

**LAS VEGAS
1998**

**Teach an
Old Indicator
New Tricks; or
The Commodity
Channel Index**

**Not for
Commodities Only**

**BARBARA
STAR, PhD**



BARBARA STAR
22701 Mariano St
Woodland Hills, CA 91367
818-224-4070 O & FAX
bstar4040@aol.com

The Commodity Channel Index (CCI) is included in most technical analysis charting programs, but it has yet to enjoy the popularity of an RSI or an MACD. Some traders may be misled by the name into thinking the CCI applies only to commodities, but the larger problem with its acceptance as an analytic technical tool rests with confusion about how to use and interpret the CCI. In this workshop, Barbara will show you how to clear away this confusion, and to tap into the potential of this powerful momentum indicator.

The CCI is as effective with stocks, indices and mutual funds as it is with commodities. Barbara has had the benefit of interviewing the creator of the CCI, Donald Lambert, and will share some of the insights that he provided about the purpose and application of the indicator. Although it was originally developed as a programming experiment linked to cycles, users found the CCI to be much more versatile. Barbara will tell you how to unleash the power of the CCI by providing examples of several different trading techniques, including how to use the CCI as a leading indicator.

* * *

Barbara Star, PhD, part-time trader, author, and university professor, provides one-on-one technical analysis training for both beginning and experienced traders. She also helps traders find the indicators best suited to their trading style, and will develop custom indicators when necessary.

Barbara became interested in the financial markets about fifteen years ago. Tired of hand charting, she bought her first charting software soon after the 1987 crash, and has been fascinated by technical analysis and technical indicators ever since.

Barbara's articles and software reviews have appeared in *Technical Analysis of Stocks and Commodities* magazine since 1991. She wrote the three-volume *EZ Indicator Series* for Metastock users, and with Walter Bressert, she co-authored the trading manual *Oscillator/Cycle Combinations Metastock Supplement* (1992). She is active in the Market Analysts of Southern California, a group formed by John Bollinger and his colleagues and open to anyone interested in technical analysis. She has served as both a board member and vice-president of the organization. She also leads a technical analysis user group.

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The Commodity Channel Index

- **Developed in 1980 by Donald Lambert - required a hand held calculator**
- **He noticed there were certain repetitive movements in price action similar to the rhythmic cyclical motion of a sine wave**
- **Purpose of the CCI: to identify the tops and bottoms of sine wave-like price actions**

Sine Wave

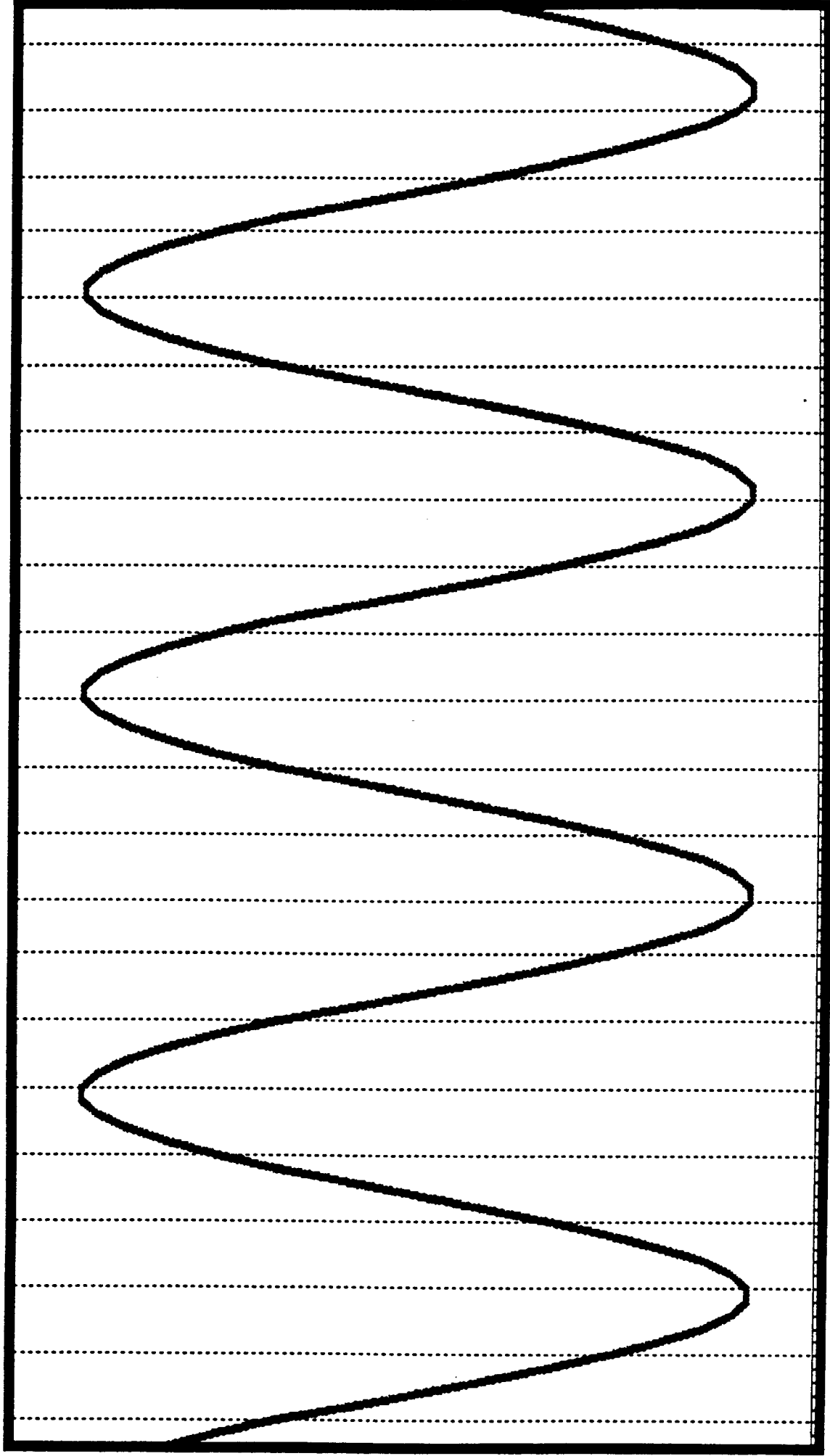


Figure 1

COMPONENTS OF THE CCI

- The CCI consists of:
 - Typical Price ($H+L+C/3$)
 - Simple moving average
 - Stabilizing factor (0.15)
 - Absolute mean deviation
- Formula: typical price - moving average
(0.15) (mean deviation)

CCI SPREADSHEET

(Courtesy of Thom Hartle, Editor, The Technical Analysis of Stocks and Commodities magazine)

Date	Open	High	Low	Close	Typical Price	10 Period Moving Average	10 Period Mean Deviation	10 Period CCI
8/3/98	109.125	110.875	107.375	108.4375	108.90			
8/4/98	108.625	109.625	104.1875	104.5	106.10			
8/5/98	104.125	107.25	101.5	104.03125	104.26			
8/6/98	103.75	106.5375	103.625	106.875	105.81			
8/7/98	107.4375	107.5	105.0625	105.875	106.15			
8/10/98	105.8125	106.3125	104.4375	104.4375	105.06			
8/11/98	102.875	105	102	103.4375	103.48			
8/12/98	104.3125	105.45313	103	105.0625	104.51			
8/13/98	104.125	106	103.75	103.9375	104.56			
8/14/98	104.5875	105.0625	103.5	104	104.19	105.06	1.10	-52.72
8/17/98	103.5	107.375	103	107.3125	105.90	104.95	0.80	78.82
8/18/98	107.875	111.8125	107.375	111.25	110.15	105.62	1.32	228.72
8/19/98	112.25	112.75	110.25	110.5625	111.19	106.28	1.93	169.41
8/20/98	110.125	112.75	109.6875	112.5625	111.67	105.84	2.65	121.16
8/21/98	111.125	111.875	108.75	110.625	110.42	107.32	3.04	68.02
8/24/98	110.3125	112	110	110.375	110.79	107.91	3.16	60.78
8/25/98	111.375	113.5875	111.125	112.8125	112.54	108.85	2.99	82.31
8/26/98	111.25	113.75	110.875	112.5625	112.40	109.60	2.61	71.41
8/27/98	110.5625	112.75	108.25	109	110.00	110.11	1.86	-3.80

10 Period Commodity Channel Index Microsoft (MSFT)

Column A: Date

Column B: Open

Column C: High

Column D: Low

Column E: Close

Column F: Typical Price, enter $= (C2 + D2 + E2) / 3$ into cell C2 and copy down.

Column G: 10 Period Moving Average, enter $= \text{Average}(E2:E11)$ into cell G11 and copy down.

Column H: 10 Period Moving Mean Deviation, enter $= (\text{Abs}(F11 - G11) + \text{Abs}(F10 - G11) + \text{Abs}(F9 - G11) + \text{Abs}(F8 - G11) + \text{Abs}(F7 - G11) + \text{Abs}(F6 - G11) + \text{Abs}(F5 - G11) + \text{Abs}(F4 - G11) + \text{Abs}(F3 - G11) + \text{Abs}(F2 - G11)) / 10$ into cell H11 and copy down.

Column I: 10 Period CCI, enter $= (F11 - G11) / (0.015 * H11)$ into cell I11 and copy down.

