Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
	)	
COUNTY OF LOS ANGELES	)	
	)	
Application for Airborne Microwave	)	
Downlink Video Experimental License	)	**File No. 0217 EXPL 1999**
	)	
	)	
	)	
To: Chief, Experimental Licensing Branch	)	
New Technology Development Division	)	
Office of Engineering and Technology	)	

OPPOSITION TO INFORMAL OBJECTION OF THE AMERICAN RADIO-RELAY LEAGUE

In behalf of the County of Los Angeles, California, we are filing herewith the attached Opposition to the Informal Objection submitted by the American Radio Relay League in this matter on September 23, 1999. We request that the Application for Experimental License be granted.

Respectfully,

WILKES, ARTIS, HEDRICK & LANE,
Chartered

by: John D. Lane

John D. Lane
Counsel for the County of Los Angeles
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Washington, DC 20006-2897
(202) 457-7885

March 9, 2000

COUNTY OF LOS ANGELES
Internal Services Department
1100 N. Eastern Avenue
Los Angeles, California, 90063

JOAN OUDERKIRK
Interim Director

TELEPHONE: (323) 267-2101
FACSIMILE: (323) 264-7135

March 9, 2000

Mr. James Burtle, Chief
Experimental Licensing Branch
Office of Engineering and Technology
Federal Communications Commission
445 Twelfth Street, SW, Room 7-A267
Washington, DC 20554

File No. 0217 EXPL 1999

Dear Mr. Burtle:

OPPOSITION TO INFORMAL OBJECTION OF THE AMERICAN RADIO-RELAY LEAGUE

The Sheriff's Department and other County public safety agencies have long used helicopters and other aircraft for surveillance and command and control operations. What the County does not have, and desperately needs, is the ability to transmit live video from those aircraft to command centers on the ground.

Major emergencies such as earthquakes, wildfires, and civil disturbances require rapid and efficient deployment of emergency personnel. Having a "birds-eye" view of the situation would greatly facilitate the ability of the Sheriff's Department and other public safety agencies to respond to such emergencies. On a day-to-day basis, live airborne video surveillance would also be an invaluable tool for coordinating drug interdiction, hot pursuits, hostage situations, and other tactical operations.

The broadcasting industry already has dedicated channels for this type of remote, live video transmissions. Among the most vivid recent examples are the uninterrupted live coverage of the O.J. Simpson "pursuit" through the streets of Los Angeles, and coverage of the Northridge earthquake aftermath.[1] Attached as Exhibit A is a recent article in *Broadcasting & Cable, February 7, 2000,* which describes how the local TV stations used this capability in the recent Alaska Airlines crash in the ocean off Los Angeles. Ironically, law enforcement and rescue agencies are unable to provide themselves with views of such events.

[1] In one instance, a television station helicopter was transmitting live pictures of firefighters scrambling over a flaming home, giving television viewers located thousands of miles away a better view of the situation than the fire department commander on the scene.

Because of the high demand for and intensive use of the radio spectrum in the Los Angeles area, there is virtually no spectrum currently available for this purpose. Thus we filed for an experimental license on August 9, 1999, to test the feasibility of using the 2402-2448 MHz band without causing or receiving destructive interference to or from the other users in this band. Our studies show that this can be done, and we want to prove it by actual operations from a helicopter. We intend to share spectrum in a cooperative manner with the ARRL. We are not only willing to coordinate our vital airborne missions with the local coordinators, but we have designed a system with highly directional antennas, the best professional equipment available, and multiple sites so that interference can be best avoided.

Unfortunately, it appears that our cooperative efforts to work with the League have only managed to galvanize opposition while others have been successful in gaining access to this band across the country. This is most unfortunate, because the County system in particular is designed to minimize interference with others.

Here are our specific responses to the points raised in opposition to our experimental license request:

REF. Paragraph #2 - ARRL stated that "There is no compatibility showing included...."

County's Response: In response to these concerns by ARRL, another significantly expanded monitoring study was undertaken. It is the objective of the experiment to show compatibility with incumbent users including radio astronomy, amateur radio and industrial/medical instrumentation (The County expects to work closely with a coordination committee to insure a minimum amount of interference). The purpose of the experimental license is to demonstrate the capability of sharing a valuable resource. Further, the County expects to follow coordination protocols while also developing improved frequency coordination that would allow real time channel access. Additionally, the radio equipment utilized by the County is very frequency agile and supported by highly directional antennas, multiple receiver sites, thus keeping unintentional interference to a minimum.

REF. Paragraph #3 - ARRL stated that "(1) the County has failed to justify the grant of an experimental authorization...systems will operate on an unpredictable, itinerant air basis...(2) Commission's rule states that...not more than one frequency will be assigned..."

County's Response: The County's proposed airborne system consists of a number of fixed receive sites and one-way microwave video links to these sites from air units via highly directional antennas. The request for an experimental authorization by the County is to demonstrate operational compatibility (by application of appropriate technology) with existing users. The League is mistaken in the assumption that the operation will be unpredictable. Without the participation of existing users there cannot be a valid demonstration of interference-free operations. The County expects to work closely with existing coordination committees to ensure the best utilization of the video channels.

The County's application for four 10 MHz channels allows flexibility. The County's frequency agile radio equipment is supported by highly directional antennas which will

be directed by sophisticated Global Positioning Satellite (GPS) based electronics. The requested experimental license will allow the County frequency agility to run tests away from incumbent or even uncoordinated users. The County recognizes that the nature of amateur operation can also be unpredictable and itinerate. The County expects any unintentional interference to be minimal.

REF. Paragraph #4 - ARRL stated the "authorization is a 'foot-in-the-door' plan which...."

County's Response: The County understands that the 2402-2448 MHz spectrum is shared by many users. It is not the object of the County to apply for exclusivity in the band. Through detailed engineering design and appropriate application of technology, the County intends to test the ability to co-exist with existing users.

The referenced system by the League was constructed to support air operations licensed under call sign WPKK 851. This system operates in the spectrum shared with the ENG broadcasters. The frequency agility of this equipment and the multiplicity of receiving sites allow the County to show realistic results for tests conducted within the requested spectrum.

REF. Paragraph #5 - ARRL stated that "...there is absolutely no demonstration of the ability of this system to operate without causing harmful interference to...amateur service..."

County's Response: The County intends to utilize coordinating protocols prior to any tests. The County further understands that the nature of amateur operations can be unpredictable. Through the use of coordination, frequency agility, directional antennas and application of technology, unintentional interference will be kept minimal. The purpose for testing is to examine the feasibility of two services to maximize the use of valuable resource with the application of technology.

REF. Paragraph #6 - ARRL stated that "the monitoring study submitted is significantly flawed...."

County's Response: The County of Los Angeles has not claimed that the monitoring study shows that the proposed developmental system will not cause interference to incumbent users. The monitoring study conducted by the County was never intended to demonstrate that the spectrum in question was "underutilized" nor in any way jeopardized that portion of the spectrum for its allocated use. Rather, the intention of the County in conducting the monitoring study was to obtain a reasonably accurate and real-time indication of current spectrum usage so as to better understand the relative loading and to plan for minimizing potential interference to any existing user(s) during proposed test activities.

In order to address the issues and concerns expressed by ARRL, a new and expanded monitoring study was performed during January, 2000. For the new monitoring study, total cumulative monitoring time was approximately 30 hours. Continuous spectrum monitoring was conducted for approximately six (6) continuous hours from each of five proposed video downlink receiver terminal sites throughout the Los Angeles County

area. This methodology was chosen specifically to increase the likelihood of detection of signals from all possible sources.

The sites, dates, and monitoring durations were:

1. Eastern Avenue Sheriff's Comm. Center Tower -- Thursday, January 6, 2000; 6:48 PM to 12:55 AM.

2. Rio Hondo Radio Relay Site, Whittier -- Friday, January 7, 2000; 3:22 PM to 9:36 PM.

3. Oat Mountain Radio Relay Site, Chatsworth -- Saturday, January 8, 2000; 3:30 PM to 9:30 PM.

4. Rolling Hills Radio Relay Site, Palos Verdes -- Friday, January 21, 2000; 2:32 PM to 8:37 PM.

5. Mount McDill Radio Relay site, Palmdale -- Saturday, January 29, 2000; 3:00 PM to 9:00 PM.

Each site was continuously monitored for the entire six-hour duration. Exhibit B, Figure 1 shows a diagram of the antenna/receiver configuration which was used at each site. Because of the design and rotation rate of the receiving antenna, each azimuth was scanned approximately every two minutes, providing ample time to detect and record any signals present across the 2.400-2.4500 GHz band. Figure 1 shows a diagram of the monitoring equipment configuration, including relevant specifications, which was used at each site. Figure 1(a) shows the settings on the monitor which are the same for all figures attached.

A videotape recording was made of Spectrum Analyzer display for the entire duration of each monitoring session. Whenever (and only when) a carrier within the display's bandwidth was detected, a photoimage was captured. These images are included with this document as Exhibits 1-68, in chronological sequence. The six-hour VHS videotapes (one per site) are available.[2]

The conclusions drawn from the monitoring study are that there were very few instances of signal detection over an extended period of time from each of the sites at which monitoring was conducted. Furthermore, the random pattern of occurrence and relatively narrow bandwidth of most of the signals which were detected, coupled with their very short time duration, is not characteristic of amateur or commercial television broadcasting (TV signals). As evidenced by the Exhibits, it would certainly appear that there is indeed sufficient available spectrum within the band in question to support the proposed activity. The study picked up a fixed microwave link on a line between the Rio Hondo and Oak Mountain sites which uses a large part of the band on a line between those points. This is not a problem, because we can use any of the other three sites if

[2] We apologize for the quality of the reproductions. If this causes a problem, please let us know.

we happen to be operational in that area along that line (see Exhibits 12, 18, 25, 26, 30, 36, and 41).

REF. Paragraph #7 - ARRL stated that "a preamplifier should have been used...."

County's Response: While we still stand by the original study, the study performed in January used a highly sensitive preamplifier and the work was performed by experienced and highly trained engineers.

