level Standard: Option 7 (Video AGC): Video-to-RMS Hum Ratio: Signal-to-Noise Ratio: Differential Gain: Differential Phase: Over-modulation Indicator: Chrominance/Luminance Delay:	"F" Female BNC Female 75 Ω 18 dB 0.7 volt Peak-to-Peak (87.5% depth of modulation) 0.4 to 2.5 volts Peak-to-Peak (87.5% ±2.5% depth of modulation) 65 dB Peak-to-Peak 58 dB (Weighted; at 4MHz bandwidth) 2.0% 1.0 degree 87 to 92% Per FCC Requirements
Mono Audio (Standard) Connector: Option 9 (Balanced Audio Input): Input Impedance: Option 9 (Balanced Audio Input): Input Level Standard: Option 8 (Audio AGC): Frequency Range: Frequency Response: Total Harmonic Distortion: Signal-to-Noise Ratio: Over-modulation Threshold:	RCA Terminal Strip Greater than 10 kΩ, unbalanced 600 Ω, balanced 0.5 to 4.0 volt Peak-to-Peak 0.5 to 4.0 volt Peak-to-Peak (constant 25 kHz deviation) 50 Hz to 15 kHz ± 0.5 dB 1% @ 25 kHz deviation 59 dB 25 ± 2 kHz peak deviation
Stereo Audio (Option 5) Connector: Input Impedance: Input Sensitivity Standard: Option 8 (Audio AGC): Frequency Response: Separation: Harmonic Distortion:	RCA Greater than 10 kΩ, unbalanced 1.0 volt Peak-to-Peak (55 kHz peak deviation with pilot tone) 0.5 to 4.0 volt Peak-to-Peak (constant 55 kHz deviation with pilot tone) ±0.75 dB (50 Hz to 14 kHz) 20 dB (50 Hz to 10 kHz) Less than 1% (@ 1kHz)

Output

Connector: Impedance: Return Loss: Frequency Range AM-60-806 Model: AM-60-550 Model: AM-60-550 with Option 4 (Sub-band): NTSC Channel Modes: Power Level Power Level Range Video Flatness: Carrier-to-Noise: (In Channel) Broadband Noise: (4 MHz bandwidth) Spurious Outputs: Aural/Visual Carrier Ratio: 4.5 MHz Aural Inter-carrier Freq. Tolerance: Channel Selectivity Adjacent Aural & Below: Adjacent Picture & Above: Visual Carrier Frequency Tolerance Standard Channels: FCC Aeronautical Channels:	"F" Female 75 Ω 12 dB 54 to 806 (NTSC CATV Ch. 2-125) 54 to 550 MHz (NTSC CATV Ch. 2 -78 & 95-99) 7 to 550 MHz (NTSC CATV Ch. T7 -78 & 95-99) UHF, VHF, CATV (Standard, HRC, IRC) +60 dBmV +50 to +60 dBmV (in 0.2 dB increments) fv-0.5 to fv+4.2 MHz (1.0 dB Peak-to-Valley) 63 dB -77 dBc (@ +60 dBmV output level) -63 dBc -15 ±5 dB ±150 Hz; 32 to 122 °F (0 to 50 °C) -40 dB -40 ±5 dB ±5.0 kHz; 32 to 122 °F (0 to 50 °C) ±2.5 kHz; 32 to 122 °F (0 to 50 °C)
IF (Intermediate Frequency) Input/Output Connector: Aural Frequency: Visual Frequency: Composite IF Output Aural Carrier Level: Visual Carrier Level: Input/Output Impedance: Input/Output Return Loss: EAS/Alternative IF Connector: Input Level: Switch Isolation:	"F" Female / "F" Female 41.25 MHz 45.75 MHz +20 dBmV +35 dBmV 75 Ω 16/15 dB "F" Female +38 dBmV @ 45.75 MHz Greater than 60 dB