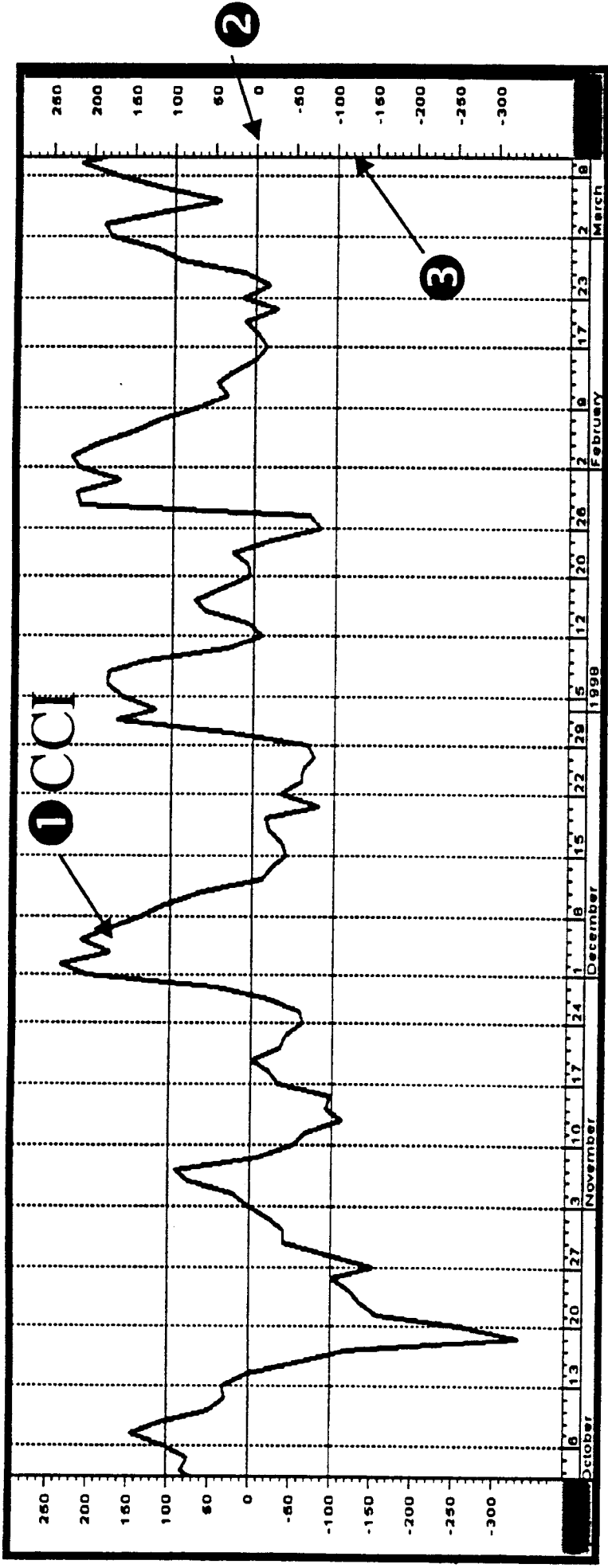


Figure 2

- 1 An oscillator that moves above and below a zero line
- 2 The zero line is the point at which price crosses its moving average
- 3 The numeric scaling = the percent that the CCI is above/ below the zero line. The bands at +100 are the channels and contain 70-80% of price fluctuations.

ORIGINAL CCI TRADING RULES

- 1 Buy when the CCI rises above +100; Exit when the CCI falls below +100**
- 2 Sell short when the CCI drops below -100; Exit when the CCI moves above -100**
- 3 Do not trade when the CCI is between -100 and +100**

This chart was added after the conference to provide additional clarity.

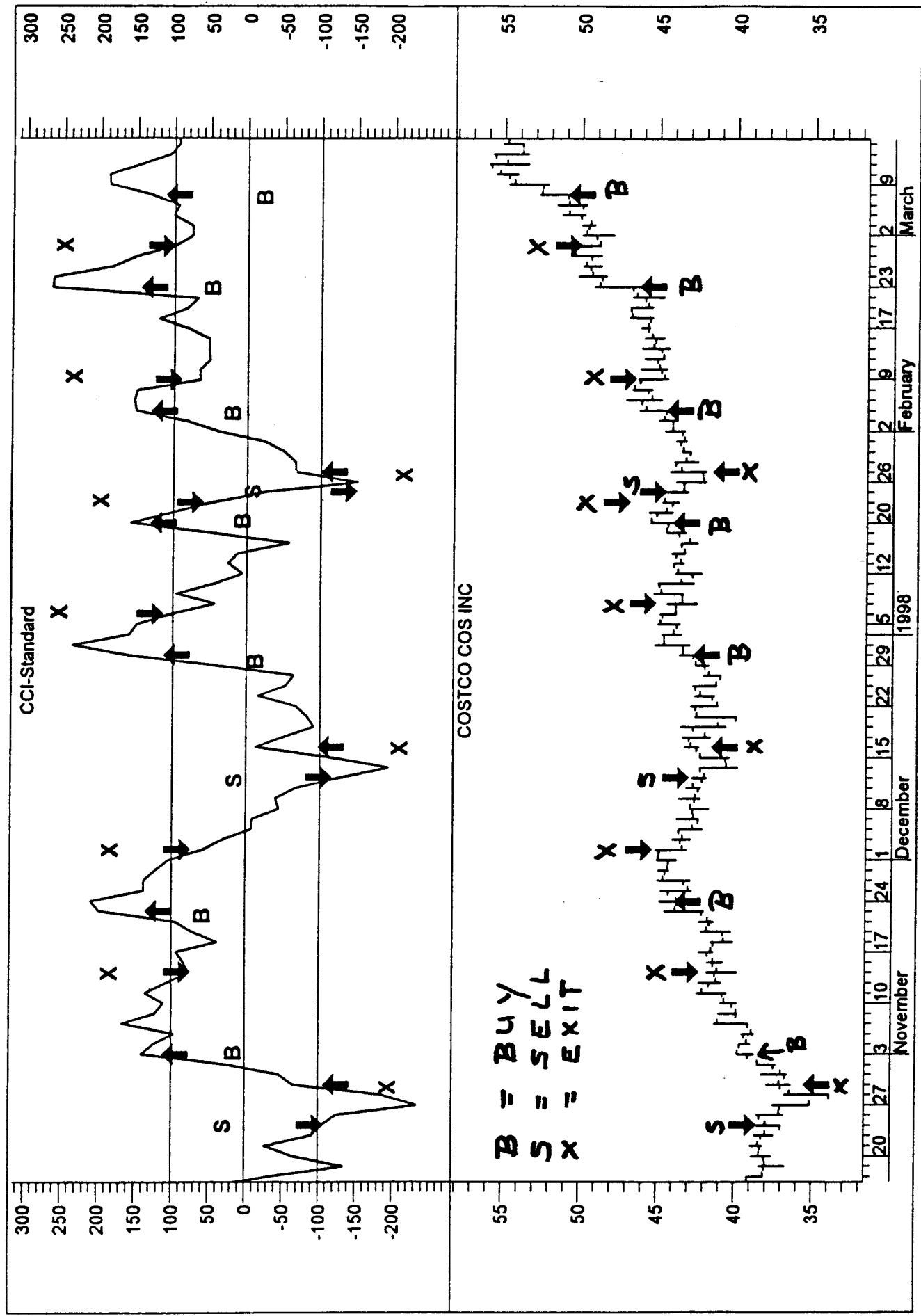


Figure 3 THE ORIGINAL CCI TRADING METHOD

The original trading method produced too many trades and too few profits.

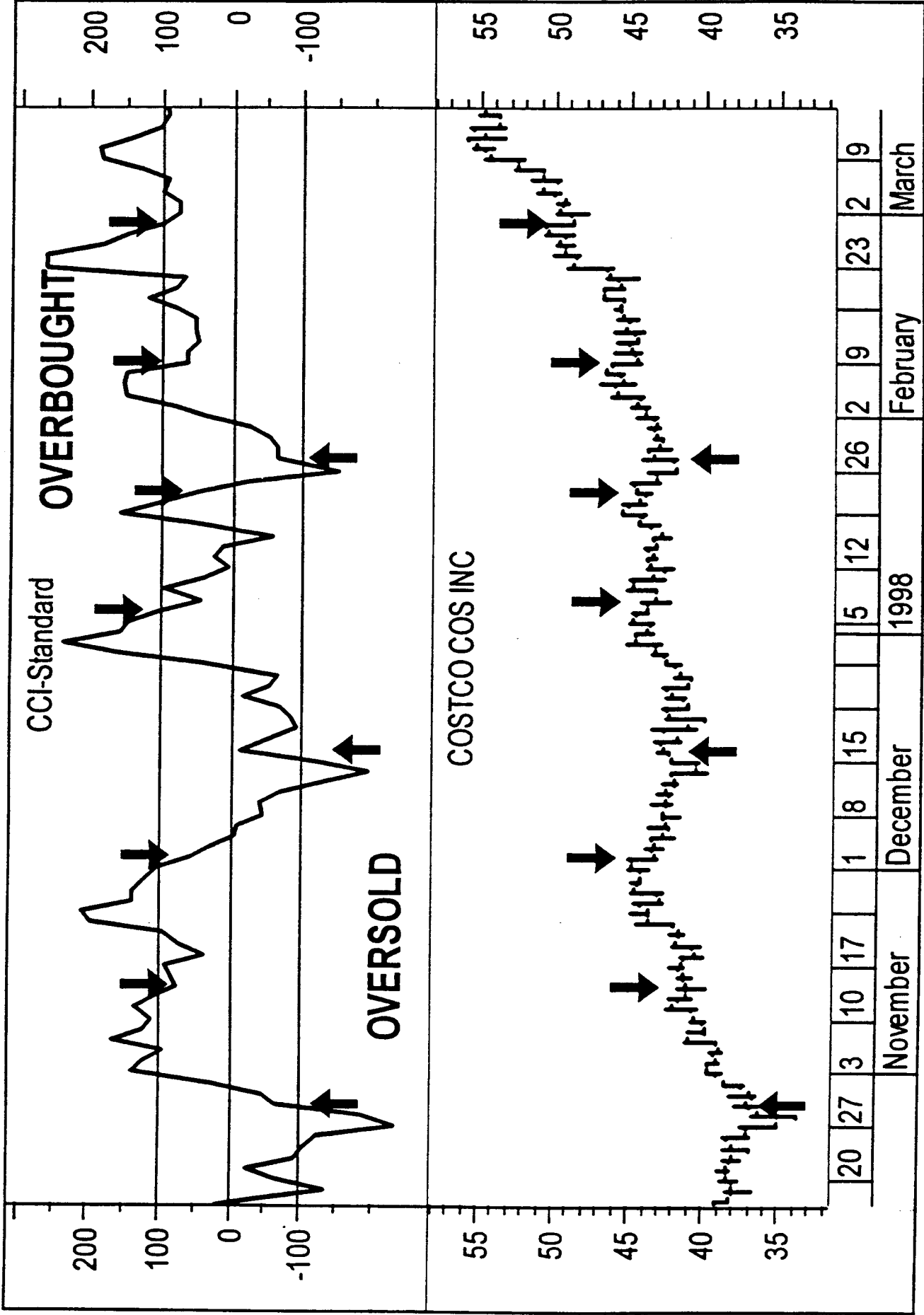
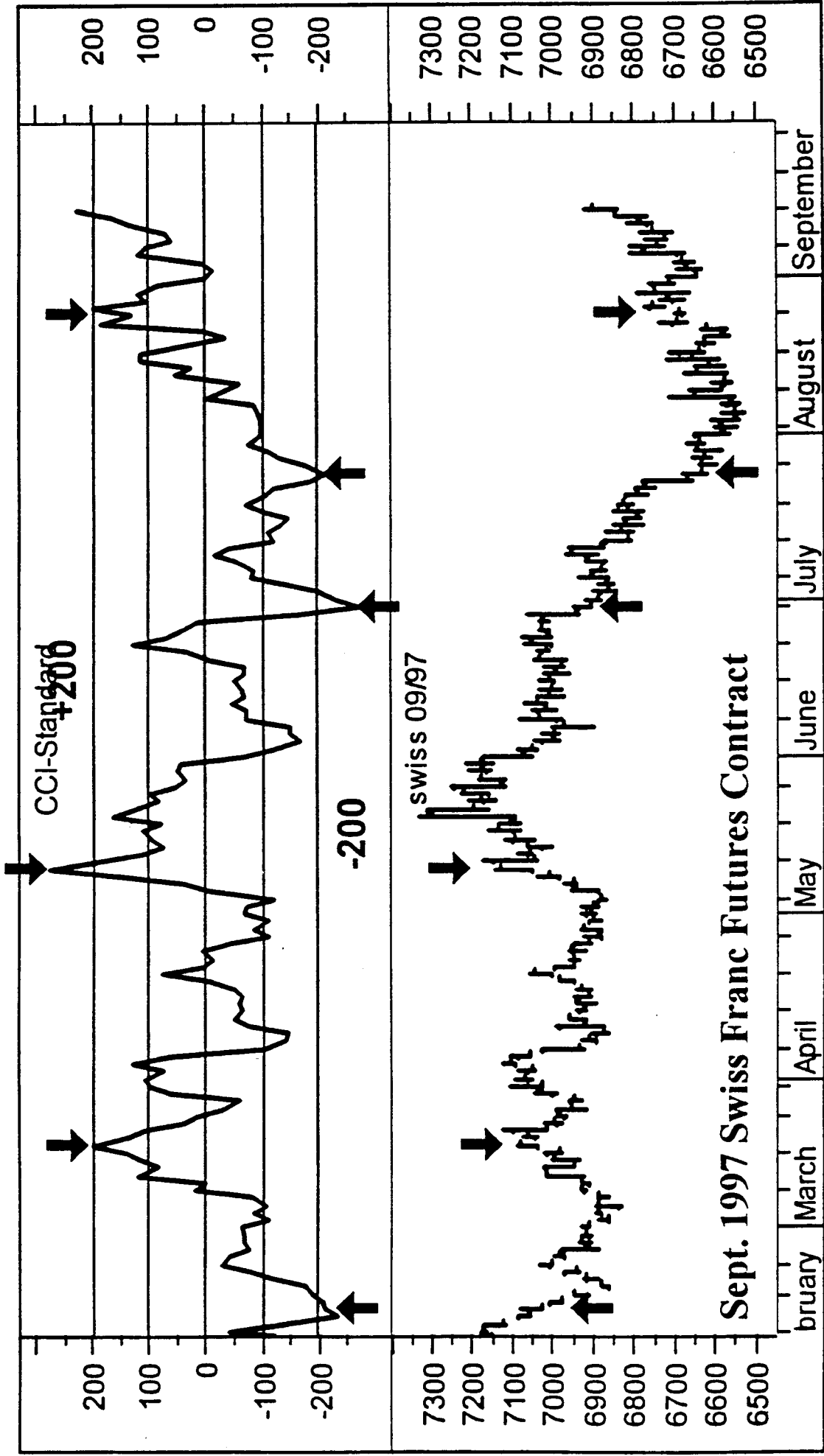