REF. Paragraph #9 - ARRL stated that "This compatibility factor is absent in the County's proposal."

County's Response: The County, through tests, intends to demonstrate under an experimental authorization that compatibility does exist. The state-of-the-art equipment used by the County is frequency agile and the signals are transmitted through highly directional antennas, the same as used in the January study. It is the intent of the County to demonstrate that appropriate application of technology will allow co-use of the spectrum.

REF. Paragraph #10 - ARRL stated that "Appx. 100 stations in Southern California..."

County's Response: Again, if 100 active stations do exist in Southern California, their use is such that they could be quite compatible with the County's usage of that spectrum. The County expects to work closely with coordination committees to ensure a minimal amount of interference. The County is confident that interference will be at a minimum particularly because their radio equipment is frequency agile and numerous receive sites will be employed.

Again, the County would like to reiterate its desire for cooperation and coordination with all users of the band. We hold the amateur, in particular, in the highest respect and their desire always both to help and cooperate with law enforcement. We respectfully request that our application for the experimental licenses be granted without further delay.

We are available to meet with you or your staff if there are any questions concerning our proposed tests, or you can call Ron Wong, Engineering Manager, Radio Systems Division, at (323) 267-3414.

Respectfully,

Garrett Mayer

Garrett Mayer, Manager
Regulatory Affairs
Information Technology Service

EXHIBIT A

last month.

Much of the on-the-bubble buzz focuses on new talk shows. The genre is down in the ratings with few exceptions, which increases the likelihood of shows departing, sources agree.

While Telepictures has renewed *Queen Latifah*, Dick Kurlander, vice president and director of programming for station rep Petry Television, says he's telling stations to assume freshman talkers *Leeza, Martin Short* and *Dr. Joy Browne* won't be coming back. A number of sources agree.

However, a Paramount spokeswoman notes that Leeza Gibbons was at NATPE and that "We're out aggressively pursuing renewals and plan on returning next year."

Rick Jacobson, president and COO of Twentieth Television, is standing by his sophomore show, *Forgive or Forget*, which changed hosts from Mother Love to Robin Givens last month. He says that the show is currently renewed in 50% of the country, including at least seven Fox O&Os. The host-switch strategy to target a younger demo has worked so far, he says, adding: "Barring [an] unforeseen disaster, we're going to be back."

Columbia TriStar Television Distribution President Barry Thurston says he is "optimistic and bullish" about *Donny & Marie* returning for a third season. The show's hosts were at NATPE to campaign on their own behalf. Thurston notes that at NATPE he and his staff were working to upgrade the show and to get the word out that the show has continued to grow and that it is advertiser friendly—locally and nationally.

"When you have the ingredients, you want to make it work," Thurston says. "When we get behind a project, we don't feel comfortable until we've done everything we can to make it a franchise. I think it's on its way, if people are patient enough, to be a win-win situation in the marketplace."

A King World spokeswoman says, "We believe in the shows and they continue to be in production. And no decision has been made in terms of next year on all three shows." Under the new CBS-World merger, all domestic shows are now under the King World banner.

But if the ax is to fall, deciding when to strike the blow is problematic, says one studio executive. "[O]nce you cancel a show, stations downgrade it in its current season, so you lose barter advertiser money—you lose money and a time period." ■

Plane crash sends cameras aloft

California coastal stations bring story to a waiting world

By Joe Schlosser

The crash of Alaska Airlines flight 261 off the Pacific Coast north of Los Angeles last week that killed 88 people sent newsrooms into a frenzy, and into the sky.

L.A. and several other West Coast markets carried wall-to-wall coverage of the crash. Stations in San Francisco, Seattle and Mexico—where the jet had been—covered the crash as a local news story.

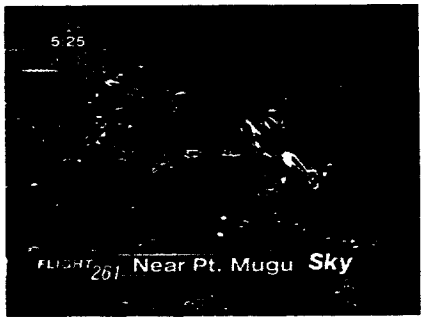
The 4:40 p.m. PT crash meant live coverage for the whole evening on nearly every station in Los Angeles. In the city where police chases shot from overhead are nearly a daily occurrence, each station has at least one news chopper.

"It was very, very well covered," said CNN's director of news coverage Charlie Hoff. "You can't have a car chase or I guess a plane crash in Los Angeles without it being covered by everyone." CNN used video from six Los Angeles stations with which it has affiliation arrangements and several other local stations in both Seattle and San Francisco.

CNN often went to video from KTTV-TV Los Angeles, Fox's owned-and-operated station that now operates two news choppers. KTTV-TV news director Jose Rios says his station's pair of helicopters helped ease the trouble of covering a story that was taking place five miles off shore. The station covered the crash from 5-9 p.m. ET.

Rios said footage from the air was sent live over the Fox owned-and-operated news service, to Fox affiliates and also to the Fox News Channel.

Executives at Young Broadcasting station KCAL-TV Los Angeles claimed their station was first to capture live pictures of the accident site thanks in part to the station's Sky 9 helicopter. Dennis Herzig, the station's news director said that the helicopter pilot was tipped off by aviation sources. "With a thing like this, we threw everything at it," Herzig said. "Our helicopter was there first."



Having gotten a tip from 'aviation sources,' KCAL-TV's Sky 9 helicopter's pilot sped five miles offshore to the crash site.

KCBS-TV Los Angeles News Director Roger Bell said his station made arrangements with KCAL-TV and KTTV-TV shortly after the accident occurred to share news footage from their various helicopters. "We did it on the fly, and no one sees it as anticompetitive," Bell noted. "None of the stations wants to jeopardize the safety of the individuals in the air and push it to the max. This arrangement allows us to cover the story closely and safely."

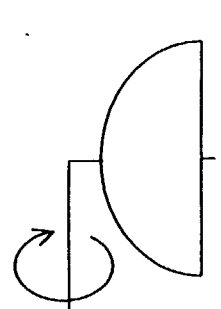
KCBS teamed with its sister station in San Francisco, KPIX-TV, and fellow CBS affiliate KIRO-TV Seattle to bring the story home to all affected by the crash. CBS Newspath, the network's syndicated news feed for O&Os and affiliates, carried a live signal from Los Angeles for nearly 48 hours straight, according to CBS executives.

At Univision flagship station KMEX-TV Los Angeles, the crash of the Alaskan Airlines plane was a local story in two ways: because the plane originated from Mexico, the Spanish-language station covered the story from both a Los Angeles angle, and as a story affecting many people from Mexico.

"Besides being a general market story, it was something that affected Latinos in our area too," said Steve Malave, KMEX-TV's assistant news director, adding that the station used its arrangements with Mexican broadcaster Televisa to air live interviews from Mexico and also teamed up with CNN Español. ■

EXHIBIT B

2.4GHz Spectrum Survey



Steerable Dish
Gain: 20dBi
Polarity: Vertical
Rotation: Clockwise, approx. 0.3 RPM
Vertical Beamwidth: 22 Degrees
Horizontal Beamwidth: 14 Degrees

+26dB Gain | LNA | Noise Figure (NF): 1.5dB

1/2" LDF50
Length varies by site
Loss: -3.8dB per 100 feet

RG214 (approx. 6 feet)

IFR AN-1840
Spectrum Analyzer

S/N: #4019
Co: #571125
Calibration Due: 10/1/2000

Center Frequency: 2422MHz
Dispersion: 5MHz/Div.
Sweep: 5mS
Bandwidth: 300KHz

Calibration

Signal Source: Wiltron 6647B
S/N 876001
County No. 475820

Power Meter: HP 5348A
S/N 3009A00363
County No. 481153
Power Head: Model 8485A
S/N: 2942A10622

Fig. 1

Fig. 1

CALIFORNIA MICROWAVE
MICROWAVE RADIO COMMUNICATIONS

ULTRASCAN & ULTRASCAN II

2-7 GHz CENTRAL RECEIVE ANTENNA

MAIN FEATURES

- All solid state switching: no RF electro-mechanical switches!
- Low noise amplifier and filter integrated into feed
- Low profile
- Broadband design: Wideband, 2/2.5 GHz Optional dualband, 2/7 GHz
- Right circular, left circular, horizontal, and vertical polarization

ROTATOR

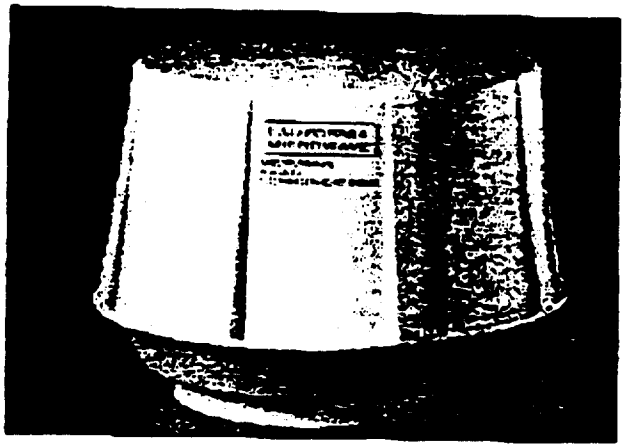
- Ruggedized rotating mechanism
- Dual speed
- Easily removed top radome for ease of access
- Build-in surge suppression
- All external metal parts are aluminum with stainless steel hardware

LNA/BLOCK DOWNCONVERTER

- 26 dB gain LNA
- 6.4/7 GHz block downconverter (used with dual-band system)

ULTRASCAN II OPTION

- New, improved low noise amplifier and filter integrated into feed for PCS interference protection
- New LNB design offers low noise figure, high dynamic range and third order intercept point
- New, improved lower noise 6.4/7 GHz block downconverter (used with dual-band system)



The UltraScan is a highly ruggedized offset fed antenna enclosed in a low profile radome that minimizes space needs and wind loading. The feed is broadband covering the 2/2.5 GHz band; a dual-band model covers both the 2/2.5 GHz and 6.4/7 GHz bands.

