

# CAP Series

## Channelized Input, Channelized Agile Output Heterodyne Processors



### ○ Features & Benefits

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- Fully Compatible With BTSC Encoded Stereo Audio
- C-UL Listed, Three Year Warranty
- Front Panel Accessible Level Controls for Easy Set-Up and Adjustments
- Rack Mountable - 1 EIA (1.75") Rack Space
- Dual SAW Filtering for Adjacent Channel Systems

The CAP Series are professional quality, channelized heterodyne processors. These units convert any single SUB, VHF, or UHF channel to any single channel in the 5 to 890 MHz frequency range. The unit is ideally suited to convert any off-air channel (VHF or UHF) to any unused channel in the system. The CAP-ON is ideal for on channel operation (I.E. CH2 IN, CH2 OUT).

The CAP Series takes a single channel in the 5 to 36 MHz (SUB), 54 to 552 MHz (VHF/CATV), or 470 to 890 MHz (UHF) frequency range and converts it to a channel in the 5 to 860 MHz frequency range. All models feature phase locked loop synthesized frequency control with accurate, no-drift output as well as high adjacent channel rejection (60 dB) and a very low noise figure and distortion output. A dual-detection IF with a true peak response AGC circuit that is delayed at the input stage automatically compensates for input signal variations and maintains a low noise figure even under weak signal conditions.

These processors have an external IF loop, which allows interfacing with video all-call or signal scrambling systems. For low input level conditions, the CAP Series features an optional alternate IF switch (Option 21) with an internal standby carrier. The optional alternate IF switch feature permits the substitution of a different IF program during low signal level conditions. This allows the operator to select between standby carrier or alternate IF program mode using a rear panel switch. An aural trap depth control permits adjustment of the aural/visual carrier ratio.

### **Output Filter Modules (OFM)**

Output Filter Modules are factory tuned channelized units that are used with the CAM, CAP, MAVM & SAIP product lines. They are available with +40 dBmV or +60 dBmV output levels and can be order for any channel in the CATV (2-135), UHF (14-69) or Sub-Band (T7-T11) channel ranges. See Page 49 for ordering information details.

*Available through*

**Multicom, Inc.**

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# CAP Series

## Channelized Input, Channelized Agile Output Heterodyne Processor

### ○ Specifications

#### RF

Input Frequency Range  
CAP-60-ON, CAP-40-ON:  
54-88 & 174-216 MHz  
CAP-60-U/V, CAP-40-U/V: 470-890 MHz  
CAP-60-V/V, CAP-40-V/V: 54-427 MHz  
CAP-60-S/V, CAP-40-S/V: 5-36 MHz

Output Frequency Range (MHz): 5-860 MHz

Channels  
Input: SUB, CATV, VHF, UHF  
Output: SUB, CATV, VHF, UHF

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

Input Level Range - Min: -15 to +33 dBmV

AGC Stiffness:  $\pm 0.5$  dB

AGC Indicator Range  
LED ON: -1.5 dB  
LED OFF: +1.5 dB

Output Level - Min  
CAP-40: +42 dBmV  
CAP-60: +60 dBmV

Output Level Adjust: 15 dB

Noise Figure  
VHF: 7.0 dB  
UHF: 9.0 dB

Aural/Visual Carrier Ratio: 0 to -11 dB

Visual Carrier Frequency Tolerance  
CAP-40-ON: same as input channel  
CAP-60-ON: same as input channel  
All Others (Standard Channels):  $\pm 5$  kHz  
All Others (Aeronautical Channels):  $\pm 3$  kHz

Channel Selectivity:  
Adjacent Aural and Below: -60 dB  
Adjacent Picture and Above: -60 dB

Spurious Outputs: -60 dBc

Intermod Distortion: 64 dB

Broadband Noise: -110 dBc

Image Rejection  
VHF: 70 dB  
UHF: 60 dB

Input/Output Impedance: 75 ohm

Input Return Loss: 14 dB

Output Return Loss: 16 dB

#### IF

Aural Frequency: 41.25 MHz

Visual Frequency: 45.75 MHz

Composite IF Loop Output  
Visual Carrier Level: +29 dBmV

Output/Input Impedance: 75 ohm

Output Return Loss: 18 dB

Input Return Loss: 16 dB

#### General

Power Requirements  
Voltage: 117,  $\pm 10\%$  VAC  
Frequency: 60 Hz  
Power: 22 W