General

Dimensions (W x D x H):	19.0 x 14.25 x 1.75 in. (483 x 362 x 44 mm)
Power:	117 VAC ±10%; 60Hz (Fuse: 0.40 Amp) Also available in 220 VAC; 50Hz
Power Dissipation:	28 W (max)
Weight:	7 lbs (3.18 kg)
Operating Temperature:	32 to 122 °F (0 to 50 °C)
Storage Temperature:	-13 to 158 °F (-25 to 70 °C)
Operating Humidity:	0 to 95% RH @ 35 °C max, non-condensing
Storage Humidity:	0 to 95% RH @ 35 °C max, non-condensing

Alarms/Monitoring/Control

Front-Panel Indicators Channel / Mode / RF Output: Video Over-modulation: Audio Over-modulation: EAS/Alternative IF: Stereo:	3-Digit LED Display Red LED Red LED Red LED Green LED
Front-Panel Controls Channel / Mode / RF Output: Video Level: Audio Level: Aural Carrier Level:	Navigation Key-pad Potentiometer Potentiometer Potentiometer

Controls and Connections

Operating Controls

All operating controls and indicators for the modulator are located on, or are accessible from the front panel.



Figure 1 - Front Panel

- [1] **EAS/ALT INDICATOR:** Lights Red when EAS/ALT is active.
- [2] **VIDEO OVERMODULATION LED:** Lights when modulation is above 87.5%.
- [3] **VIDEO MODULATION LEVEL:** Adjusts percentage of modulation.
- [4] **AURAL-TO-VISUAL CARRIER RATIO:** Controls amplitude of aural RF carrier relative to visual RF carrier.
- [5] **AUDIO MODULATION LEVEL:** Adjusts aural carrier modulation.
- [6] **AUDIO OVERMODULATION LED:** Lights when peak deviation of aural carrier is over 25 kHz.
- [7] **DISPLAY MODE BUTTON:** Used to scroll through channel configuration, output level and modes.
- [8] **CHANNEL, CHANNEL CONFIGURATION/OUTPUT LEVEL DISPLAY**
- [9] **UP/DOWN BUTTONS:** Used to scroll through the channel, and channel configuration/output display.
- [10] **ENTER BUTTON:** Evokes the current settings in the channel/output display when depressed.
- [11] **STEREO INDICATOR:** Green LED lights when equipped with stereo option (AM Opt 5), the audio select switch (on rear panel) in the stereo position and video is applied to the modulator.

Note: All connections to the unit are made at the rear panel.

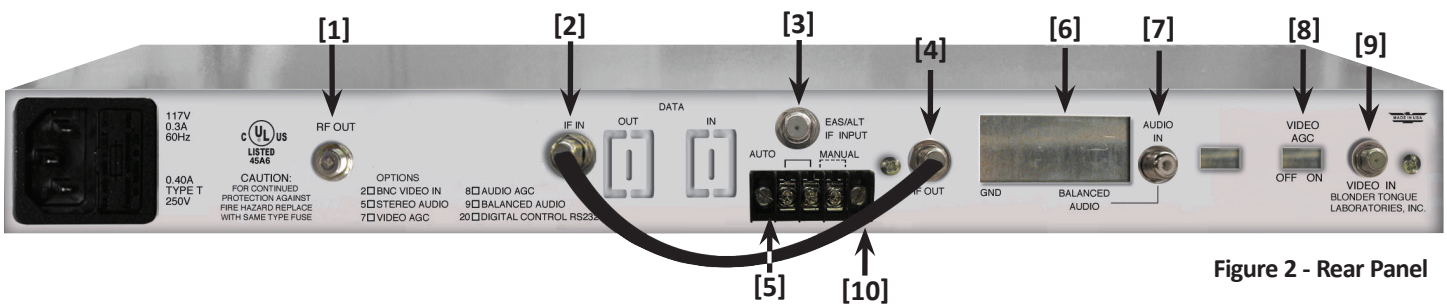
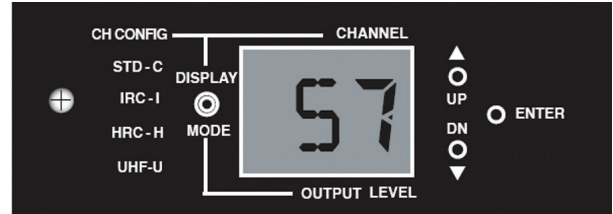
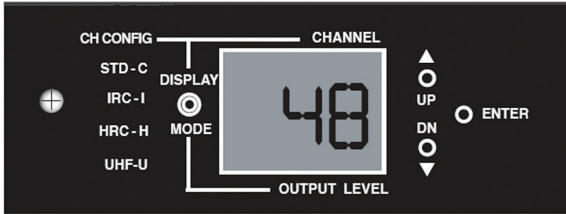