The UltraScan antenna uses modern solid-state MMICs to perform RF switching in the feed, thus eliminating all electro-mechanical RF switches.

To provide optimal performance, the UltraScan feed assembly includes low noise amplifiers, solid state RF switches, RF band filter, and microstrip combiners and hybrids in an integrated RF assembly. LNA gain bypassing is provided as a standard feature to reduce receiver overloading under strong signal conditions.

In addition, the overall power requirements of the rotating system and feed assembly are lower than those of traditional systems, thereby reducing the size and weight of the interconnecting control cable.

The feed design permits a full range of remote switching options with the LNA/block down converter mounted in close proximity to the feed to minimize the loss occurred through cables.

The new UltraScan II central receive antenna option featurs a newly designed front-end, which consists of a solid-state pin diode switching unit. A new sharper response RF bandpass filter, and new high dynamic range LNA design are also employed. This design was initiated to combat the interference issues which have become commonplace with the introduction of PCS systems adjacent to ENG central receive sites. The combination of a high dynamic range LNA and sharper filtering make the

UltraScan II a "bullet-proof" solution to the problem of PCS interference.

For dual band operations, an optional 7 GHz LNA/feed assembly is available. The 7 GHz system also uses solid-state MMIC switches and LNAs. The 7 GHz band output is fed to a frequency converter that converts the 7 GHz signal to an intermediate frequency in the 2 to 2.7 GHz range. An internal solid-state switch selects either the 2 GHz band or the converted 7 GHz band, thereby allowing the user to use a single interconnection coaxial cable between the antenna and the optional ASC-140 antenna control system for dual-band operation.

The dual-speed rotator is enclosed in a low-profile, aesthetically pleasing radome. It has been designed using proven technology for reliability. Lightning and surge suppression is provided within the unit. The rotator and enclosure are constructed of aluminum and stainless steel, thus eliminating the possibility of corrosion.

OPTIONAL EQUIPMENT

The UltraScan can be ordered with a continuous rotation option, which includes slip rings and an RF rotary joint. MRC also offers a range of modern, easy to use antenna control systems for the UltraScan antenna and the MRC Millennium CR Central Receiver.

UltraScan antenna with radome removed.

GENERAL

Antenna Type:	Offset Fed Parabola	
Model	*2 GHz*	*6.5/7 GHz*
Frequency Range (GHz):	1.99–2.5 *(NOTE 1)*	6.45–7.125
Gain, nominal *(NOTE 2)*:	20 dBi	30 dBi
Beamwidth, Horizontal *(NOTE 3)*:	14°	4.2°
Beamwidth, Vertical *(NOTE 3)*:	22°	7.2°
Front to Back Rejection:	- 25 dB minimum	
Side Lobe Rejection:	- 20 dB minimum	

(NOTE 1): 1.7 to 1.85 and 2.3 to 2.7 GHz also available.
(NOTE 2): Gain is for basic antenna net of switching options.
(NOTE 3): HPBW specifications are mid-band.

REFLECTOR

Type:	18" x 30" offset
Construction:	High strength, lightweight
Polarization:	Quad polarization standard (left circular, right circular, horizontal, and vertical)

FEED

Configurations:	2 GHz Broadband or 2/7 GHz Dual Band
LNA:	Built in 26 dB gain LNA
Dual Band:	6.4/7 GHz block down converter

ROTATOR

Dual Speed:	Slow: 3 deg./sec. Fast: 15 deg./sec
Operating Wind Load:	Exceeding 100 mph
Rotation:	360°, - 5°overlap

ENVIRONMENTAL

Temperature Range:	- 30°C to + 60°C

PHYSICAL

Reflector Size:	18" h x 30" w (46 x 76 cm)
Antenna Size with Radome:	28" h x 35" dia. (71 x 89 cm)
System Weight:	65 lbs. (29.5 kg)

ORDERING INFORMATION

UltraScan Antenna Systems

903655-1	2/2.5 GHz UltraScan Quad Polarization
903655-2	2/7 GHz UltraScan Dual-Band Quad Polarization
903655-3	2/2.5 GHz, Quad Polarization, Continuous Rotation
903655-4	2/7 GHz Dual-Band Quad Pol., Continuous Rotation

UltraScan, UltraScan II Antenna Systems

USCANII-2	2/2.5 GHz UltraScan II Quad Polarization
USCANII-27	2/7 GHz UltraScan II Dual-Band Quad Polarization
USCANII-2C	2/2.5 GHz, Quad Polarization, Continuous Rotation, UltraScan II
USCANII-27C	2/7 GHz Dual-Band Quad Pol., Continuous Rotation, UltraScan II

Ultrascan Options

842746-2	Control cable and connectors (specify length in feet)
901586-1	High Gain Linear Amp, 30 dB, DC without bypass
901586-2	High Gain Linear Amp, 30 dB, DC with bypass

CALIFORNIA MICROWAVE

MICROWAVE RADIO COMMUNICATIONS

ISO9001

Microwave Radio Communications
20 Alpha Road
Chelmsford, MA 01824-4168 USA

Tel. U.S. & Canada: (800) 490-5700
Telephone: (978) 250-1110
Facsimile: (978) 256-6225

E-mail: sales@cm-mrc.com
Internet: http://www.cm-mrc.com

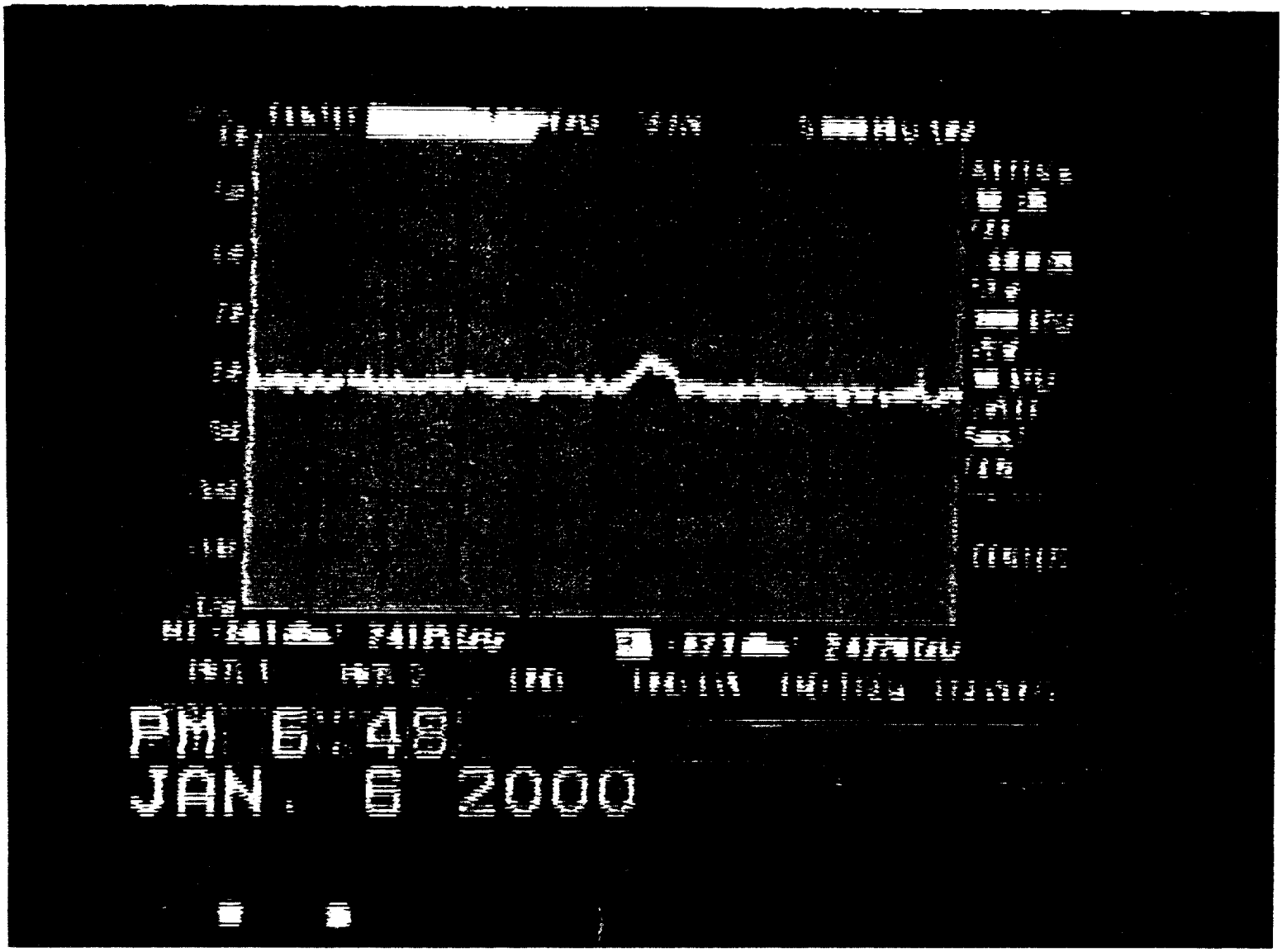
 Parts 52500-169
 Printed in U.S.A. 3/98

ADAPTIVE BROADBAND CORP.