Figure 4 THE CCI AS AN OVERBOUGHT/OVERSOLD INDICATOR



MY PARAMETERS

Figure 5
 A 14 unit CCI with extreme readings at +200 and -200.
 The arrows on the chart show where those points occur.
 The area between +50 and -50 is a neutral zone.

THE CCI LEADS THE WAY

- **The CCI serves as a leading or coincident indicator at price tops and bottoms.**
- **Follow the numeric value of the indicator to determine changes from up to down or from down to up.**
- **Trendlines help eliminate some early signals.**
- **Wait for price breakouts to confirm the change in direction.**

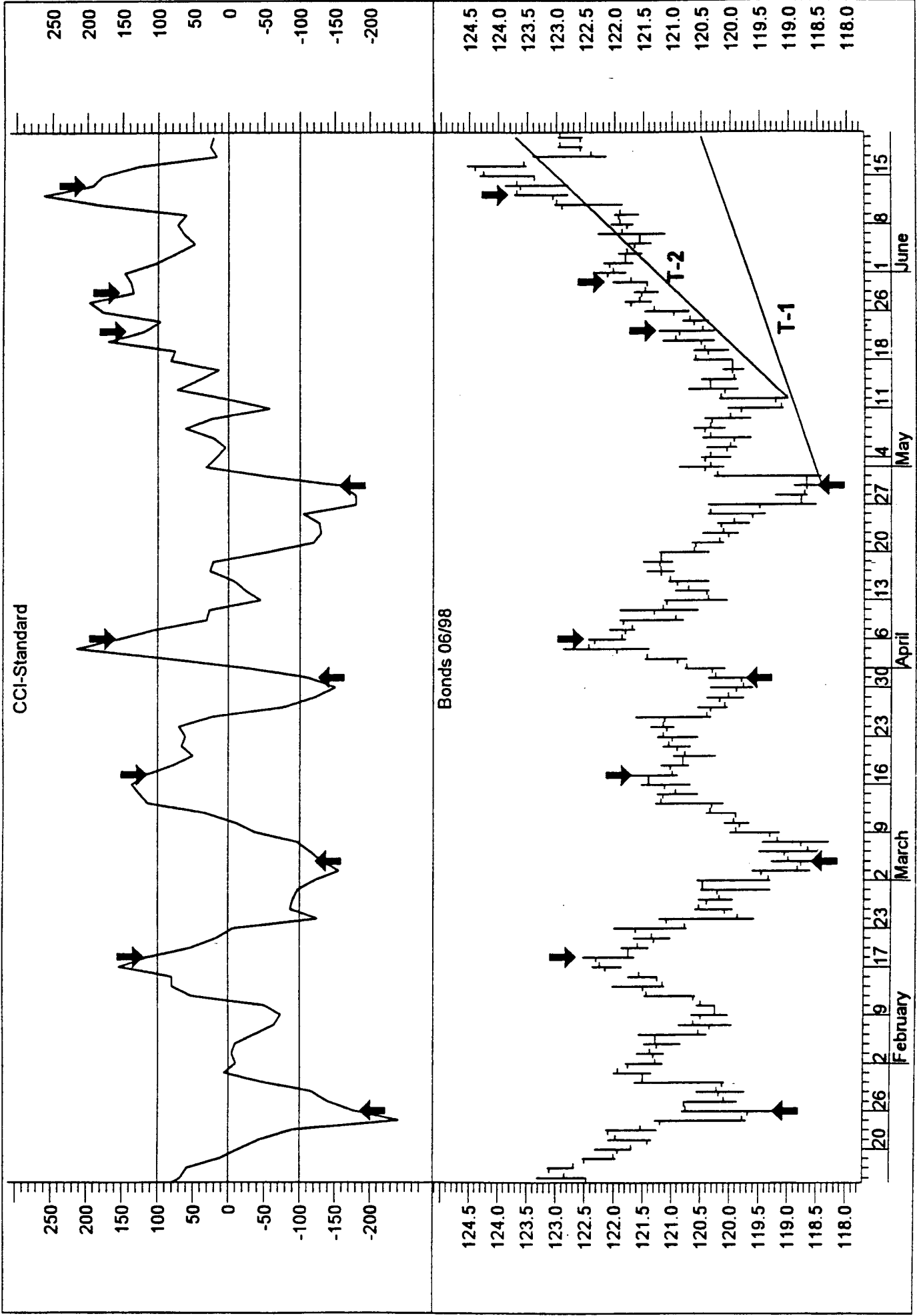


Figure 6 THE CCI 14 AS A LEADING OR COINCIDENT INDICATOR

Price and Indicator Data
1/28/98 to 6/19/98

Bonds 06/98

Date	Open	High	Low	Close	Volume	Open Int.	CCI-S
01/28/98	120.188	120.563	119.750	120.219	418,360	721,190	-116.332
01/29/98	120.125	121.625	120.094	121.500	621,030	731,800	-46.4854
01/30/98	121.500	122.000	121.344	121.938	512,130	745,570	5.9629
02/02/98	121.750	121.781	121.156	121.281	375,990	742,510	-10.4560
02/03/98	121.313	121.594	121.125	121.375	326,130	740,670	-4.3726
02/04/98	121.250	121.469	120.844	121.281	346,710	741,230	-9.7416
02/05/98	121.281	121.563	120.406	120.531	422,130	731,880	-36.5919
02/06/98	120.344	120.875	119.969	120.625	513,150	738,530	-64.6827
02/09/98	120.500	120.656	120.031	120.250	213,700	742,630	-73.7499
02/10/98	120.250	120.563	120.250	120.500	179,020	740,910	-50.3711
02/11/98	120.625	121.469	120.594	121.438	403,530	755,070	53.8384
02/12/98	121.500	122.031	121.125	121.156	640,990	776,400	79.8535
02/13/98	121.250	121.750	121.250	121.563	312,060	780,250	80.5472
02/17/98	122.156	122.375	121.875	122.250	346,710	781,290	153.594
02/18/98	122.313	122.531	121.656	121.750	539,770	793,480	114.968
02/19/98	121.750	121.875	121.406	121.594	66,302	788,200	53.5088
02/20/98	121.313	121.656	121.031	121.344	391,160	793,640	17.1966
02/23/98	121.625	122.000	120.750	120.781	689,060	790,810	-6.5608
02/24/98	121.094	121.219	119.594	119.875	907,730	798,920	-125.237
02/25/98	120.094	120.594	119.969	120.531	464,450	781,430	-87.5884
02/26/98	120.406	120.531	119.969	120.188	498,190	750,380	-90.6845
02/27/98	120.219	120.500	119.313	120.469	796,390	753,670	-97.4356
03/02/98	120.469	120.563	119.313	119.344	510,090	744,900	-121.769
03/03/98	119.469	119.625	118.625	118.844	526,060	766,340	-155.556
03/04/98	118.781	119.281	118.500	119.000	788,070	767,950	-131.301
03/05/98	119.063	119.500	118.500	118.656	621,130	760,520	-114.380
03/06/98	118.781	119.438	118.313	119.188	626,940	760,460	-96.1073
03/09/98	119.313	120.000	119.156	119.906	329,170	756,090	-38.2994
03/10/98	119.844	120.094	119.688	119.938	334,030	749,360	-10.3060
03/11/98	119.906	120.406	119.906	120.344	304,500	744,310	33.3355
03/12/98	120.313	121.281	120.125	121.188	771,100	793,870	113.739
03/13/98	121.156	121.250	120.563	120.938	793,040	780,890	125.378
03/16/98	121.125	121.531	120.688	121.406	279,550	780,320	136.273
03/17/98	121.406	121.688	120.906	121.000	447,000	777,130	117.591
03/18/98	121.031	121.188	120.719	120.813	286,950	763,290	78.8612
03/19/98	120.813	120.969	120.250	120.781	498,810	772,980	50.4982