Figure 2 - Rear Panel

- [1] **RF OUTPUT:** + 60 dBmV RF output
- [2] **IF INPUT:** +35 dBmV IF Input
- [3] **EAS/ALT IF INPUT:** Emergency Alert or Alternate IF Input
- [4] **IF OUT:** +35 dBmV IF Output (See note #10 below)
- [5] **EAS/ALT IF TERMINAL:** EAS / ALT IF mode selection (See page 9)
- [6] **BALANCED AUDIO INPUT:** Balanced Audio Input (Option 9 units only)
- [7] **AUDIO INPUT:** Audio input (standard)
- [8] **VIDEO AGC ON/OFF:** Video AGC switch (Option 7 units only)
- [9] **VIDEO INPUT:** 1 Volt PP video input
- [10] **IF LOOP CABLE:** The IF loop cable (supplied) must be installed to provide RF continuity. The modulator will not have an RF output without the IF loop installed.

Operation



Option 4: (AM 60 550 Opt 4) Subchannel display in standard configuration mode (only)

Display Mode

This button scrolls through the selection of Channel, Channel Configuration, Output Level mode in this order. The resting state (default) of the AM's display mode is the channel number.

Channel Selection

The output channel is selected by pressing the UP or DN button when in the channel display mode.

The LED display will blink indicating a transition state.

The actual channel is not changed until the ENTER button is pressed.

If the ENTER button is not pressed, the display will return to resting state after 30 seconds.

Pressing and holding the UP or DN button will allow for faster scrolling of channel.

All internal attenuators are temporarily set for maximum attenuation during channel change.

Channel Configuration

The Channel Configuration is changed by pressing the UP or DN button when in the Channel Configuration display mode.

The LED display will blink indicating a transition state.

The channel configuration is not changed until the ENTER button is pressed.

If the ENTER button is not pressed, the display will return to resting state after 30 seconds.

If the mode is to be changed and it is not a valid mode for the existing channel, when the ENTER button is pressed, the new mode will be selected, and the channel will default to channel-2.

The available Channel Configurations are as follows:

C = Standard (default from factory)

I = IRC

H = HRC

U = Broadcast VHF/UHF

Error Conditions

The Display will show a flashing "EE1" if the PLL1 is not locked.

The Display will show a flashing "EE2" if the PLL2 is not locked.

The Display will show a flashing "EE3" if both PLL1 and PLL2 are not locked.

All internal attenuators are automatically set for maximum attenuation in any of the above conditions.

Please contact our Service Department should any of these errors conditions occur.

Adjustments

VIDEO LEVEL: With the intended signal source connected and a representative video program present turn the Video Level Adjust control clockwise until the Video Overmodulation light just flashes, then back off slightly. Alternatively, while watching the picture on a good TV monitor, adjust the control to the highest (clockwise) level that does NOT cause the highlights (white portions of the picture) to become “washed out”.

AUDIO LEVEL: Turn the Audio Level Adjust control clockwise until the Audio Overmodulation light just flashes slightly on the loudest peaks of the audio program material.

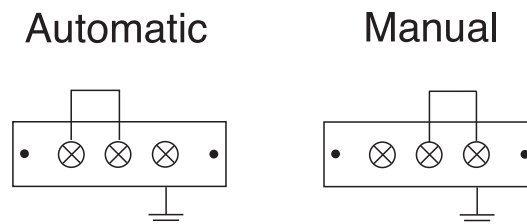
OUTPUT LEVEL: The Output Level is adjusted by pressing the UP or DN button when in the Output Level display mode. The LED display will blink indicating a transition state. The output level is not changed until the ENTER button is pressed. If the ENTER button is not pressed, the display will return to its resting state after 30 seconds. Pressing and holding the UP or DN button will allow for faster scrolling. The Level increments in 0.2 dB steps. Output level accuracy is typically +/- 1 dB of display, +/- 2 dB worst case.