1.5DB NF

PER VANCE

SCC 1/6/2000



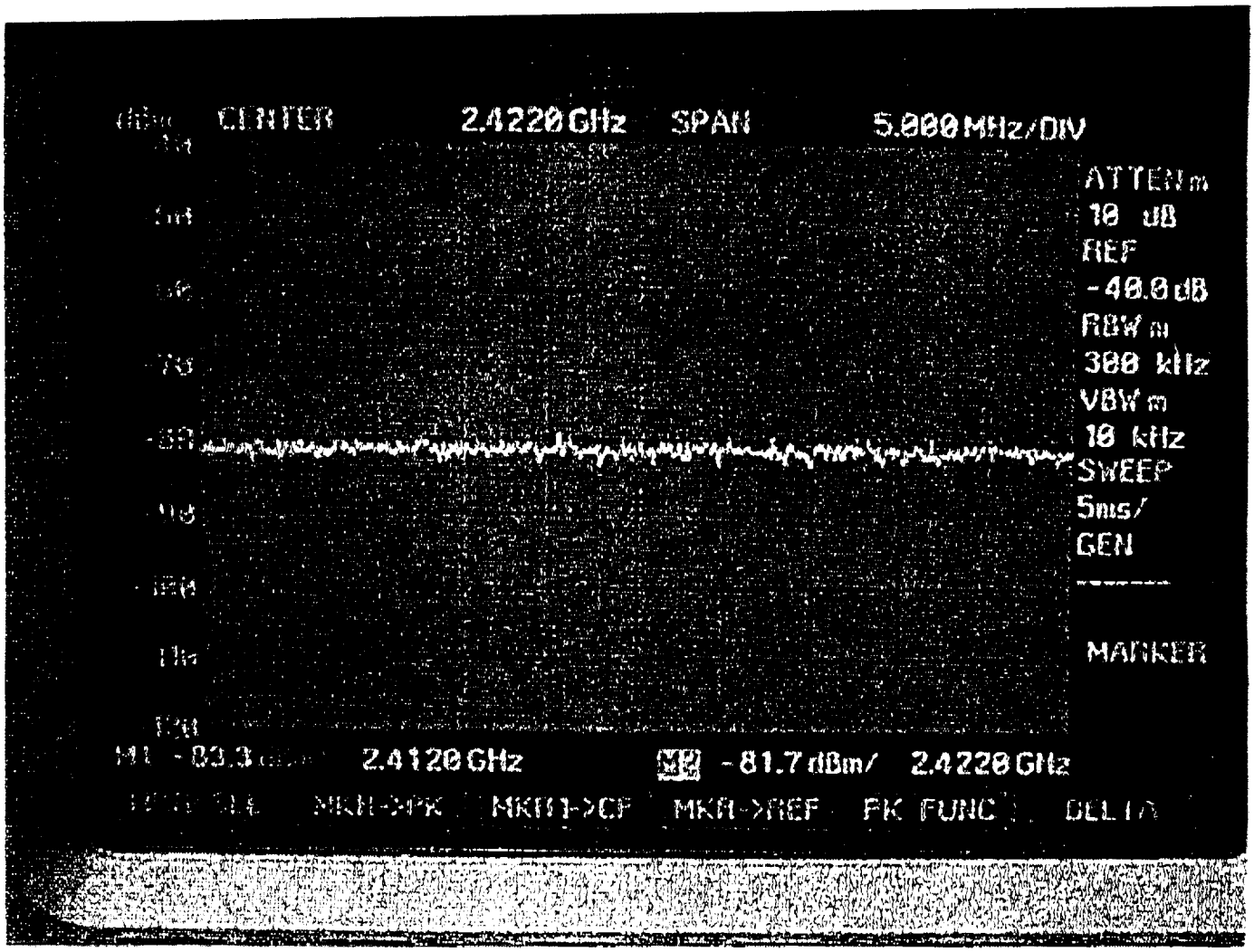
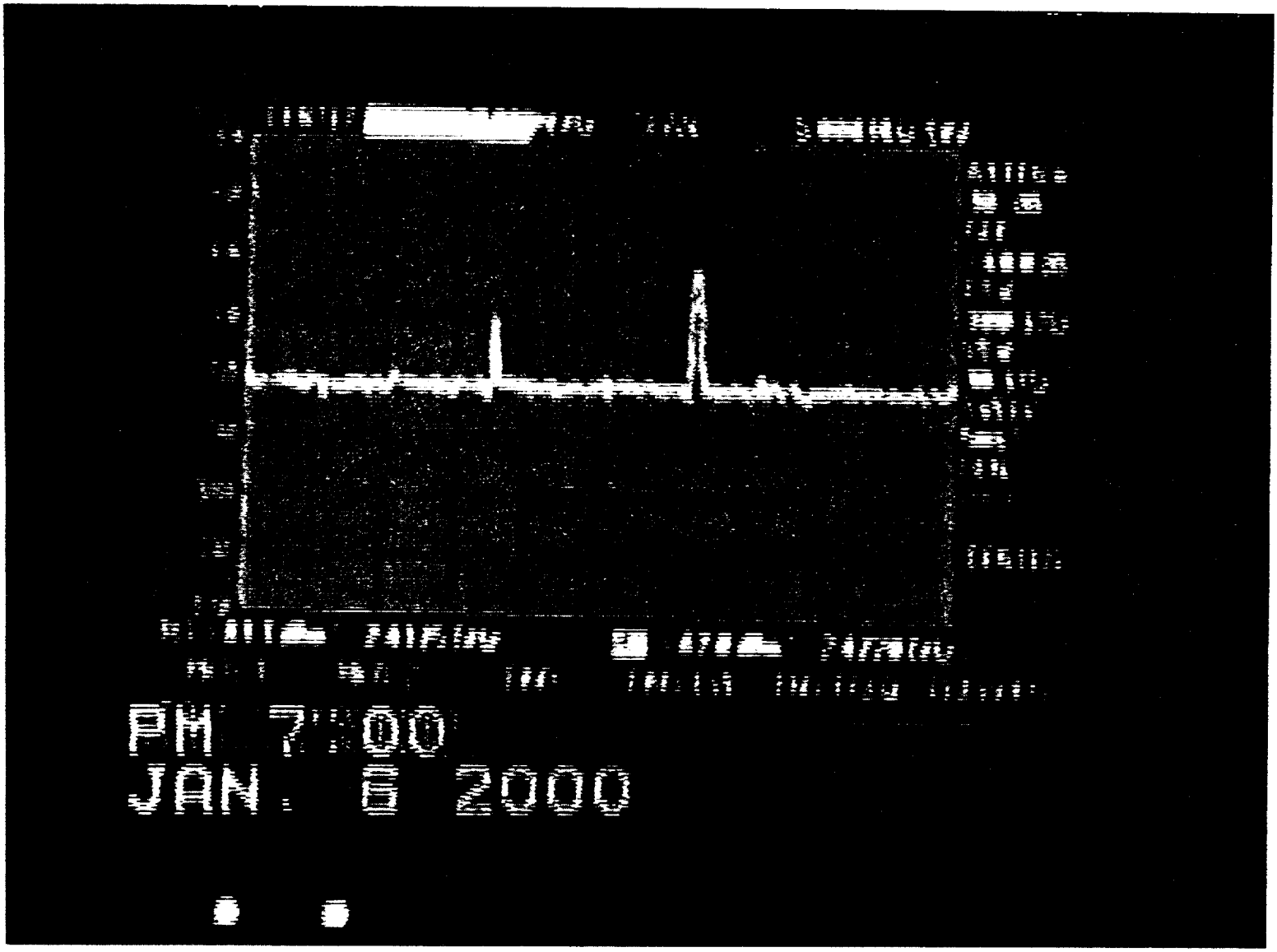

CENTER 2.4220GHz SPAN 5.000MHz/DIV
ATTEN m
10 dB
REF
-40.0 dB
RBW m
300 kHz
VBW m
10 kHz
SWEEP
5ms/
GEN
MARKER
M1 -83.3
2.4120GHz
-81.7 dBm/ 2.4220GHz
MKR->PK
MKR->CF
MKR->REF
FK FUNC
DELTA

Exhibit 10

SCC 1/6/2000



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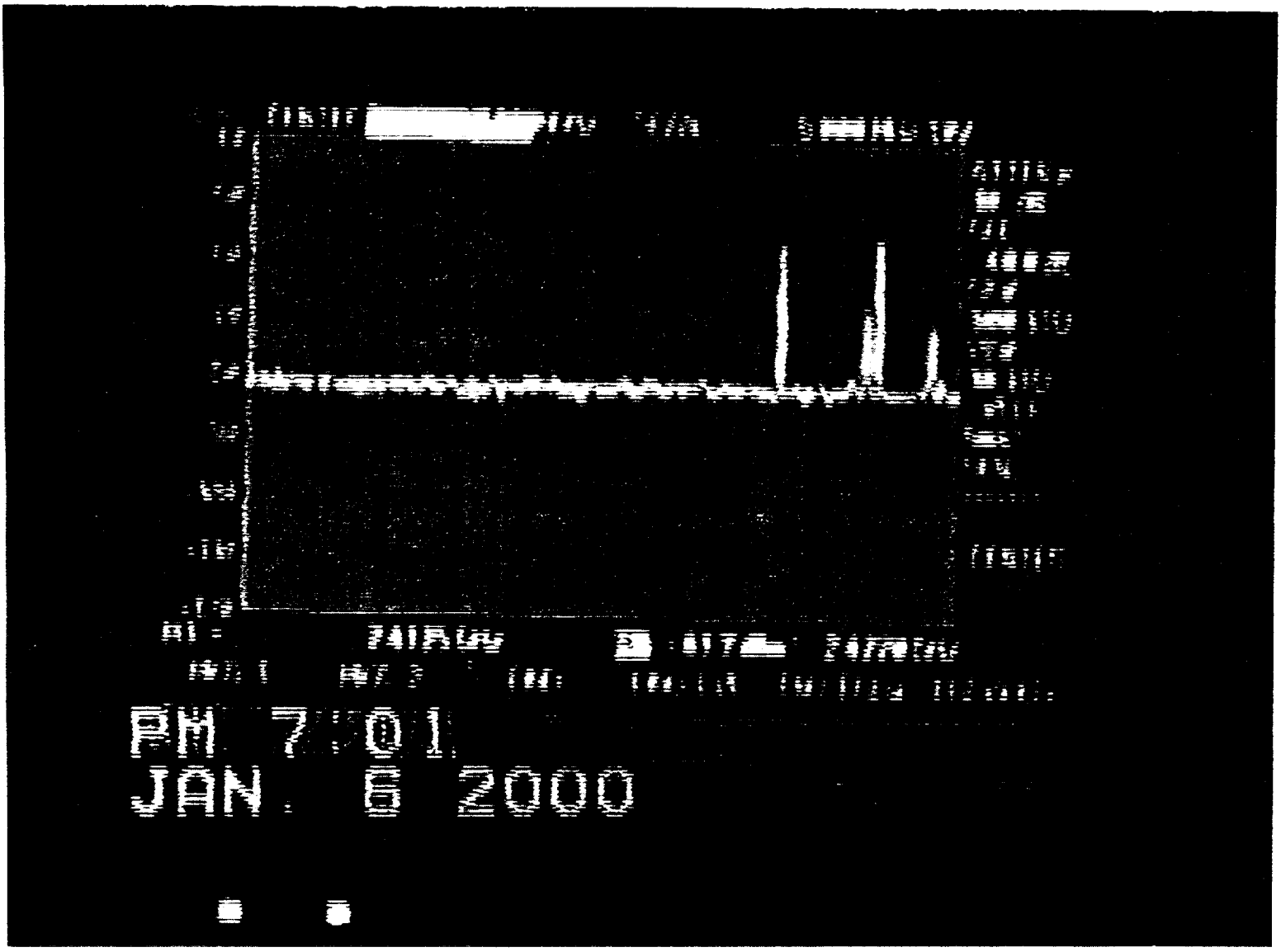