S

B

S

Bonds 06/98

Date	Open	High	Low	Close	Volume	Open Int.	CCI-S
03/20/98	120.906	121.156	120.688	121.063	502,690	750,720	66.6925
03/23/98	121.000	121.250	120.563	121.156	255,750	764,580	60.5330
03/24/98	121.094	121.375	120.969	121.156	224,470	755,610	69.7931
03/25/98	121.125	121.625	120.344	120.406	237,150	762,890	24.0240
03/26/98	120.344	120.563	120.063	120.094	349,740	755,280	-77.1088
03/27/98	120.188	120.406	119.781	120.031	344,880	755,070	-120.851
03/30/98	119.906	120.344	119.625	119.781	251,650	764,180	-150.468
03/31/98	119.813	120.375	119.688	120.250	342,400	765,410	-110.706 -- B
04/01/98	120.313	120.781	120.094	120.750	334,660	774,400	-26.8697
04/02/98	120.906	121.469	120.750	121.438	358,280	779,760	86.0572
04/03/98	121.969	122.875	121.406	122.438	664,250	830,510	213.034
04/06/98	122.344	122.438	121.813	121.875	328,830	829,470	154.847 -- S
04/07/98	121.813	122.094	121.656	121.688	264,230	827,020	103.686
04/08/98	121.844	121.906	120.813	120.938	426,050	819,000	30.8302
04/09/98	121.313	121.906	120.563	121.156	492,220	817,690	26.9698
04/13/98	121.094	121.125	120.063	120.375	326,030	793,780	-44.3678
04/14/98	120.406	120.938	120.375	120.719	325,050	789,820	-24.0145
04/15/98	120.906	121.063	120.375	121.031	274,110	784,420	-8.5917
04/16/98	121.188	121.438	120.969	121.188	297,330	794,540	25.5765
04/17/98	121.219	121.500	121.000	121.188	260,580	792,760	21.9193
04/20/98	121.188	121.219	120.375	120.625	278,690	786,650	-53.2325
04/21/98	120.594	120.656	120.125	120.188	368,120	800,850	-119.539
04/22/98	120.031	120.469	119.875	120.125	361,690	799,810	-131.017
04/23/98	120.156	120.219	119.688	119.938	408,390	803,750	-127.695
04/24/98	119.625	120.375	119.406	120.344	434,770	804,740	-105.356
04/27/98	119.500	120.375	118.531	118.781	564,860	817,420	-179.819
04/28/98	118.781	119.219	118.688	118.719	358,140	819,430	-179.278
04/29/98	118.688	118.906	118.438	118.688	354,410	828,300	-159.402 -- B
04/30/98	118.688	120.281	118.438	120.219	626,580	843,640	-52.4366
05/01/98	120.438	120.875	120.125	120.344	370,720	825,750	31.9495
05/04/98	120.438	120.500	120.000	120.344	37,801	820,340	18.1110
05/05/98	120.063	120.406	119.906	120.000	245,620	816,530	4.7278
05/06/98	119.938	120.469	119.656	120.344	405,090	827,650	21.7725
05/07/98	120.438	120.625	120.094	120.344	268,550	826,620	60.7423