A/V CARRIER RATIO: To adjust the aural-to-visual carrier ratio, tune the RF indicator device to the aural carrier frequency and adjust the Aural Carrier control to obtain the desired aural carrier level. Recommended ratio is -15 dB.

EAS/ALT IF:

AUTOMATIC: Connect a jumper to the terminal strip auto position. EAS will switch on when a +38 dBmV EAS IF signal is detected.

MANUAL: EAS is active with a ground connection on the manual position of the terminal strip.



Stereo Compatibility Of The Modulator

The AM Series modulator are shipped configured for standard TV monaural operation (rear panel audio select switch is set to mono audio). To defeat the audio pre-emphasis for use with an external MTS Stereo Generator or when using Option 5 Stereo, move the audio select switch on the rear panel to the stereo position.

Option 5

Stereo Audio

Description

The stereo audio option integrates a BTSC stereo encoder module to the AM Series. The optional stereo encoder converts stereo left and right audio into a composite BTSC stereo audio signal. This Option provides 20 dB of stereo separation, less than 1.0% total harmonic distortion and 60 dB signal to noise ratio.

Specifications

Audio Input Sensitivity: 350 mV rms for 55 kHz peak dev.(w/pilot tone)

Video Input: 0.7 to 2 Vp-p

Frequency Response (Decoder output left or right channel):

L+R (In Phase Inputs)

50 Hz -10 kHz: 0.5 dB

50 Hz -12 kHz: 0.75 dB

L-R (Out of Phase Inputs)

50 Hz -10 kHz: 2.5 dB

50 Hz -12 kHz: 3.5 dB

L or R (One Grounded)

50 Hz -10 kHz: 1.5 dB

50 Hz -12 kHz: 1.75 dB

Separation 50 Hz -10 kHz: 20 dB

Harmonic Distortion @ 1 kHz (Decode Output: Left or right channel):

L+R: <1 %

L-R: <1 %

L or R: <1 %

Appendix A

Frequency Allocation Tables

EIA Chan.	Standard Video	Incremental Video (IRC)	Harmonic Video (HRC)
02	55.2500	55.2625	54
03	61.2500	61.2625	60
04	67.2500	67.2625	66
01	NA	73.2625	72
05	77.2500	79.2625	78
06	83.2500	85.2625	84
95	91.2500	91.2625	90
96	97.2500	97.2625	96
97	103.2500	103.2625	102
98	109.2750	109.2750	Cannot lock to comb ref. refer to FCC regs
99	115.2750	115.2750	
14	121.2625	121.2625	120
15	127.2625	127.2625	126
16	133.2625	133.2625	132
17	139.2500	139.2625	138
18	145.2500	145.2625	144
19	151.2500	151.2625	150
20	157.2500	157.2625	156
21	163.2500	163.2625	162
22	169.2500	169.2625	168
07	175.2500	175.2625	174
08	181.2500	181.2625	180
09	187.2500	187.2625	186
10	193.2500	193.2625	192
11	199.2500	199.2625	198
12	205.2500	205.2625	204
13	211.2500	211.2625	210
23	217.2500	217.2625	216
24	223.2500	223.2625	222
25	229.2625	229.2625	228
26	235.2625	235.2625	234
27	241.2625	241.2625	240
28	247.2625	247.2625	246
29	253.2625	253.2625	252
30	259.2625	259.2625	258
31	265.2625	265.2625	264
32	271.2625	271.2625	270
33	277.2625	277.2625	276
34	283.2625	283.2625	282
35	289.2625	289.2625	288
36	295.2625	295.2625	294
37	301.2625	301.2625	300
38	307.2625	307.2625	306
39	313.2625	313.2625	312
40	319.2625	319.2625	318
41	325.2625	325.2625	324
42	331.2750	331.2750	330
43	337.2625	337.2625	336
44	343.2625	343.2625	342
45	349.2625	349.2625	348
46	355.2625	355.2625	354
47	361.2625	361.2625	360
48	367.2625	367.2625	366
49	373.2625	373.2625	372
50	379.2625	379.2625	378
51	385.2625	385.2625	384
52	391.2625	391.2625	390
53	397.2625	397.2625	396
54	403.2500	403.2625	402
55	409.2500	409.2625	408
56	415.2500	415.2625	414
57	421.2500	421.2625	420
58	427.2500	427.2625	426
59	433.2500	433.2625	432
60	439.2500	439.2625	438
61	445.2500	445.2625	444
62	451.2500	451.2625	450