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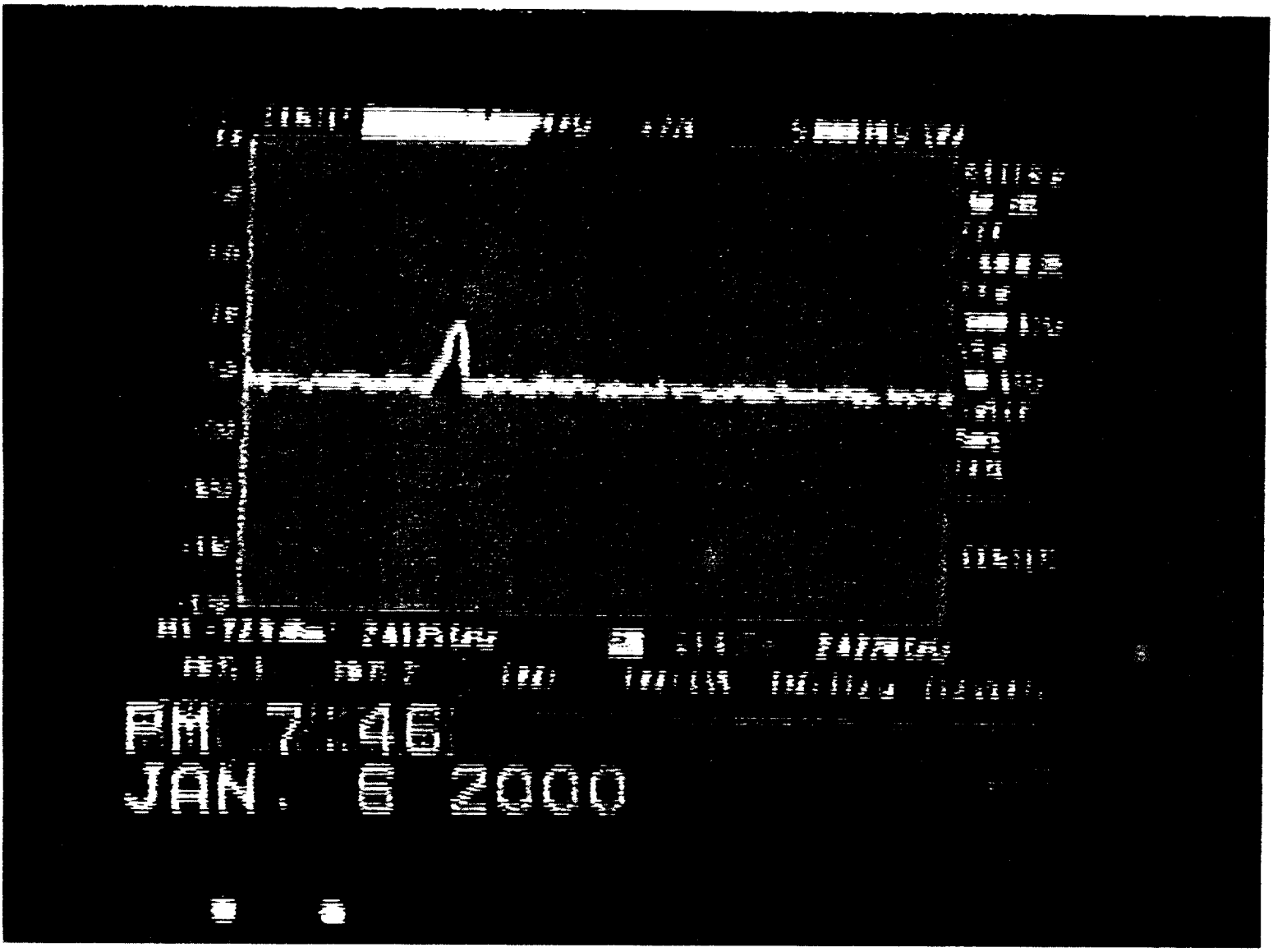

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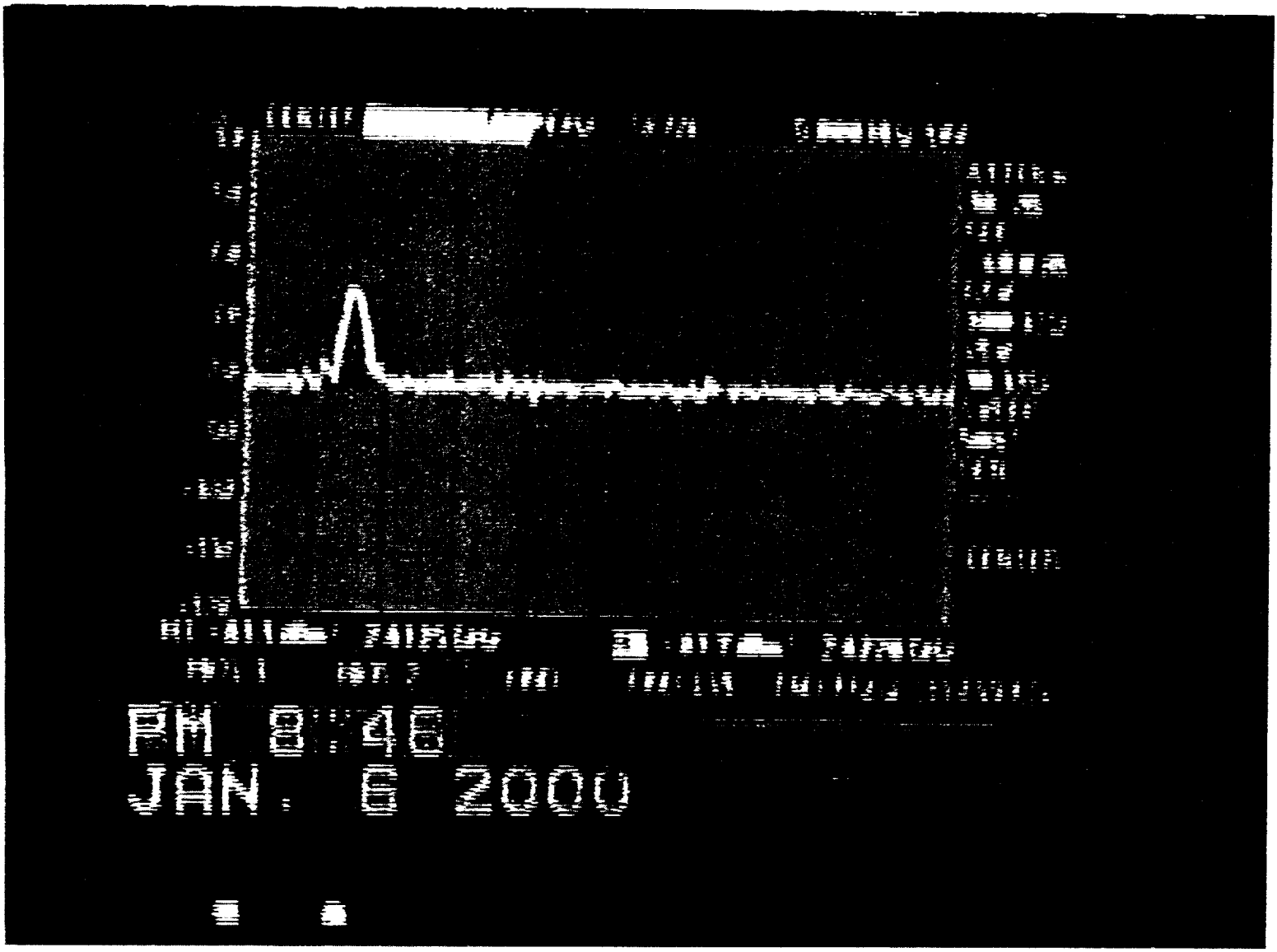

