


**FREQUENCY  
DEVICES™**
**581 / 585 SERIES FILTERS  
FOR TELEPHONE MESSAGE  
CIRCUIT NOISE MEASUREMENT**

189

**FREQUENCY DEVICES INC**
**DESCRIPTION**

Frequency Devices 581 Series C-Message Weighting Filters and 585 Series Narrow Band Notch Filters are designed specifically to provide the C-Message Weighting frequency response and the C-Notched frequency response specified in Bell System Technical Reference 41009 for telephone message circuit noise measurements.

The 581 Series C-Message Weighting Filters provide the broad-band C-Message Weighted frequency response characteristic shown below. Three models give you a choice of response accuracies and size.

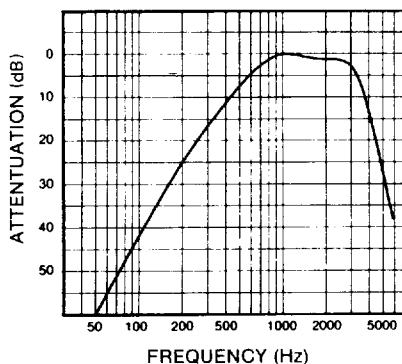
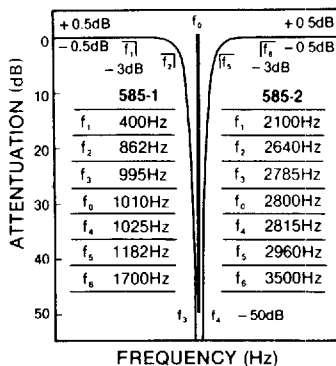
The 585 Series Narrow Band Notch Filters are designed for use with the 581 Series C-Message Weighting Filters to provide the C-Notched frequency response required for background noise measurements made while test/holding tones are being transmitted on the line. The 585 Series frequency response is shown below. Two models in the 585 Series provide notches centered at 1010Hz or 2800Hz.

The 585 Series Filters may also be used by themselves in any telecommunication application requiring rejection of the 995Hz-1025Hz band or the 2785Hz-2815Hz band of test/holding tones.

**FEATURES**

- C-Message Response
- C-Notched Response
- Finished Filter Component
- Low Profile Packaging (0.4")
- Low Power Consumption
- Low Cost

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**581 SERIES RESPONSE**

**585 SERIES RESPONSE**

**TABLE OF CONTENTS**

581/585 Series	General Introduction	1
581 Series	C-Message Description	2
581 Series	C-Message Specifications	3
585 Series	Notch Filter Description	4
585 Series	Notch Filter Specifications	5
581/585 Series	Dimensions and Terminal Diagram	6
S1006	Installation Socket	7

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**FREQUENCY DEVICES INC**
[查询 581-1 供应商](#)
**DESCRIPTION**

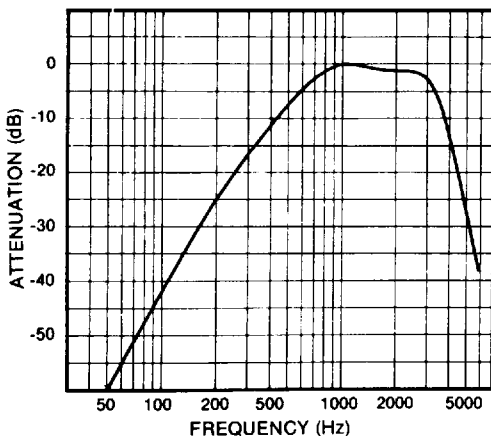
Frequency Devices' 581 Series C-Message Weighting Filters provide the C-Message frequency response weighting characteristic specified by Bell System Technical Reference 41009 for telephone message circuit noise measurements. The theoretical C-Message characteristic simulates the perceived response of the human ear to telephone noise.

**MODEL 581-1** provides a close  $\pm 1$ dB approximation to the theoretical C-Message Weighting function from 60Hz to 5000Hz for applications requiring a tight tolerance.

**MODEL 581-2** provides a less costly realization with looser tolerances below 300Hz and above 3000Hz.

**MODEL 581-5** provides the same function as a 581-1 but in a smaller mechanical package.

**MODEL 581-6** provides the same function as a 581-2 but in a smaller mechanical package.

**FREQUENCY RESPONSE**

**FEATURES:**

- Finished Filter Component
- Low Profile Packaging (0.4")
- C-Message Weighting
- Low Cost
- Low Power Consumption