EIA Chan.	Standard Video	Incremental Video (IRC)	Harmonic Video (HRC)
63	457.2500	457.2625	456
64	463.2500	463.2625	462
65	469.2500	469.2625	468
66	475.2500	475.2625	474
67	481.2500	481.2625	480
68	487.2500	487.2625	486
69	493.2500	493.2625	492
70	499.2500	499.2625	498
71	505.2500	505.2625	504
72	511.2500	511.2625	510
73	517.2500	517.2625	516
74	523.2500	523.2625	522
75	529.2500	529.2625	528
76	535.2500	535.2625	534
77	541.2500	541.2625	540
78	547.2500	547.2625	546
79	553.2500	553.2625	552
80	559.2500	559.2625	558
81	565.2500	565.2625	564
82	571.2500	571.2625	570
83	577.2500	577.2625	576
84	583.2500	583.2625	582
85	589.2500	589.2625	588
86	595.2500	595.2625	594
87	601.2500	601.2625	600
88	607.2500	607.2625	606
89	613.2500	613.2625	612
90	619.2500	619.2625	618
91	625.2500	625.2625	624
92	631.2500	631.2625	630
93	637.2500	637.2625	636
94	643.2500	643.2625	642
100	649.2500	649.2625	648
101	655.2500	655.2625	654
102	661.2500	661.2625	660
103	667.2500	667.2625	666
104	673.2500	673.2625	672
105	679.2500	679.2625	678
106	685.2500	685.2625	684
107	691.2500	691.2625	690
108	697.2500	697.2625	696
109	703.2500	703.2625	702
110	709.2500	709.2625	708
111	715.2500	715.2625	714
112	721.2500	721.2625	720
113	727.2500	727.2625	726
114	733.2500	733.2625	732
115	739.2500	739.2625	738
116	745.2500	745.2625	744
117	751.2500	751.2625	750
118	757.2500	757.2625	756
119	763.2500	763.2625	762
120	769.2500	769.2625	768
121	775.2500	775.2625	774
122	781.2500	781.2625	780
123	787.2500	787.2625	786
124	793.2500	793.2625	792
125	799.2500	799.2625	798

VHF Broadcast Channels	
Channel	Video (MHz)
2	55.25
3	61.25
4	67.25
5	77.25
6	83.25
7	175.25
8	181.25
9	187.25
10	193.25
11	199.25
12	205.25
13	211.25
UHF Broadcast Channels	
Channel	Video (MHz)
14	471.25
15	477.25
16	483.25
17	489.25
18	495.25
19	501.25
20	507.25
21	513.25
22	519.25
23	525.25
24	531.25
25	537.25
26	543.25
27	549.25
28	555.25
29	561.25
30	567.25
31	573.25
32	579.25
33	585.25
34	591.25
35	597.25
36	603.25
37	609.25
38	615.25
39	621.25
40	627.25
41	633.25
42	639.25
43	645.25
44	651.25
45	657.25
46	663.25
47	669.25
48	675.25
49	681.25
50	687.25
51	693.25
52	699.25
53	705.25
54	711.25
55	717.25
56	723.25
57	729.25
58	735.25
59	741.25
60	747.25
61	753.25
62	759.25
63	765.25
64	771.25
65	777.25
66	783.25
67	789.25
68	795.25
69	801.25
Sub Band Channels	
Channel	Standard Video
T7	7
T8	13
T9	19
T10	25
T11	31
T12	37
T13	43
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Blonder
Tongue



SOLUTIONS FOR ALL YOUR APPLICATIONS

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Extended Warranty Program

STANDARD TERMS & CONDITIONS OF THE EXTENDED WARRANTY

A. THE EXTENDED WARRANTY AGREEMENT (EWA)

If during the period following the expiration of the Blonder Tongue Manufacturers' Standard Warranty (Copy Included) the products which constitute the subject matter of the extended warranty, manifest any manufacturing or similar such defects then Blonder Tongue shall at its option repair or replace the product. It is emphasized that the extended warranty is in effect an extension of the Blonder Tongue Warranty and covers the items stipulated in Paragraph B to the exclusion of the terms in Paragraph C of this agreement. Eligibility to purchase EW is limited to 90 days following initial shipment on selected products of sufficient value.