EXHIBIT 5

SCC 1/6/2000

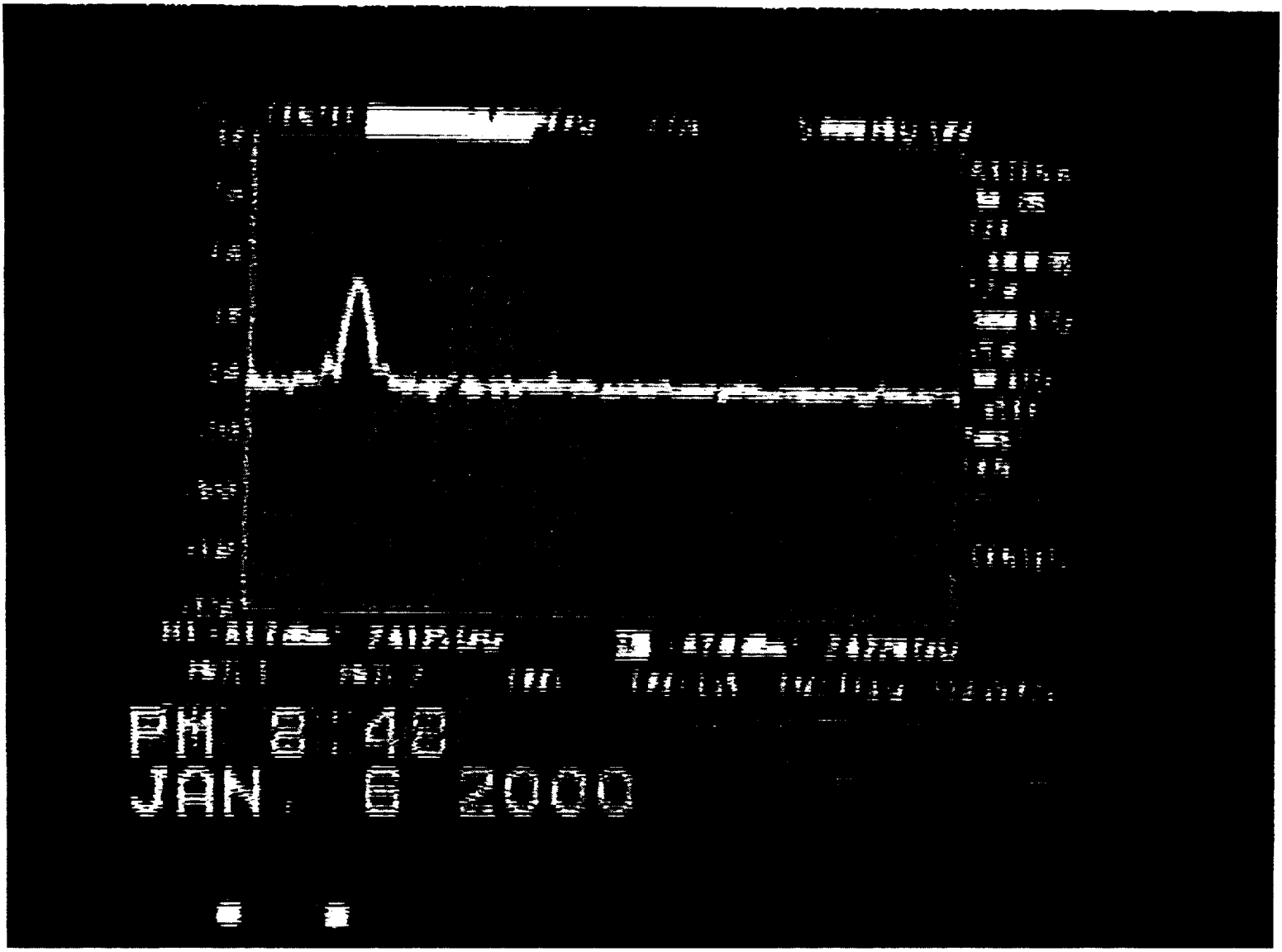

EXHIBIT 6

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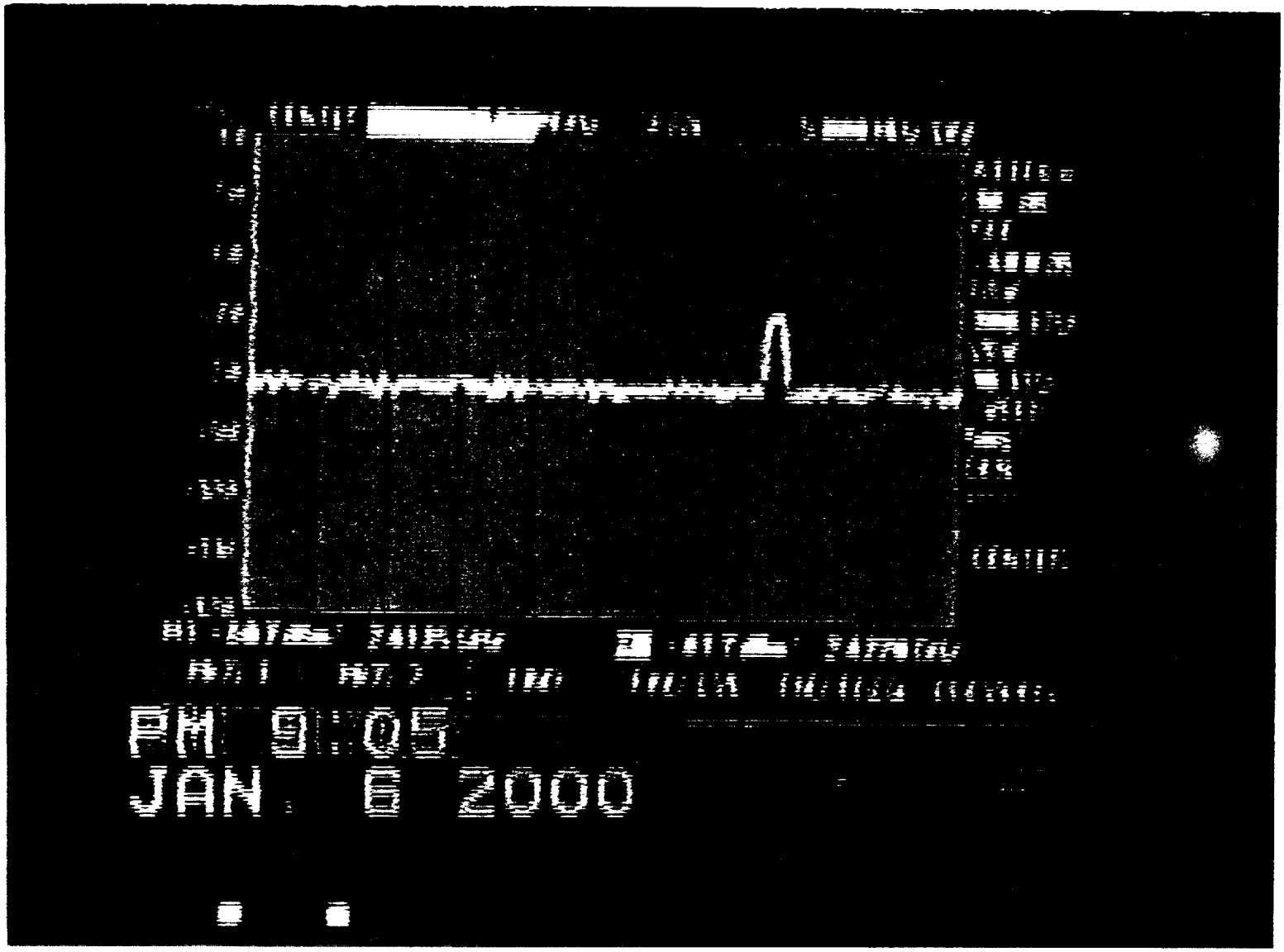