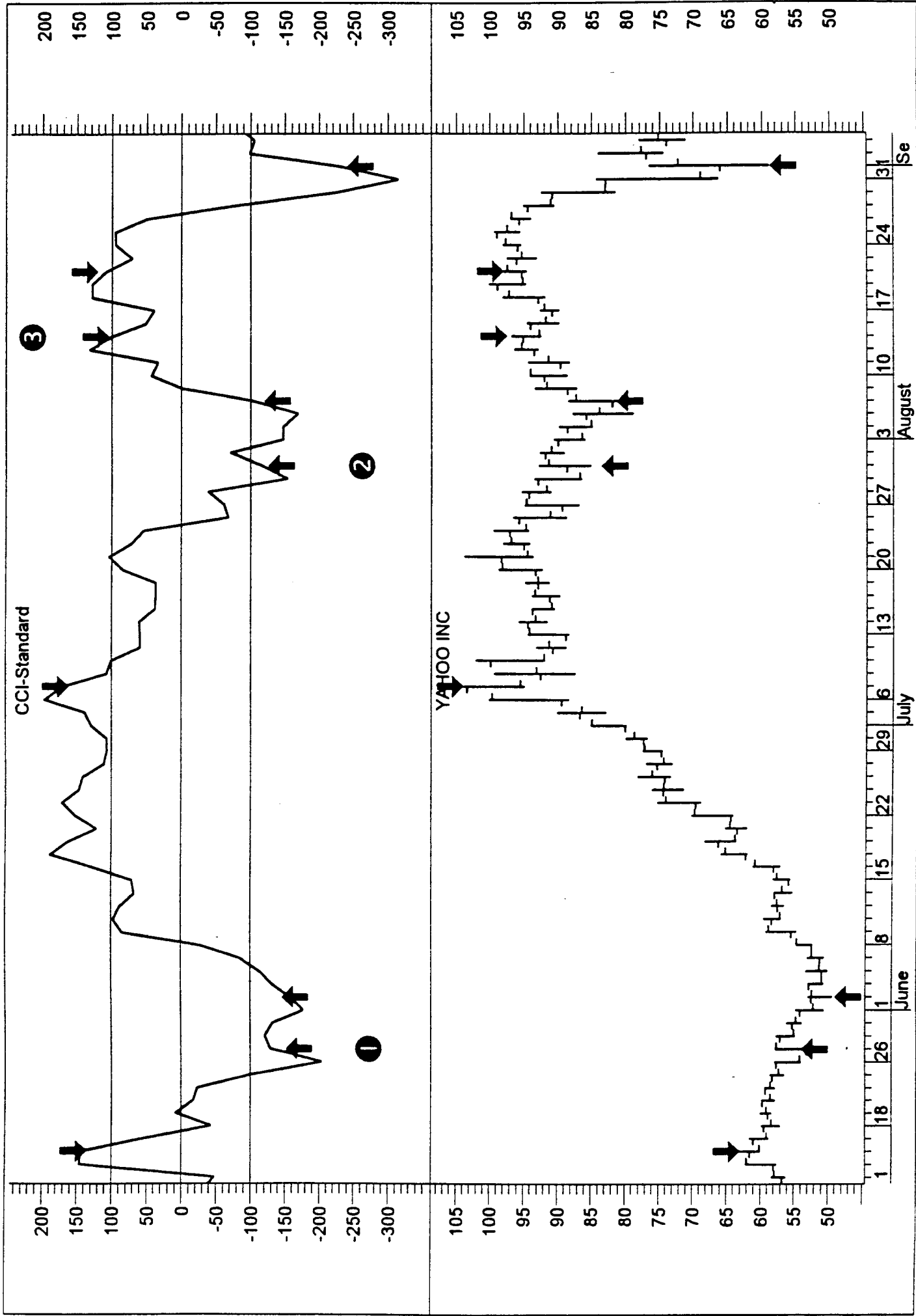


Figure 7 THE CCI SOMETMES SIGNALS TOO EARLY

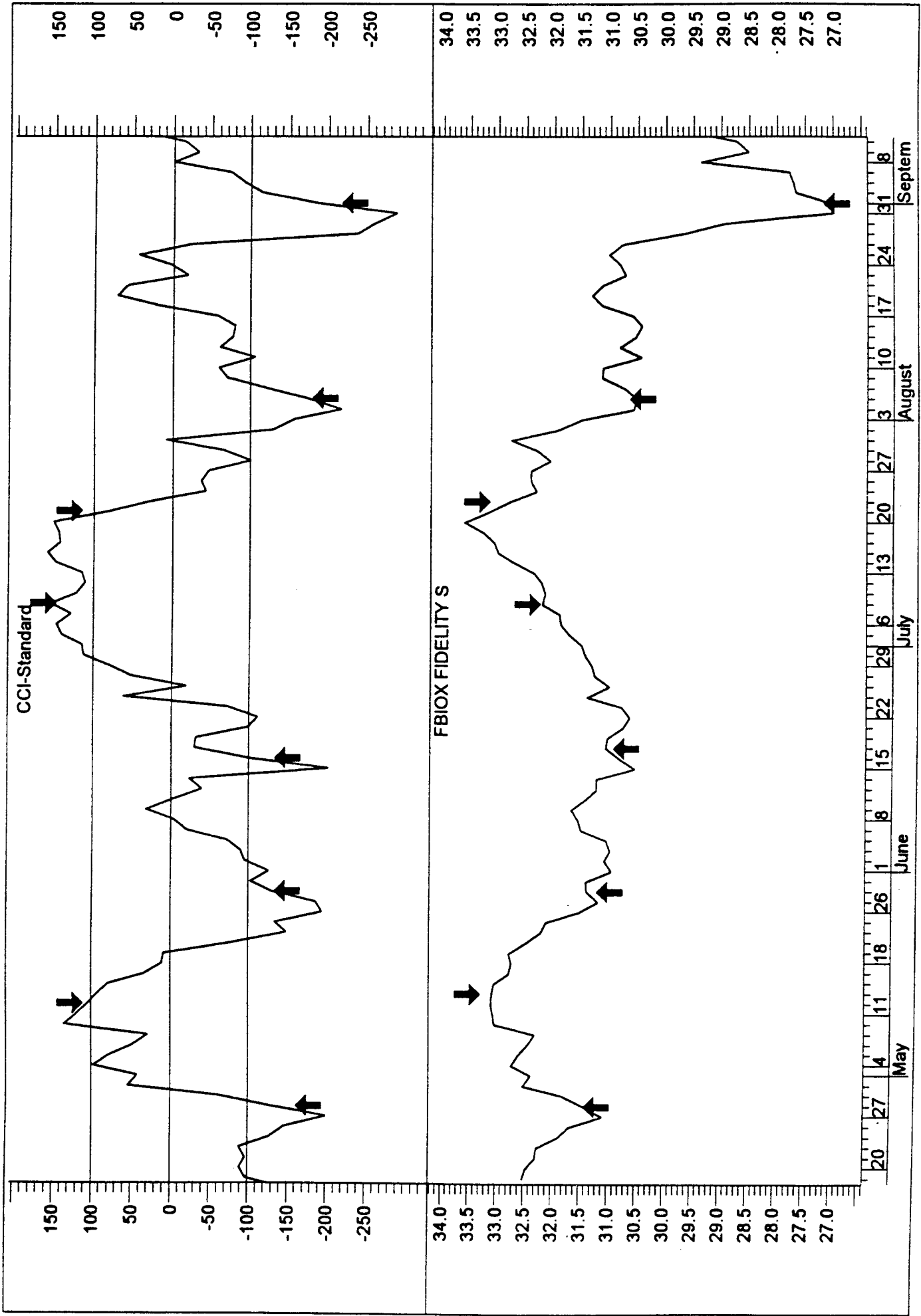


Figure 8 THE CCI WITH FIDELITY SELECT BIOTECH FUND

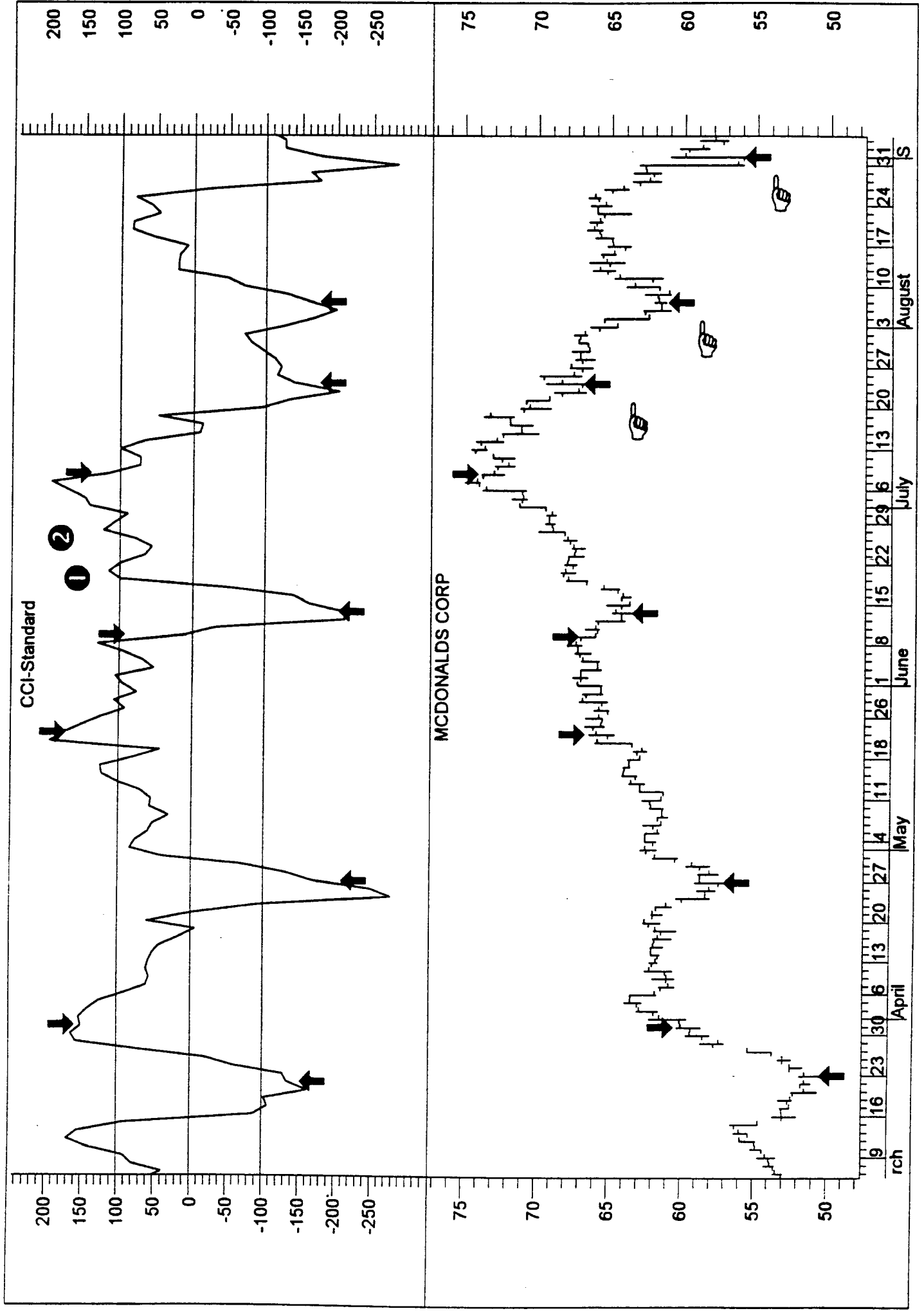


Figure 9 THE CCI LEADING INDICATOR WITH MULTIPLE SIGNALS

CCI ZERO LINE

- **Often denotes an area of support and/or resistance.**
- **Offers points from which to draw trendlines.**
- **Watch price action when CCI breaks through a zero line that had been a support or resistance zone.**