The product/products included in this extended warranty agreement are listed in the invoice that accompanies the EWA. Term of the extension will be _____ year(s). Purchase Order is required for extended warranty coverage.

B. WHAT IS COVERED?

1. If a product has been determined to have failed, which falls within the Terms & Conditions of this EWA, Blonder Tongue Inc. may at its sole discretion repair, modify or replace its component parts that are defective at 100% coverage for parts and labor.
2. A loaner unit may be available on request; PO required.
3. Product is manufactured by Blonder Tongue.
4. Extended warranty period is up to and not to exceed 24 months and sold in increments of 12 months. Order # 9981 for 1 year and #9982 for 2 year extensions.
5. Return of repair or replaced product shipping costs for ground shipments.
6. Firmware upgrades at no charge with automatic notification.

C. WHAT IS NOT COVERED?

1. The warranty does not cover any defects caused by foreign objects /connection errors .
2. Use other than by the customer at the declared address appearing in this document.
3. Failure by the end user to comply with the manufacturers' instructions for installation, maintenance or use.
4. The use of accessories which have not been approved by Blonder Tongue.
5. The application and/or use of any incorrect or abnormal electrical supply to the product.
6. Any defect in wiring or electrical connections which does not form part of the product at the time of the original purchase.
7. Neglect, misuse, or willful abuse of the product.
8. Any repairs or attempted repairs of the product by any person other than Blonder Tongue Service Department.
9. Any modification of the product by any person other than Blonder Tongue Service Department.
10. Fire, flood, war, civil disturbance, industrial action, acts of God or any other causes beyond the reasonable control of Blonder Tongue.
11. Any defect caused by lightning strike or power surges.
12. Shipping costs to return products to Blonder Tongue for warranty service.
13. Blonder Tongue will not in any circumstances be liable for any consequential loss or damages suffered by the customer whether directly or in directly related defect in the product to the extent permissible by law.
14. Repairs may not be effected without prior authorization from Blonder Tongue Laboratories.

D. GENERAL

1. The customer shall notify Blonder Tongue Laboratories in writing within ten days of any change of his or her address.
2. Customer must provide original **purchase receipt** and **serial number** to initiate extended warranty coverage.
3. The fee paid for the warranty is not refundable under any circumstances unless cancelled within seven days of purchase.
4. The customer shall take all reasonable precautions to maintain the product is maintained in good working order.
5. The warranty contract ceases to exist if the product is replaced or a credit is given to the customer. Any monies paid for the warranty contract are forfeited and not refundable. This is only applicable when the product is out of the manufacturer's warranty.
6. The extended warranty period as stated on the Extended Warranty Agreement shall be the governing period notwithstanding any additional supplier warranty on specific components.
7. The warranty shall in no way effect the terms and conditions of the sale agreement in terms of which the customer bought the product.
8. The extended warranty is limited to the terms and conditions herein contained
9. No agreement, varying, adding to, amended, deleting, or cancelling this warranty shall be effective unless given in writing (email is acceptable) and signed by or on behalf of both parties.
10. The cost of the extended warranty is 8% of the purchase price for a 1 or 2 year extension beyond the Blonder Tongue standard warranty. e.g. A product price of \$1000 will be \$80 for the 1st year (12 mos) and additional \$80 for 2 year (24 mos) extension for a total of \$160.
11. Warranty product return postage paid to: Blonder Tongue Laboratories, Inc.

Attn: Warranty Service Dept.

1 Jake Brown Road
Old Bridge, NJ 08857

Contact Blonder Tongue at 800-523-6049 ext. 555 to order extended warranty service.