EXHIBIT 7

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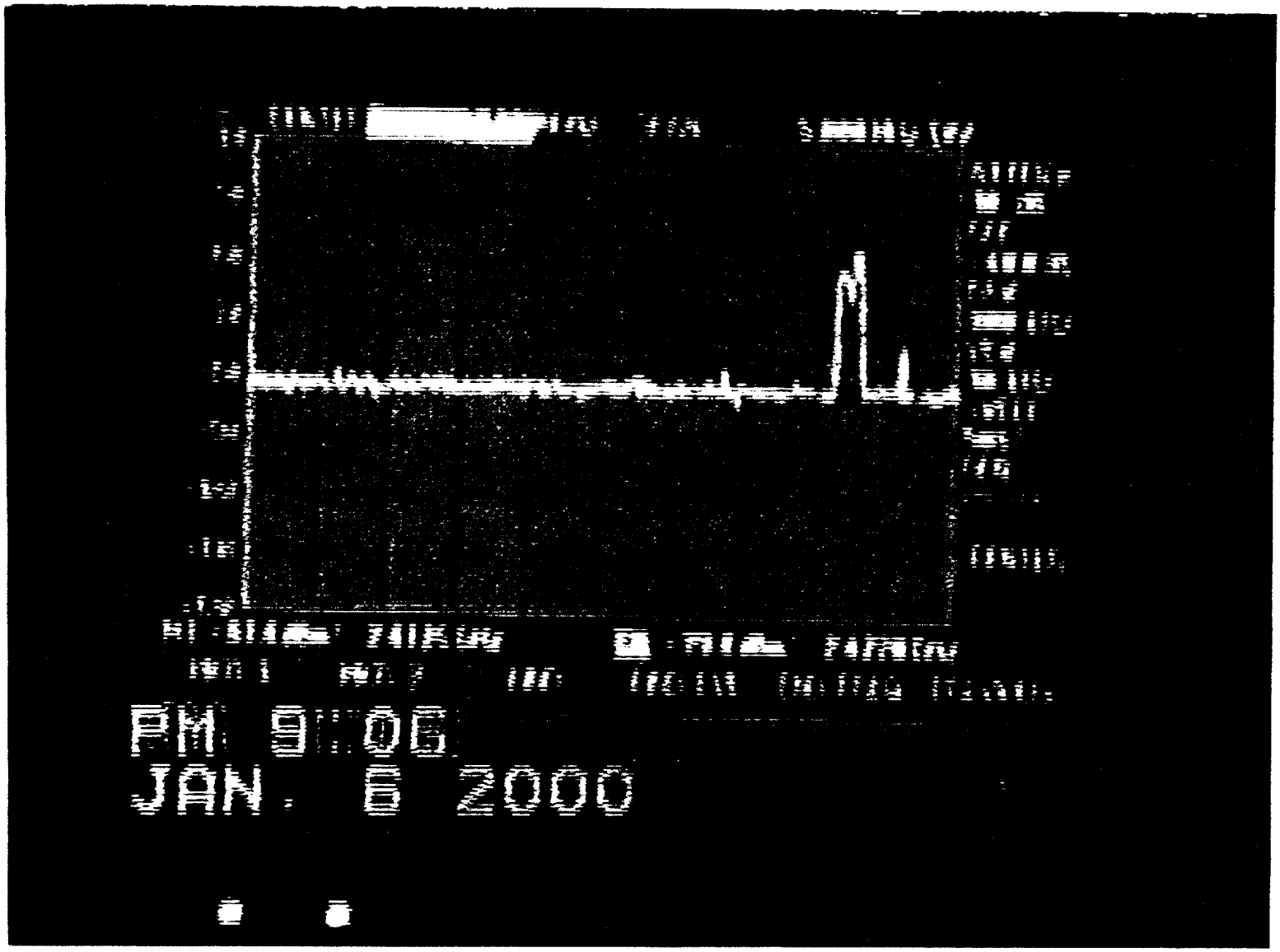
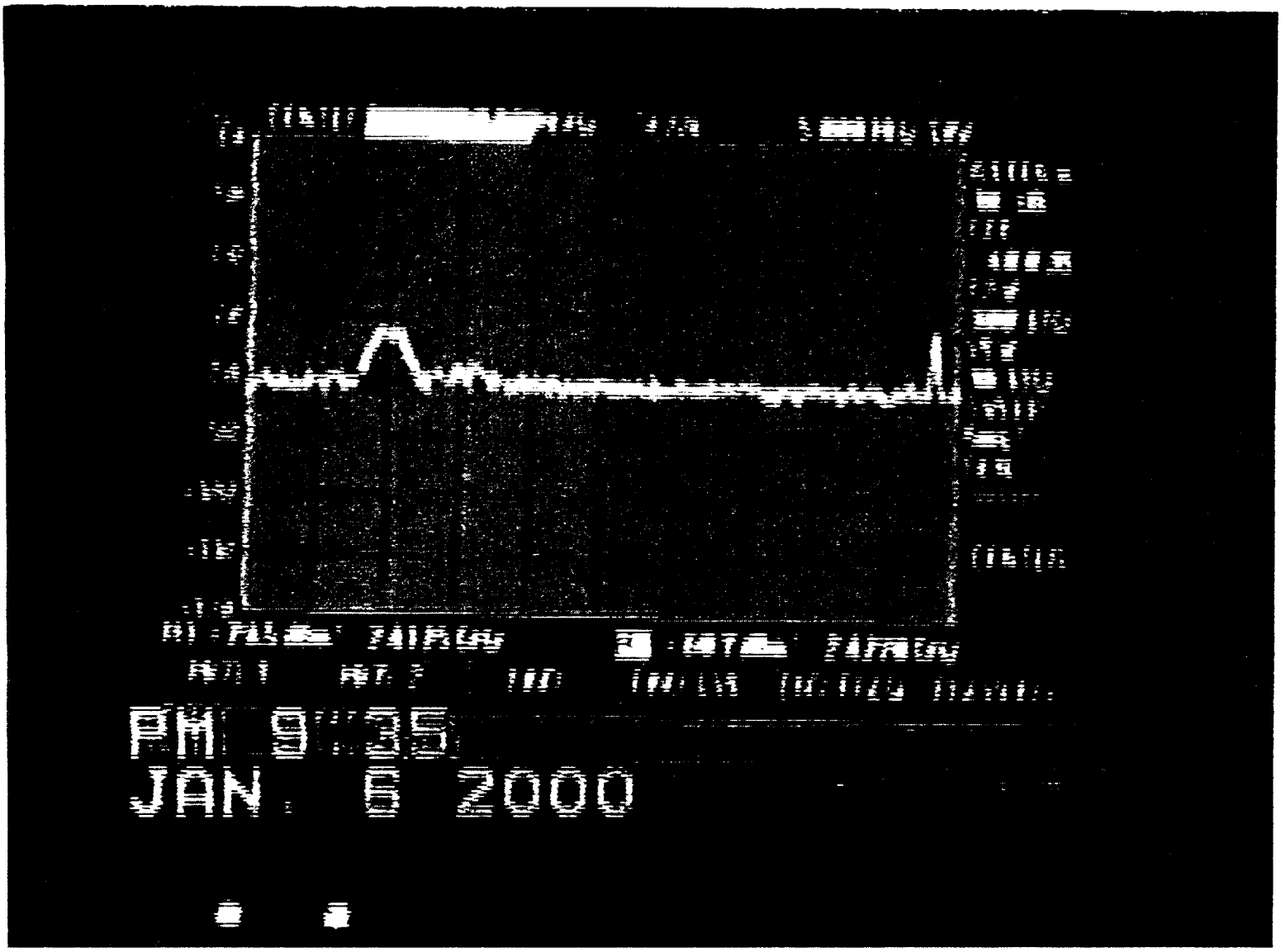


SCC 1/6/2000



SCC 1/6/2000

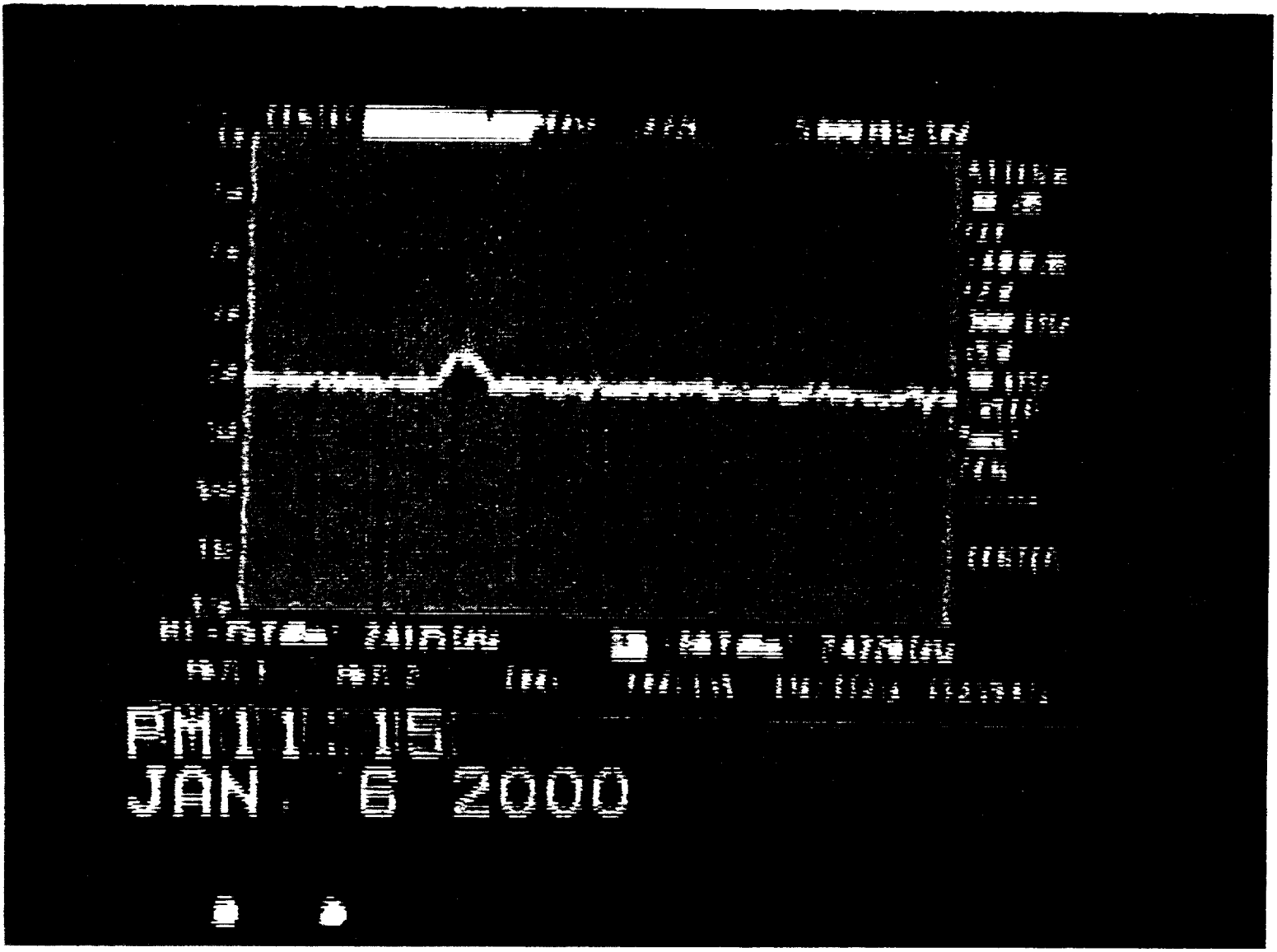
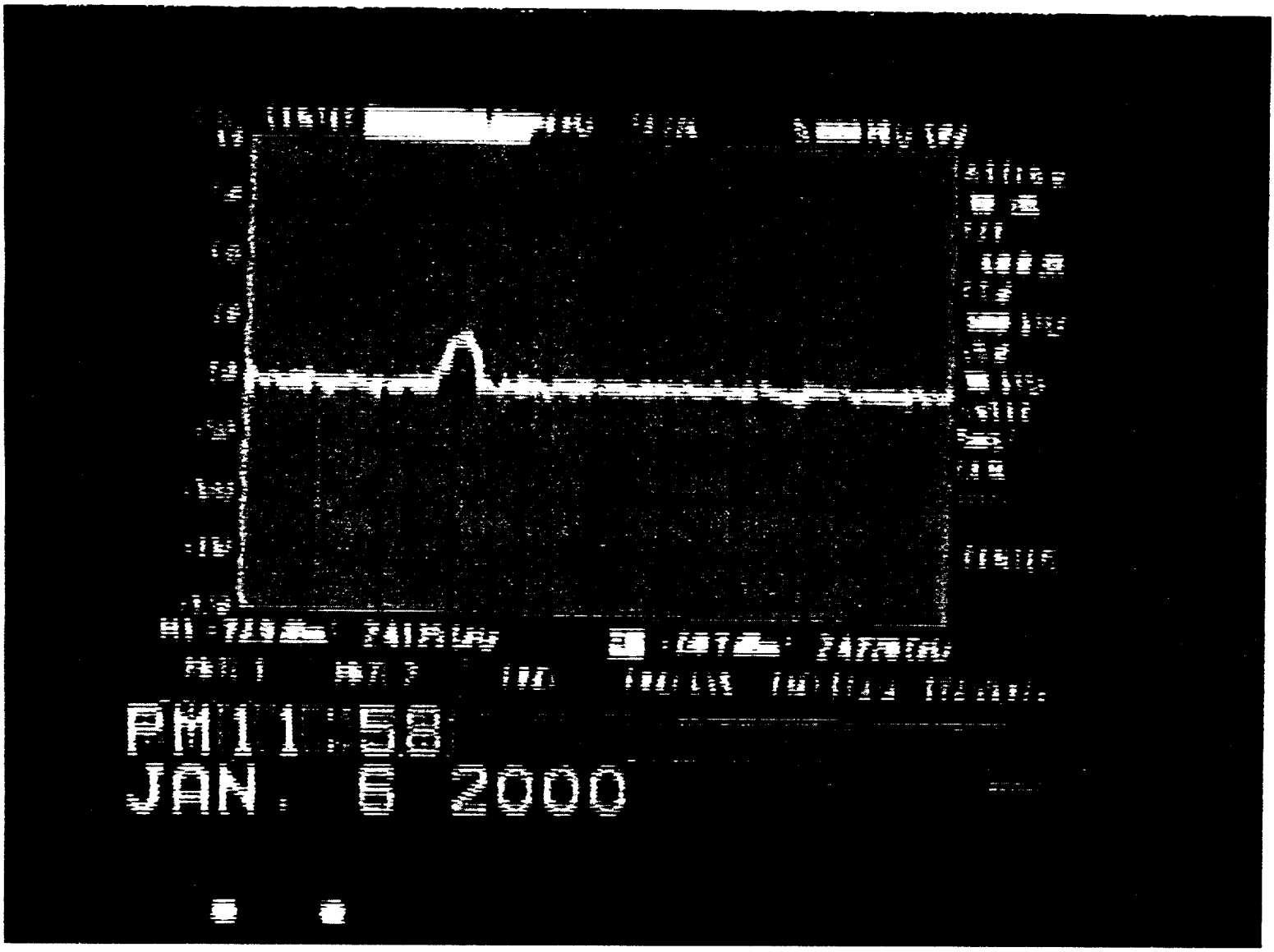