**APPLICATIONS**

- Telephone Message Circuit Noise Measurements
- Test Equipment

FREQUENCY HERTZ	ATTENUATION dB	581-1, 581-5 TOLERANCES $\pm$ dB	581-2, 581-6 TOLERANCES $\pm$ dB
60	55.7	1	3
100	42.5	1	2
200	25.0	1	2
300	16.5	1	1
400	11.4	1	1
500	7.5	1	1
600	4.7	1	1
700	2.7	1	1
800	1.5	1	1
900	0.6	1	1
1000	0.0	0.1	0.1
1200	0.2	1	1
1300	0.5	1	1
1500	1.0	1	1
1800	1.3	1	1
2000	1.3	1	1
2500	1.4	1	1
2800	1.9	1	1
3000	2.5	1	1
3300	5.2	1	2
3500	7.6	1	2
4000	14.5	1	3
4500	21.5	1	3
5000	28.5	1	3


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查询"581-1"供应商

	581-1	581-2	581-5	581-6	UNITS
<b>GAIN AT 1KHZ (Non-Inverting)</b>	0 ± 0.1				dB
<b>INPUT</b>					
Impedance	10				k Ω min
Source Impedance <sup>2</sup>	600				Ω max
Bias Current <sup>3</sup>	0				
Voltage Range	± 10				V min
Maximum Safe Voltage	± V <sub>S</sub>				V <sub>P</sub>
<b>OUTPUT</b>					
Resistance	1				Ω
Rated Output <sup>4</sup>	± 10 @ 2				V @ mA
Offset Voltage	± 5				mV
Offset Drift	± 100				μV/°C
Noise <sup>5</sup>	50				μV RMS
<b>POWER SUPPLY (± V<sub>S</sub>)</b>					
Rated Voltage	± 15				Vdc
Operating Range	± 5 to ± 18				Vdc
Quiescent Current	± 3				mA
<b>TEMPERATURE</b>					
Operating Range	0 to +70				°C
Storage Range	-25 to +85				°C

**NOTES**

- 1 Typical at 25°C and V<sub>S</sub> = ± Vdc except as noted.
- 2 Larger series input resistance will degrade performance.
- 3 Capacitor coupled.
- 4 Short circuit protected to ground.
- 5 With input grounded, dc to 50kHz excluding dc offset.

Specifications are subject to change without notice.


**FREQUENCY DEVICES INC**
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**DESCRIPTION**

Frequency Devices' 585 Series Narrow Band Notch Filters are designed for use with the 581 Series C-Message Weighting Filters to provide the "C-Notched" characteristic specified by Bell System Technical Reference 41009 for background noise measurements made while test/holding tones are transmitted on the line. A three pole-pair band-reject design realizes 3dB and 50dB attenuation bandwidths that conform with Bell System specifications.

**Model 585-1** has 50dB of attenuation from 995Hz to 1025Hz to eliminate 1000Hz test tones, 1004Hz holding tones and 1020Hz tones often used for phase jitter measurements.

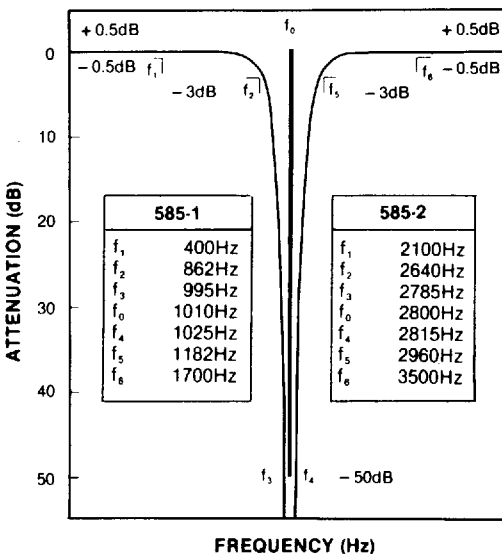
**Model 585-2** has 50dB of attenuation from 2785Hz to 2815Hz to eliminate the 2800Hz holding tone commonly used.

**FEATURES**

- C-Notched Response
- Finished Filter Component
- Low Profile Packaging
- Low Cost

**APPLICATIONS**

- Telephone Message Circuit Noise Measurements
- Test Equipment
- Central Office Receivers
- Remove Test/Holding Tones

**FREQUENCY RESPONSE**




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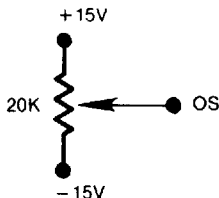
	585-1,5 585-2,6	UNITS
<b>PASSBAND GAIN (Inverting)</b>	$0 \pm 0.3$	dB
<b>INPUT</b>		
Impedance	20 min	k $\Omega$
Bias Current	10	nA
Voltage Range	$\pm 10$	V
Maximum Safe Voltage	$\pm V_S$	V
<b>OUTPUT</b>		
Resistance	10	$\Omega$
Rated Output <sup>2</sup>	$\pm 10 @ 5$	V @ mA
Full Power Response	10	kHz
Offset Voltage <sup>3</sup>	$\pm 5$	mV
Offset Drift	$\pm 50$	$\mu V/^{\circ}C$
Noise <sup>4</sup>	50	$\mu V$ RMS
<b>POWER SUPPLY (<math>\pm V_S</math>)</b>		
Rated Voltage	$\pm 15$	Vdc
Operating Range	$\pm 5$ to $\pm 18$	Vdc
Quiescent Current	$\pm 25$	mA
<b>TEMPERATURE</b>		
Operating Range	0 to +70	$^{\circ}C$
Storage Range	-25 to +85	$^{\circ}C$

**NOTES**

- 1 Typical at 25°C and  $V_S = \pm 15$ Vdc except as noted.
- 2 Short circuit protected to ground.
- 3 Externally adjustable to zero.
- 4 With input grounded, dc to 50kHz excluding dc offset.