Limited Warranty

Seller will at its sole option, either repair or replace (with a new or factory reconditioned product, as Seller may determine) any product manufactured or sold (or in the case of software, licensed) by Seller which is defective in materials or workmanship or fails to meet the applicable specifications that are in effect on the date of shipment or such other specifications as may have been expressly agreed upon in writing: (i) for a period of three (3) years from the date of original purchase for all stock hardware products (other than those specifically referenced herein below having a shorter warranty period); (ii) for a period of one (1) year from the date of original purchase, with respect to all MegaPort™, IPTV products, test equipment and fiber optics receivers, transmitters, couplers and integrated receiver/distribution amplifiers; (iii) for a period of one (1) year from the date of original purchase (or such shorter period of time as may be set forth in the license agreement specific to the particular software being licensed from Seller) with respect to all software products licensed from Seller (other than Core Product Software) that is (a) developed for a specific function or application, (b) complimentary to and does not function without the Core Product Software, and (c) listed with a specific model number and stock number in Seller's Price List ("**Non-Core Software**"); (iv) for a period of ninety (90) days from the date of original purchase, with respect to non-serialized products and accessories, such as parts, sub-assemblies, splitters and all other products sold by Seller (other than Core Product Software and Refurbished/Closeout Products) not otherwise referred to in clauses (i) through (iii) above. The warranty period for computer programs in machine-readable form included in a hardware product, which are essential for the functionality thereof as specifically stated in the published product specifications ("**Core Product Software**") will be coincident with the warranty period of the applicable hardware product within which such Core Product Software is installed.

Software patches, bug fixes, updates or workarounds do not extend the original warranty period of any Core Product Software or Non-Core Software.

Notwithstanding anything herein to the contrary,

(i) Seller's sole obligation for software that when properly installed and used does not substantially conform to the published specifications in effect when the software is first shipped by Seller, is to use commercially reasonable efforts to correct any reproducible material non-conformity (as determined by Seller in its sole discretion) by providing the customer with: (a) telephone or e-mail access to report non-conformance so that Seller can verify reproducibility, (b) a software patch or bug fix, if available or a workaround to bypass the issue if available, and (c) where applicable, replacement or damaged or defective external media, such as CD-ROM disk, on which the software was originally delivered;

(ii) Seller does not warrant that the use of any software will be uninterrupted, error-free, free of security vulnerabilities or that the software will meet the customer's particular requirements; and the customer's sole and exclusive remedy for breach of this warranty is, at Seller's option, to receive (a) suitably modified software, or part thereof, or (b) comparable replacement software or part thereof;

(iii) Seller retains all right, title and interest in and to and ownership of all software (including all Core Product Software and Non-Core Software) including any and all enhancements, modifications and updates to the same; and

(iv) in some cases, the warranty on certain proprietary sub-assembly modules manufactured by third-party vendors and contained in Seller's products, third party software installed in certain of Seller's products, and on certain private-label products manufactured by third-parties for resale by Seller, will be of shorter duration or otherwise more limited than the standard Seller limited warranty. In such cases, Seller's warranty with respect to such third-party proprietary sub-assembly modules, third-party software and private-label products will be limited to the duration and other terms of such third-party vendor's warranty, if any. In addition, certain products, that are not manufactured by Seller, but are resold by Seller, may carry the original OEM warranty for such products, if any. The limited warranty set forth above does not apply to any product sold by Seller, which at the time of sale constituted a Refurbished/Closeout Product, the limited warranty for which is provided in the following paragraph.

Seller will at its sole option, either repair or replace (with a new or factory-reconditioned product, as Seller may determine) any product sold by Seller which at the time of sale constituted a refurbished or closeout item ("**Refurbished/Closeout Product**"), which is defective in materials or workmanship or fails to meet the applicable specifications that are in effect on the date of shipment of that product or fails to meet such other specifications as may have been expressly agreed upon in writing between the parties, for a period of ninety (90) days from the date of original purchase. Notwithstanding the foregoing, in some cases the warranty on certain proprietary sub-assembly modules manufactured by third-party vendors and contained in Seller products, third party software installed in certain of Seller's products, and on certain private-label products manufactured by third-parties for resale by Seller will be of shorter duration or otherwise more limited than Seller limited warranty for Refurbished/Closeout Products. In such cases, Seller's warranty for Refurbished/Closeout Products constituting such third party proprietary sub-assembly modules, third party software, and private-label products will be limited to the duration and other terms of such third-party vendor's warranty, if any. In addition, notwithstanding the foregoing, (i) certain Refurbished/Closeout Products that are not manufactured (but are resold) by Seller, may carry the original OEM warranty for such products, if any, which may be longer or shorter than Seller's limited warranty for Refurbished/Closeout Products. All sales of Refurbished/Closeout Products are final.