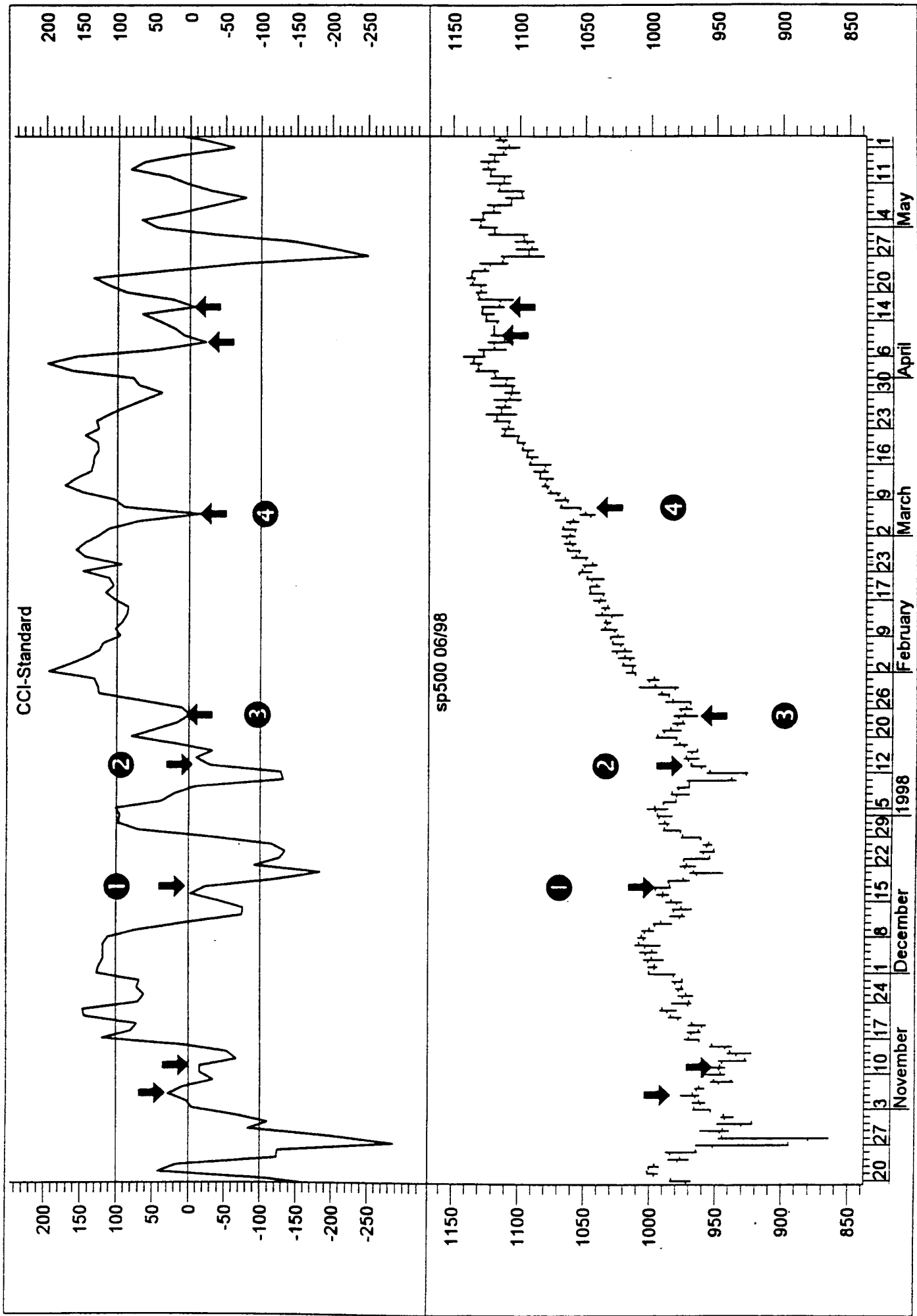


Figure 10 THE ZERO LINE PROVIDES SUPPORT AND RESISTANCE

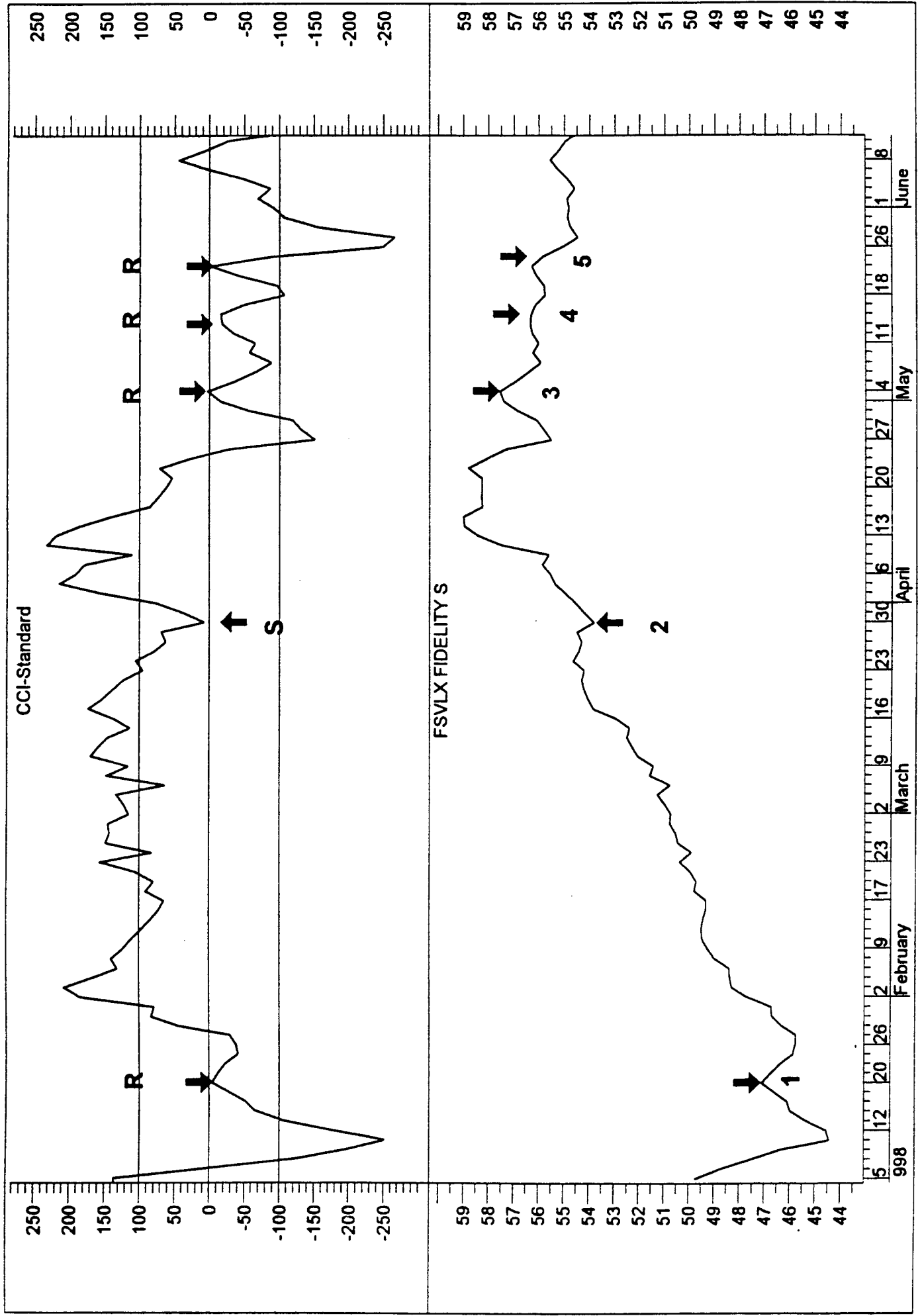


Figure 11 ZERO LINE AS SUPPORT AND RESISTANCE AT THE ZERO LINE

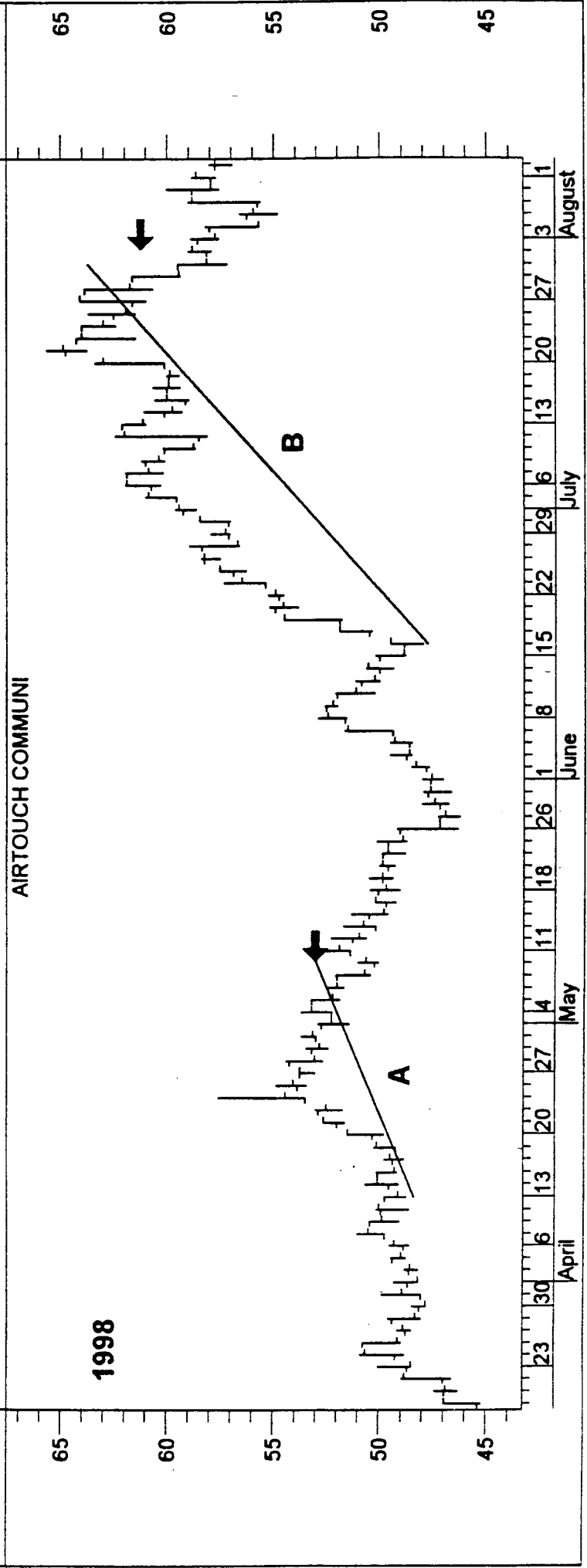
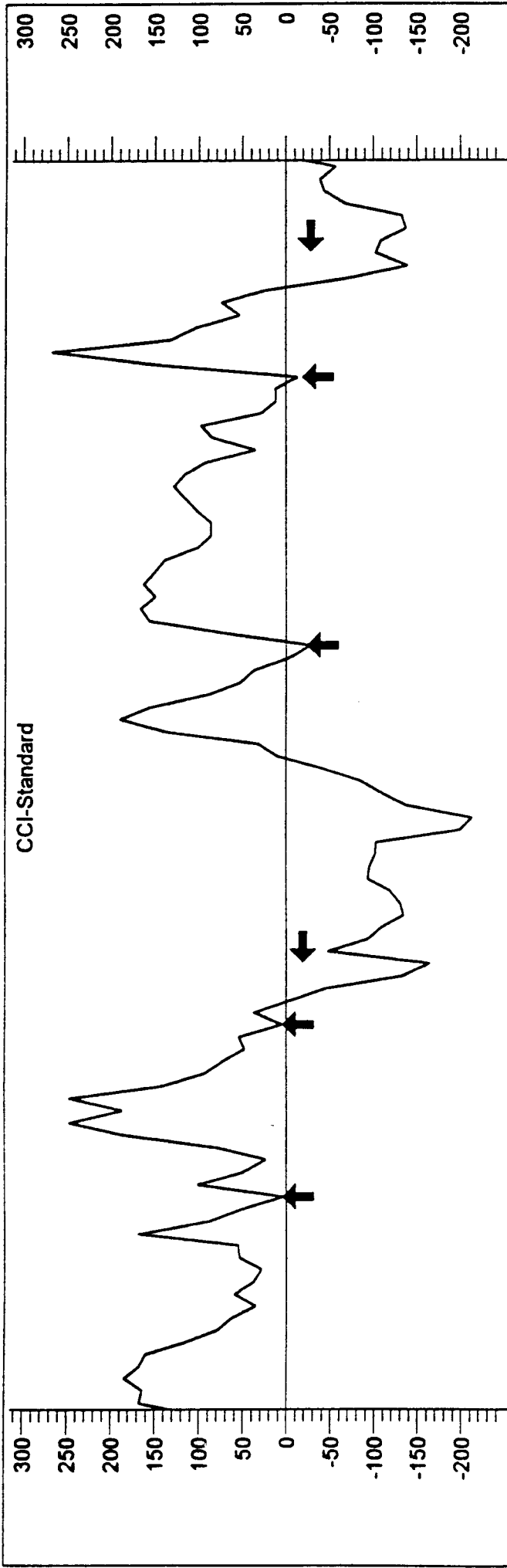


Figure 12 POINTS OF SUPPORT AND RESISTANCE AT THE ZERO LINE

CCI FILTER

- **Consists of a seven unit moving average of the CCI. Plot it as a histogram line style.**
- **Helps reduce whipsaw in sideways markets or countertrend rallies/declines.**
- **Look for CCI to rise or fall below its zero line while CCI filter remains below/above its zero line.**