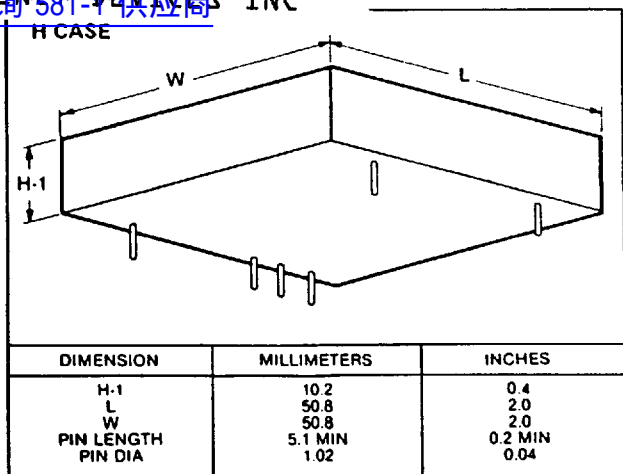
Specifications subject to change without notice.

**OFFSET ADJUSTMENT**  
 DC offset is externally adjustable to zero by an external potentiometer as shown. →



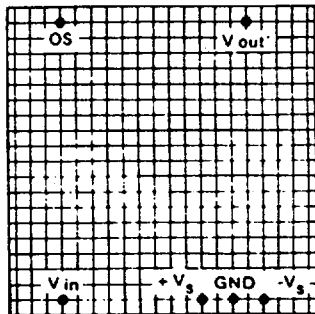
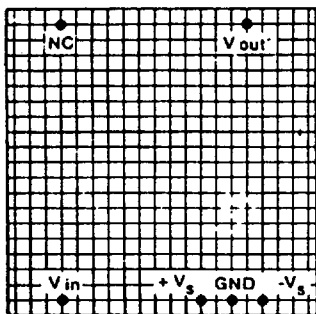


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**TERMINAL DIAGRAMS**

581-1, 581-2

585 SERIES



BOTTOM VIEWS

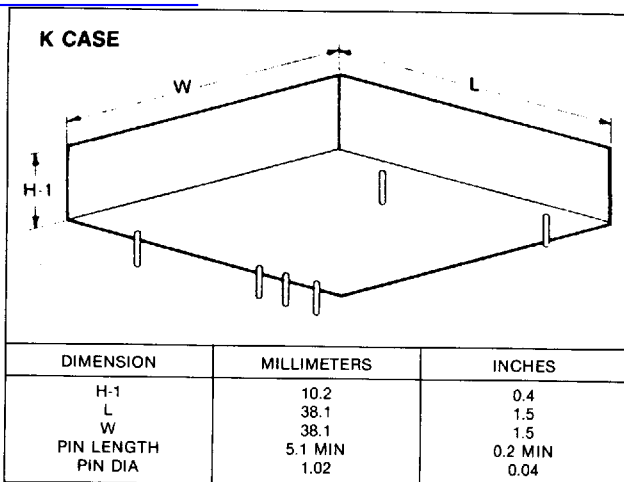
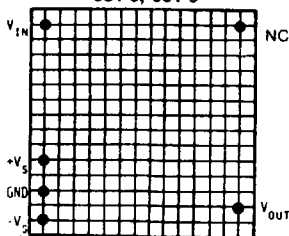
0.1 INCH GRIDS

USE SOCKET S1006

 Case dimensions are nominal. Pin location is  $\pm 0.13$  mm (0.005in) referenced to an ideal grid.

**TERMINAL KEY**

$V_{in}$	Signal Input
$V_{out}$	Signal Output
NC	No Connection
OS	Offset Adjustment
$+V_s$	Supply Voltage, Positive
$-V_s$	Supply Voltage, Negative
GND	Ground, Supply Common


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**TERMINAL DIAGRAM**
**581-5, 581-6**

**BOTTOM VIEW      0.1 INCH GRIDS      USE SOCKET S1013**
**TERMINAL KEY**

$V_{in}$	Signal Input
$V_{out}$	Signal Output
NC	No Connection
OS	Offset Adjustment
+ $V_S$	Supply Voltage, Positive
- $V_S$	Supply Voltage, Negative
GND	Ground, Supply Common