To obtain service under this warranty, the defective product, together with a copy of the sales receipt, serial number if applicable, or other satisfactory proof of purchase and a brief description of the defect, must be shipped freight prepaid to Seller at the following address: One Jake Brown Road, Old Bridge, New Jersey 08857.

This warranty does not cover failure of performance or damage resulting from (i) use or installation other than in strict accordance with manufacturer's written instructions, (ii) disassembly or repair by someone other than the manufacturer or a manufacturer-authorized repair center, (iii) misuse, misapplication or abuse, (iv) alteration, (v) exposure to unusual physical or electrical stress, abuse or accident or forces or exposure beyond normal use within specified operational or environmental parameters set forth in applicable product specifications, (vi) lack of reasonable care or (vii) wind, ice, snow, rain, lightning, or any other weather conditions or acts of God.

OTHER THAN THE WARRANTIES SET FORTH ABOVE, SELLER MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND, EXPRESS OR IMPLIED, AS TO THE CONDITION, DESCRIPTION, FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR AS TO ANY OTHER MATTER, AND SUCH WARRANTIES SET FORTH ABOVE SUPERSEDE ANY ORAL OR WRITTEN WARRANTIES OR REPRESENTATIONS MADE OR IMPLIED BY SELLER OR BY ANY OF SELLER'S EMPLOYEES OR REPRESENTATIVES, OR IN ANY OF SELLER'S BROCHURES MANUALS, CATALOGS, LITERATURE OR OTHER MATERIALS. IN ALL CASES, BUYER'S SOLE AND EXCLUSIVE REMEDY AND SELLER'S SOLE OBLIGATION FOR ANY BREACH OF THE WARRANTIES CONTAINED HEREIN SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT F.O.B. SHIPPING POINT, AS SELLER IN ITS SOLE DISCRETION SHALL DETERMINE. SELLER SHALL IN NO EVENT AND UNDER NO CIRCUMSTANCES BE LIABLE OR RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, PUNITIVE, DIRECT OR SPECIAL DAMAGES BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT LIABILITY OR OTHERWISE OR ANY OTHER LEGAL THEORY, ARISING DIRECTLY OR INDIRECTLY FROM THE SALE, USE, INSTALLATION OR FAILURE OF ANY PRODUCT ACQUIRED BY BUYER FROM SELLER.

All claims for shortages, defects, and non-conforming goods must be made by the customer in writing within five (5) days of receipt of merchandise, which writing shall state with particularity all material facts concerning the claim then known to the customer. Upon any such claim, the customer shall hold the goods complained of intact and duly protected, for a period of up to sixty (60) days. Upon the request of Seller, the customer shall ship such allegedly non-conforming or defective goods, freight prepaid to Seller for examination by Seller's inspection department and verification of the defect. Seller, at its option, will either repair, replace or issue a credit for products determined to be defective. Seller's liability and responsibility for defective products is specifically limited to the defective item or to credit towards the original billing. All such replacements by Seller shall be made free of charge f.o.b. the delivery point called for in the original order. Products for which replacement has been made under the provisions of this clause shall become the property of Seller. Under no circumstances are products to be returned to Seller without Seller's prior written authorization. Seller reserves the right to scrap any unauthorized returns on a no-credit basis. Any actions for breach of a contract of sale between Seller and a customer must be commenced by the customer within thirteen (13) months after the cause of action has accrued. A copy of Seller's standard terms and conditions of sale, including the limited warranty, is available from Seller upon request. Copies of the limited warranties covering third-party proprietary sub-assembly modules and private-label products manufactured by third-parties may also be available from Seller on request. (Rev 0713)

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