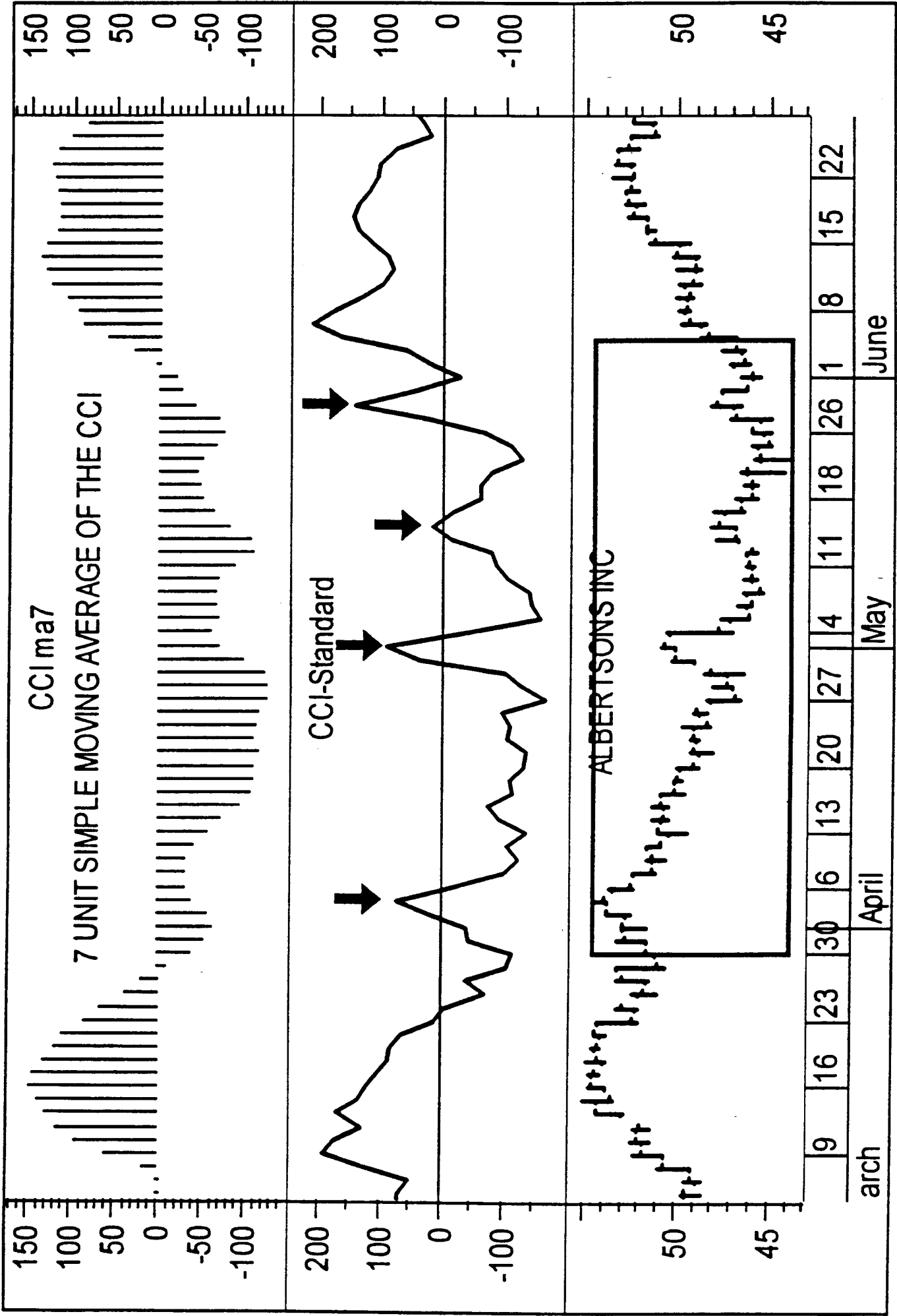


Figure 13
CCI FILTER

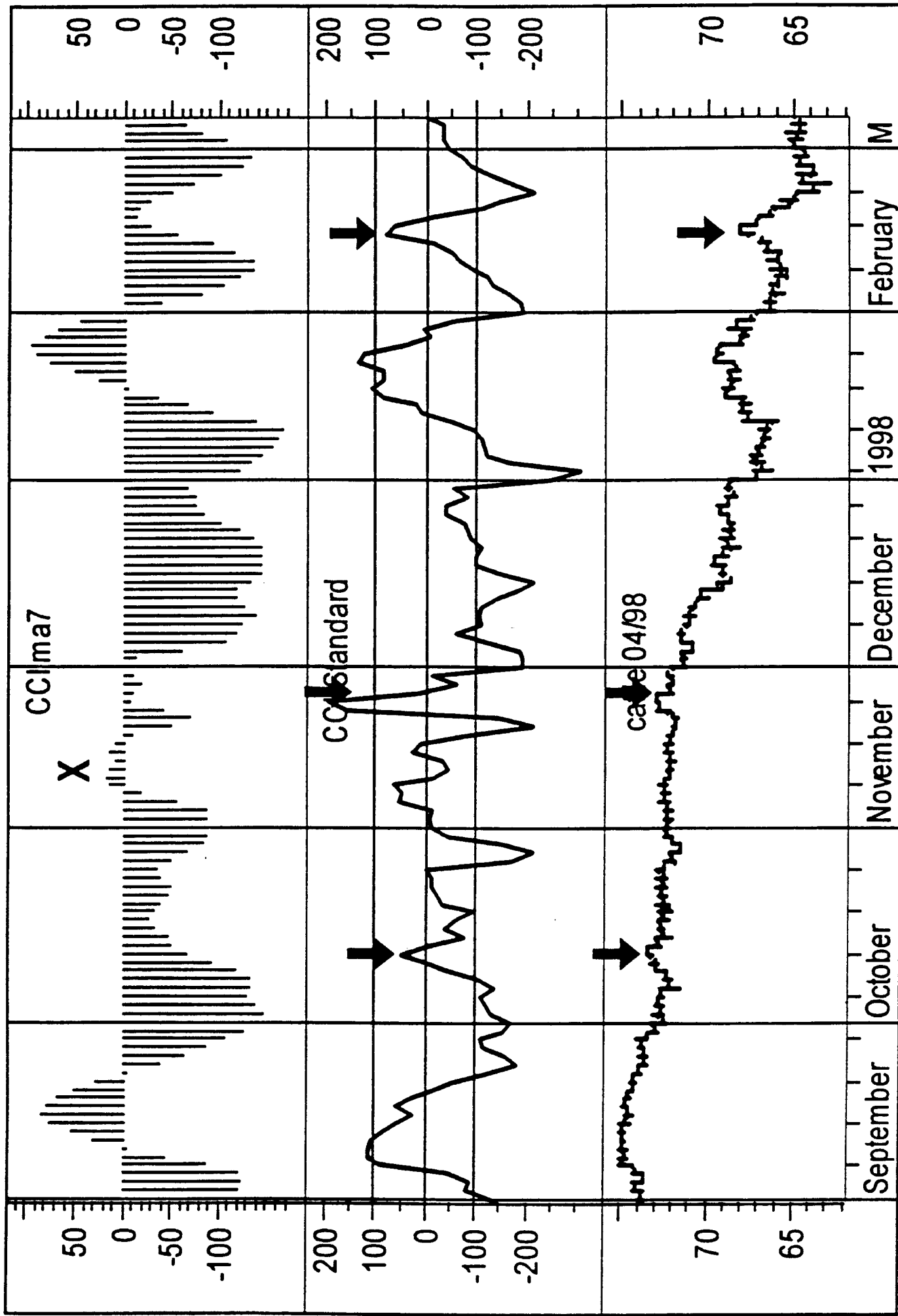


Figure 14 THE CCI FILTER HELPS PREVENT FALSE ENTRIES

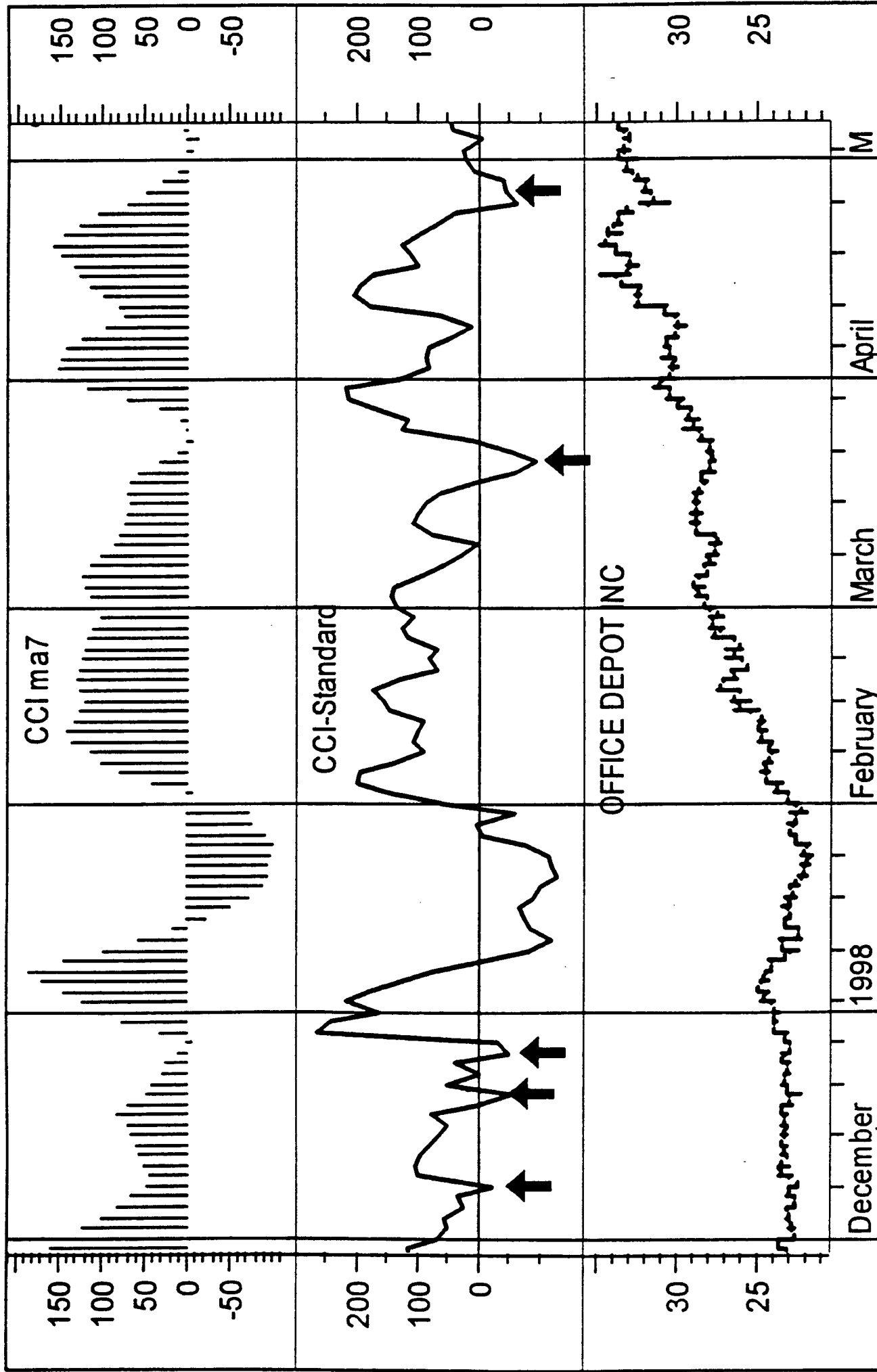


Figure 15 THE CCI FILTER HELPS PREVENT EARLY EXITS

THE CCI AND BOLLINGER BANDS

- **Plot Bollinger Bands (20 m.a. with 2 standard deviations) on price to better determine volatility.**
- **The CCI scale frequently parallels price at the various Bollinger Band levels (upper, middle, lower)**
- **The CCI often provides warnings of waning momentum prior to a change in price direction at the upper and lower bands.**