Fuse: 3/8 A

Temperature Range: 0 to +50 °C

#### Mechanical

Dimensions (WxHxD):  
19.0 x 1.75 x 15.0 in.  
483 x 44 x 36 mm

Weight: 10 lbs. (1.81 kg)

#### Connectors (Rear Panel)

RF Input: "F" Type, Female  
IF Output: "F" Type, Female  
IF Input: "F" Type, Female  
Alternate IF Input: "F" Type, Female  
RF Output: "F" Type, Female

#### Controls (Front Panel)

Aural Carrier Level: Control  
RF Output Level: Control

#### Controls (Rear Panel)

Standby Carrier/Alternate IF Mode (Option 21):  
Slide Switch

#### Indicators (Front Panel)

Power ON: LED, Green  
Low Input Level: LED, Red

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

### ○ Ordering Information

Model	Stock No.	Description
CAP-40-ON	5893A	Channelized Agile Output Heterodyne Processor +40 dBmV, 54-216 MHz (VHF IN), 54-216 MHz (VHF OUT)
CAP-60-ON	5894A	Channelized Agile Output Heterodyne Processor +60 dBmV, 54-216 MHz (VHF IN), 54-216 MHz (VHF OUT)
CAP-40-S/V	S5893A 300	Channelized Agile Output Heterodyne Processor +40 dBmV, 5-37 MHz (SUB IN), 54-300 MHz (VHF OUT)
CAP-40-S/V	S5893A 756	Channelized Agile Output Heterodyne Processor +40 dBmV, 5-37 MHz (SUB IN), 300-756 MHz (VHF OUT)
CAP-40-S/V	S5893A 860	Channelized Agile Output Heterodyne Processor +40 dBmV, 5-37 MHz (SUB IN), 756-860 MHz (VHF OUT)
CAP-60-S/V	S5894A 300	Channelized Agile Output Heterodyne Processor +60 dBmV, 5-37 MHz (SUB IN), 54-300 MHz (VHF OUT)
CAP-60-S/V	S5894A 756	Channelized Agile Output Heterodyne Processor +60 dBmV, 5-37 MHz (SUB IN), 300-756 MHz (VHF OUT)
CAP-60-S/V	S5894A 860	Channelized Agile Output Heterodyne Processor +60 dBmV, 5-37 MHz (SUB IN), 756-860 MHz (VHF OUT)
CAP-40-U/V	U5893A 300	Channelized Agile Output Heterodyne Processor +40 dBmV, 470-806 MHz (UHF IN), 54-300 MHz (VHF OUT)
CAP-40-U/V	U5893A 756	Channelized Agile Output Heterodyne Processor +40 dBmV, 470-806 MHz (UHF IN), 300-756 MHz (VHF OUT)
CAP-40-U/V	U5893A 860	Channelized Agile Output Heterodyne Processor +40 dBmV, 470-806 MHz (UHF IN), 756-860 MHz (VHF OUT)
CAP-60-U/V	U5894A 300	Channelized Agile Output Heterodyne Processor +60 dBmV, 470-806 MHz (UHF IN), 54-300 MHz (VHF OUT)
CAP-60-U/V	U5894A 756	Channelized Agile Output Heterodyne Processor +60 dBmV, 470-806 MHz (UHF IN), 300-756 MHz (VHF OUT)
CAP-60-U/V	U5894A 860	Channelized Agile Output Heterodyne Processor +60 dBmV, 470-806 MHz (UHF IN), 756-860 MHz (VHF OUT)
CAP-40-V/V	V5893A 300	Channelized Agile Output Heterodyne Processor +40 dBmV, 54-550 MHz (VHF IN), 54-300 MHz (VHF OUT)
CAP-40-V/V	V5893A 756	Channelized Agile Output Heterodyne Processor +40 dBmV, 54-550 MHz (VHF IN), 300-756 MHz (VHF OUT)
CAP-40-V/V	V5893A 860	Channelized Agile Output Heterodyne Processor +40 dBmV, 54-550 MHz (VHF IN), 756-860 MHz (VHF OUT)
CAP-60-V/V	V5894A 300	Channelized Agile Output Heterodyne Processor +60 dBmV, 54-550 MHz (VHF IN), 54-300 MHz (VHF OUT)
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CAP-60-V/V	V5894A 860	Channelized Agile Output Heterodyne Processor +60 dBmV, 54-550 MHz (VHF IN), 756-860 MHz (VHF OUT)
CAP-OPT 21	7821	CAP Series Option: Alternate IF

Available through **Multicom, Inc.** 1076 Florida Central Parkway, Longwood, FL 32738

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