advanced media technologies®

MODEL

AP SERIES

HETERODYNE PROCESSORS

BLONDER TONGUE LABORATORIES, INC.

The AP Series are professional quality, agile heterodyne processors equipped with the Emergency Alert System (EAS) feature, which can also be used as an alternate IF input. These units convert any channel in the 50 to 806 MHz (7 to 43 MHz with Option 17) frequency range to any channel in the 50 to 550/750 MHz (7 to 550/750 MHz with Option 04) frequency range.

The AP Series is ideal for moving an off-air channel (VHF or UHF) or any single channel source to any unused channel (broadcast or CATV, including HRC and IRC assignments) in the system. Agile channel selection permits on-the-fly channel changes and reduces the need for large inventories of channelized products. Channel selection is accomplished with the use of simple to use front panel accessible dip switches. These processors have wide range of standard and optional features that make them very suitable for advanced CATV systems. Four models are available with different output level and frequency ranges and a variety of options.

All models feature rock solid, synthesized frequency control, with a tuning increment of 250 kHz. True vestigial sideband SAW filtering guarantees superior broadcast picture quality. Two SAW filters are used to ensure proper adjacent channel rejection. Delayed AGC circuitry automatically compensates for input signal variations. These processors have an external IF loop, which allows interfacing with video all-call and signal scrambling systems. The AP Series utilizes a standby carrier oscillator to provide a blank picture when the input level drops below usable level. This prevents a snowy picture from being delivered to the distribution network in the event of signal degradation or complete loss of picture. The EAS/ALT IF feature allows the customer to choose between manual and automatic selection of EAS/ALT IF input signal.

These processors provide extremely clean output signals with distortion products (-60 dB or better). An exceptionally low broadband noise floor (-76 dBc or better) makes the AP Series ideal for large, multiple channel headends without the need for additional filtering.

❍ Features & Benefits

- EAS/ALT IF Ready Via Manual or Automatic Mode
- Superior Broadband Noise Performance (-76 dB)
- Front Panel Accessible Level Controls for Easy Set-Up and Adjustments
- Rack Mountable - 1 EIA (1.75") Rack Space

Heterodyne Processors
AP Series

❍ Specifications

RF

Input Frequency Range
Standard: 54-88 & 108-806 MHz
Option 17 - Sub-band Input: 7-49 MHz

Input Channels: SUB, VHF, UHF, CATV (STD,HRC)

Output Frequency Range
AP-40-550 & AP-60-550: 50-550 MHz
AP-40-750 & AP-60-750: 50-750 MHz

Option 04: AP-40-550 & AP-60-550: 7-550 MHz

Output Channels: SUB, CATV (STD,HRC,IRC)

Tuning Increment: 250 kHz

FCC Offset: 0, +12.5, or +25 kHz

Input Level Range: -18 to +30 dBmV

AGC Stiffness: 1.0 dB

Output Level - Min
AP-40-550 & AP-40-750: +40 dBmV
AP-60-550 & AP-60-750: +60 dBmV

Output Level Adjust: 10 dB

Noise Figure
VHF: 8 dB
UHF: 10 dB

Aural/Visual Carrier Ratio: 0 to -10 dB

Visual Carrier Frequency Tolerance
Standard Channels: ±10 kHz
FCC Aeronautical Channels: ±3 kHz

Channel Selectivity:
Adjacent Aural and Below: -65 dB
Adjacent Picture and Above: -65 dB

Spurious Outputs: -60 dBc

Intermod Distortion: -64 dB

Broadband Noise: -76 dBc

Image Rejection: 65 dB

Bandpass Flatness fv to fv+4.5 MHz: ±1.0 dB

Input/Output Impedance: 75 Ohm

Input Return Loss: 12 dB

Output Return Loss: 14 dB

IF

Aural Frequency: 41.25 MHz

Visual Frequency: 45.75 MHz

Composite IF Loop Output
Aural Carrier Level: +13 dBmV
Visual Carrier Level: +28 dBmV

Output/Input Impedance: 75 Ohm

Output Return Loss: 12 dB

Input Return Loss: 12 dB

EAS/ALT IF Input Level: 28 dBmV @ 45.75 MHz

EAS/ALT IF Switch Isolation: >60 dB

General

Power Requirements
Voltage: 117, ±10% VAC
Frequency: 60 Hz
Power - AP-40-450 & AP-40-550: 20 W
Power - AP-60-450 & AP-60-550: 24W

Fuse: 3/8 A

Temperature Range: 0 to +50 °C

Mechanical

Dimensions (WxHxD)
19.0 x 1.75 x 14.25 in.
483 x 44 x 362 mm
Weight
9 lbs. (4.09 kg)

Connectors (Rear Panel)

RF Input
Standard - VHF/UHF: "F" Type, Female
Option 17: Sub-band Input: "F" Type, Female
IF Output: "F" Type, Female
IF Input: "F" Type, Female

RF Output: "F" Type, Female

Serial Data Input & Output Option 20: Serial

Input: RJ-12, Female

EAS/ALT IF: "F" Type, Female

Controls (Front Panel)

Frequency Selection
Input: DIP Switches
Output: DIP Switches

Frequency Response Adjust: Controls

Aural Carrier Level: Control

Frequency Fine Tune: Control

FCC Offset Selection Option 12: ABOC: DIP Switches

RF Output Level: Control

Controls (Top Cover & Rear Panel)

Standby Oscillator Threshold Adjust: Control

Sub-band Input Channels Option 17: Slide Switch

EAS/ALT IF: 3 Position, Terminal Strip

Indicators (Front Panel)

Power ON: LED, Green
EAS/ALT IF: LED, Green

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

❍ Ordering Information

Model	Stock No.	Description
AP-40-550B	59802	Agile Heterodyne Processor with EAS +40 dBmV, 54-88/108-806 MHz Input, 50-550 MHz Output
AP-40-750B	59803	Agile Heterodyne Processor with EAS +40 dBmV, 54-88/108-806 MHz Input, 50-750 MHz Output
AP-60-550B	59817	Agile Heterodyne Processor with EAS +60 dBmV, 54-88/108-806 MHz Input, 50-550 MHz Output
AP-60-750B	59818	Agile Heterodyne Processor with EAS +60 dBmV, 54-88/108-806 MHz Input, 50-750 MHz Output

Accessories

Model	Stock No.	Description
AP-OPT 04	59804	AP Series Option: Sub-Band Output
AP-OPT 12	59122	AP Series Option: Automatic Broadcast Offset Correction
AP-OPT 14	59144	AP Series Option: On Channel-lock
AP-OPT 17	59177	AP Series Option: Sub-Band Input, 7-49 MHz