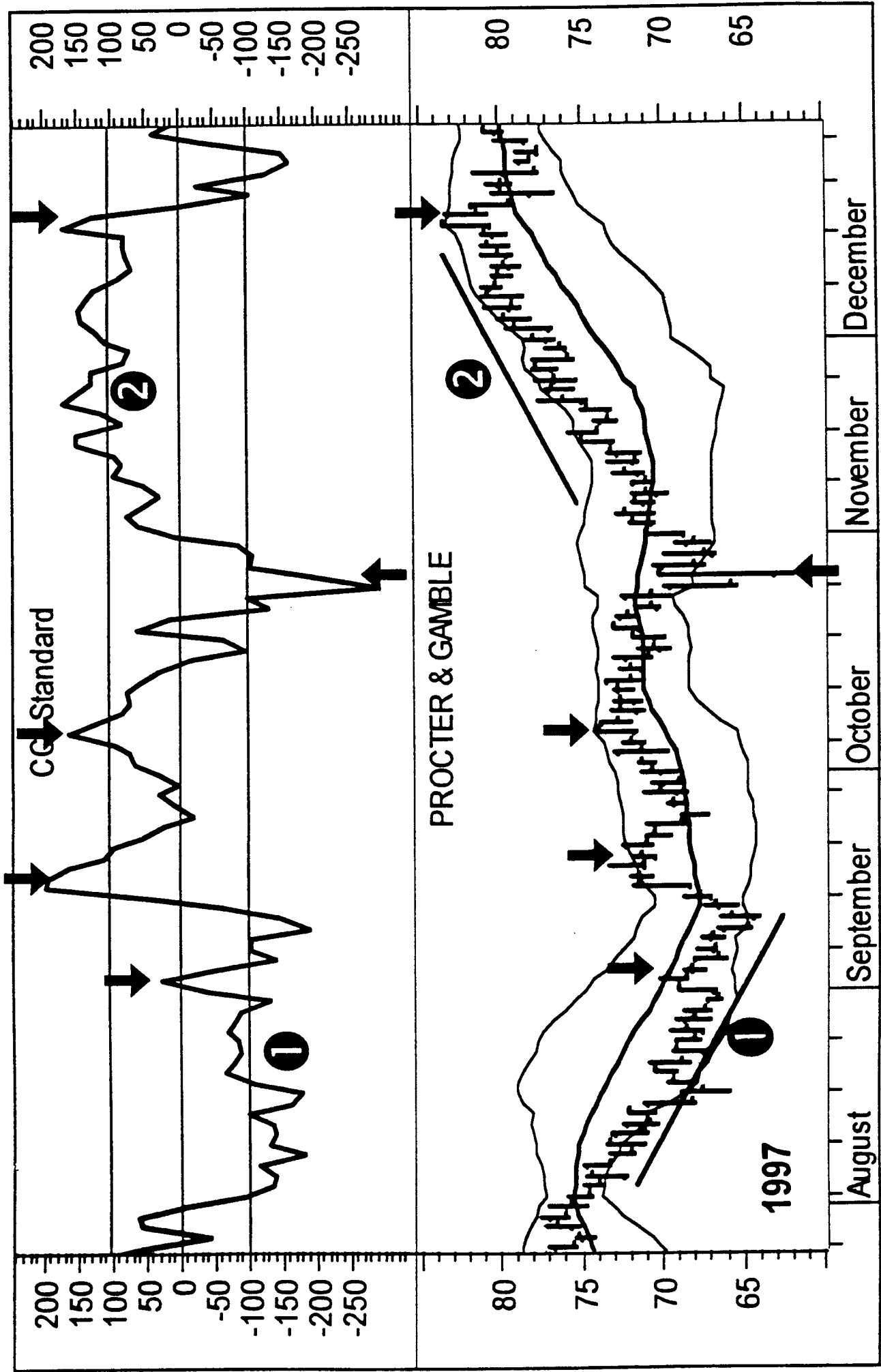


Figure 16 THE CCI AND BOLLINGER BANDS

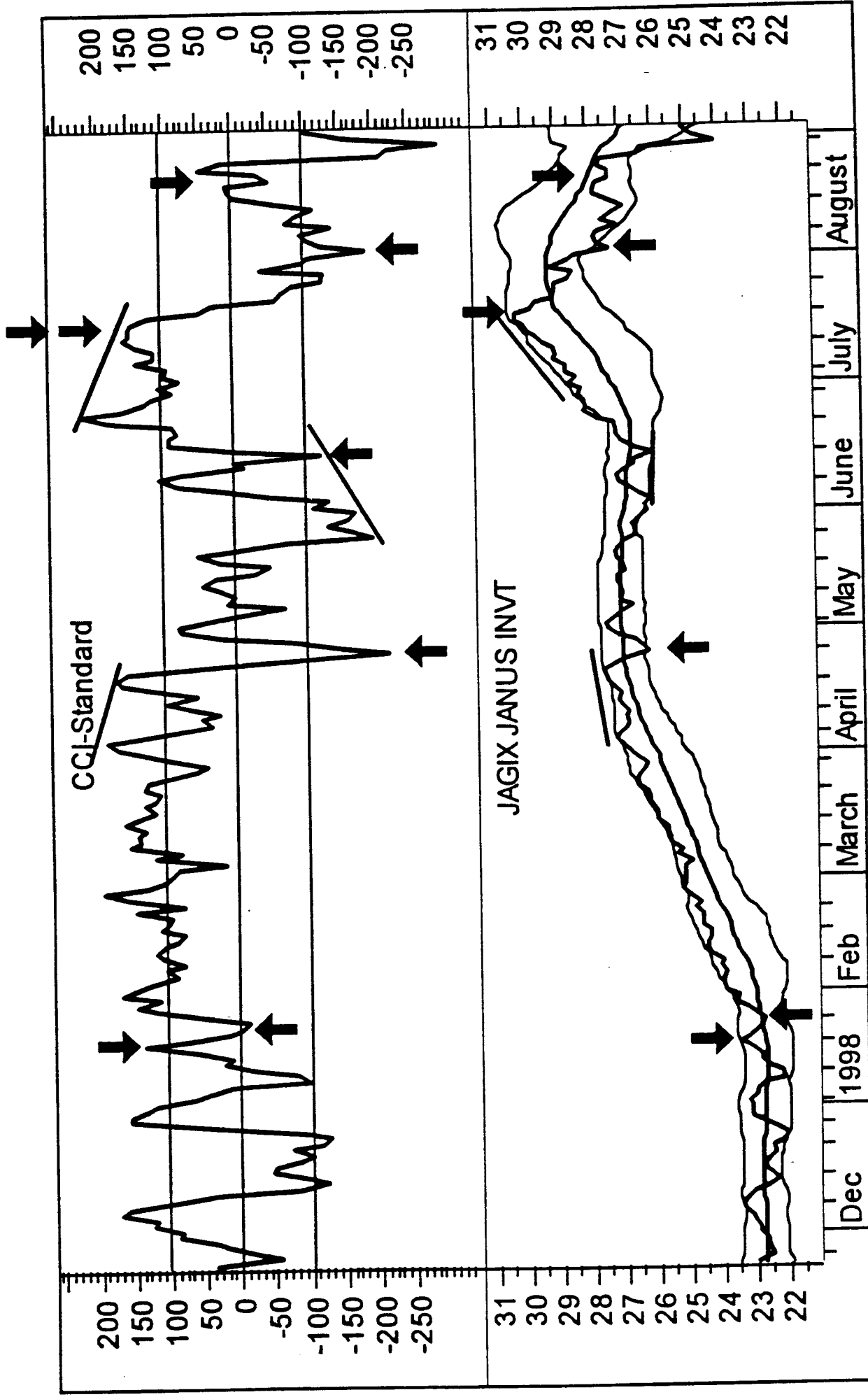


Figure 17

THE CCI AND BOLLINGER BANDS WITH A JANUS MUTUAL FUND

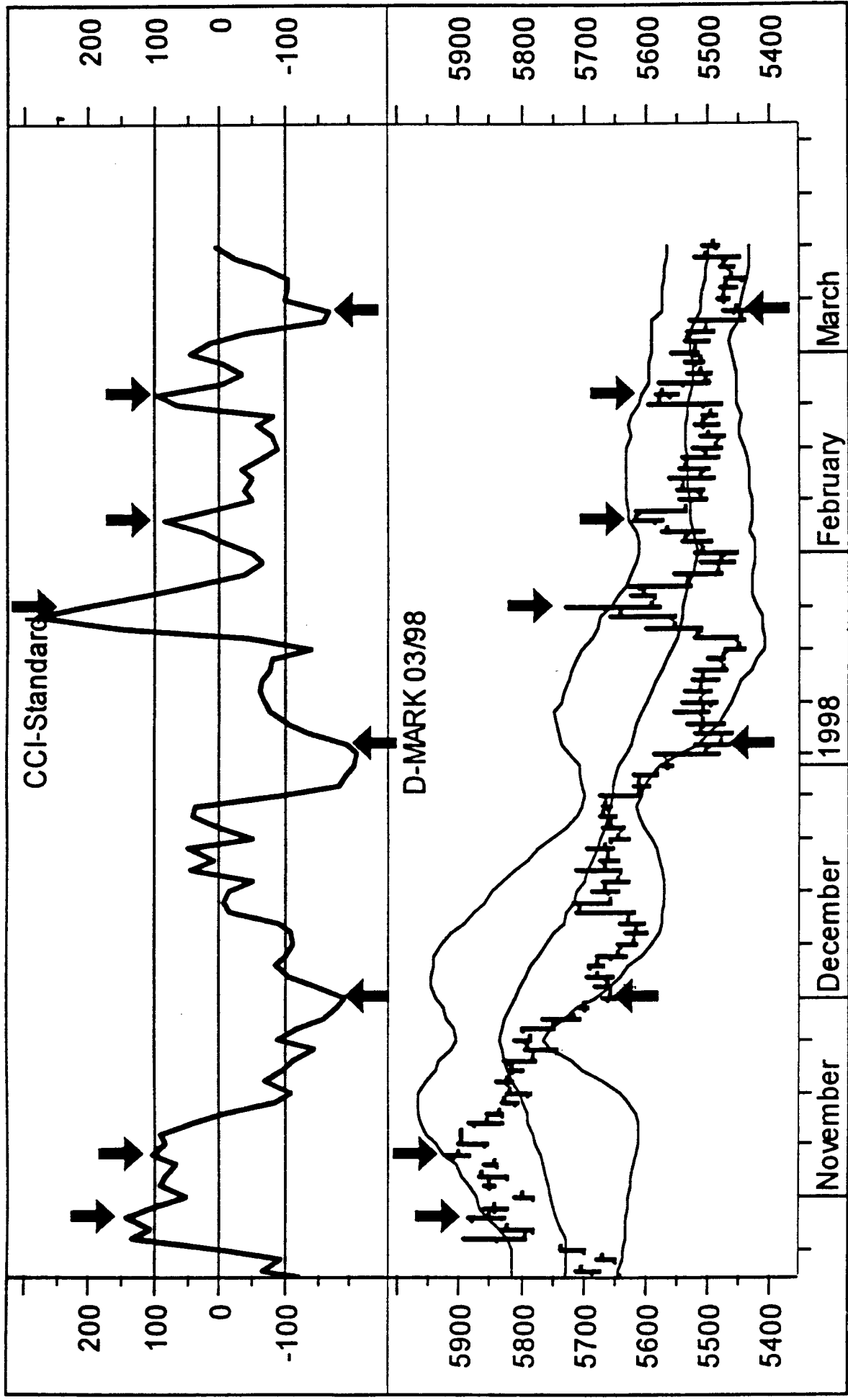


Figure 18

THE CCI AND BOLLINGER BANDS WORK WELL WITH THE D-MARK