EXHIBIT 10

SCC 1/6/2000



RIH 1/7/2000

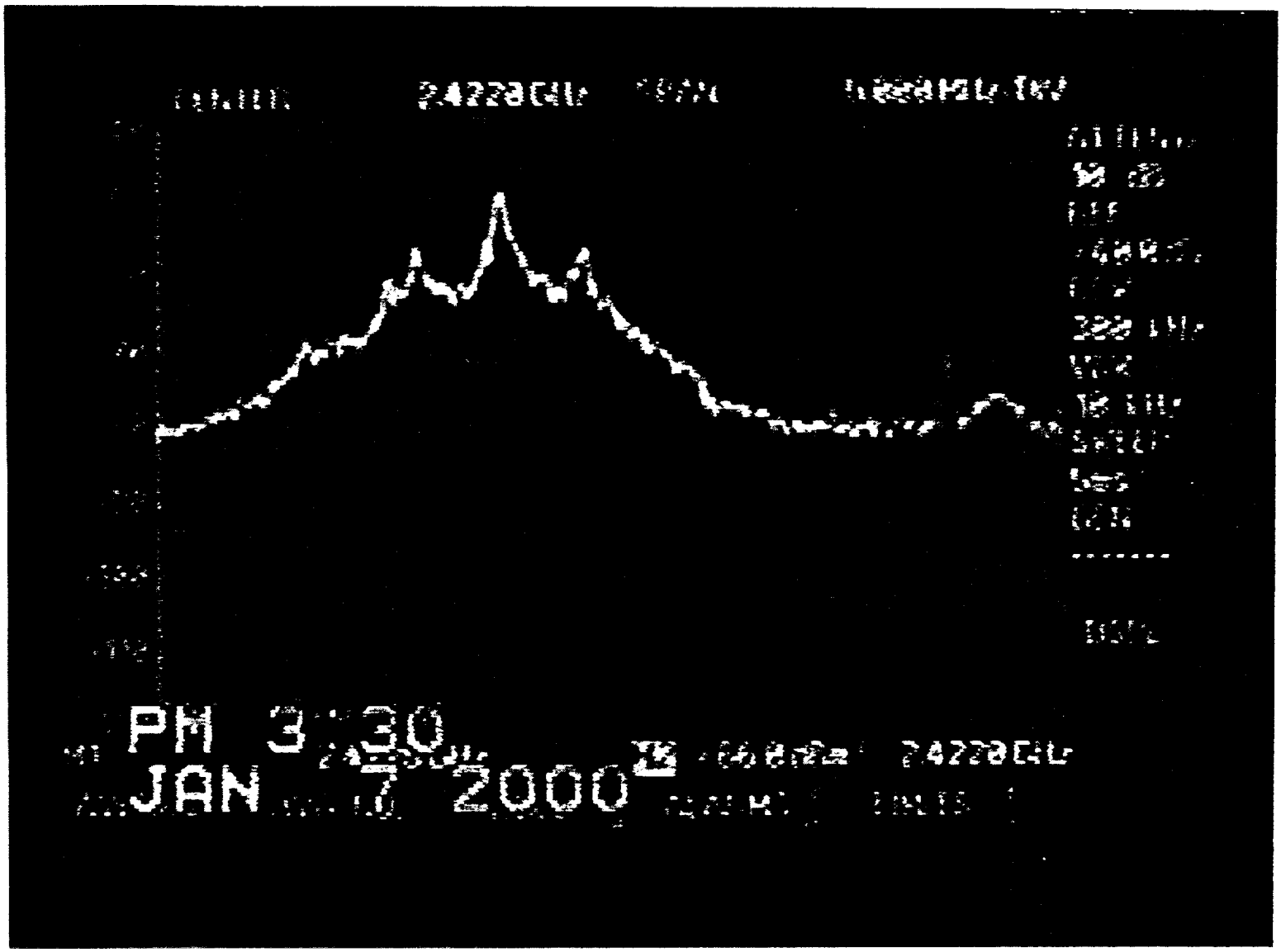
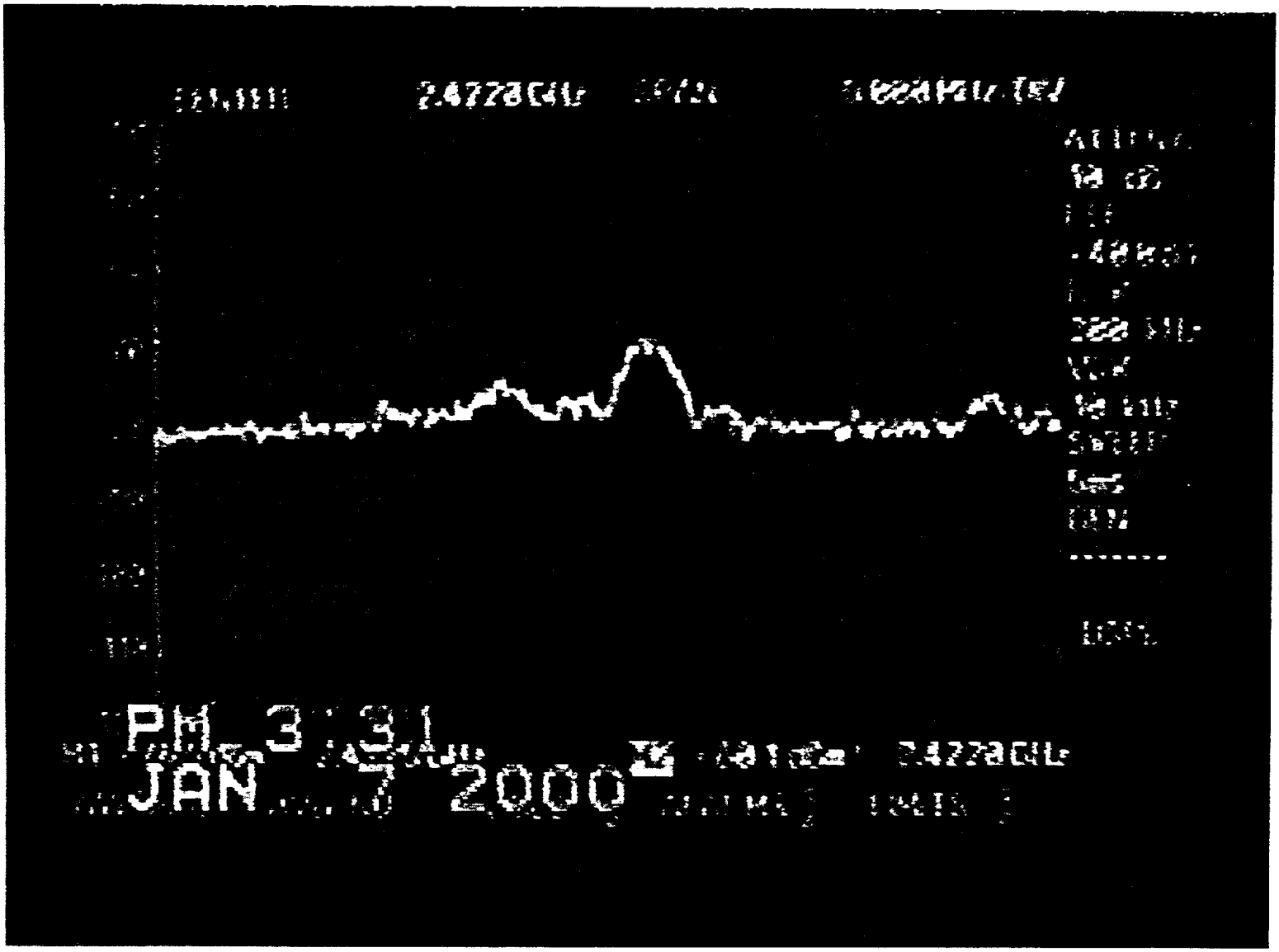


EXHIBIT 12

RIH 1/7/2000



RIH 1/7/2000

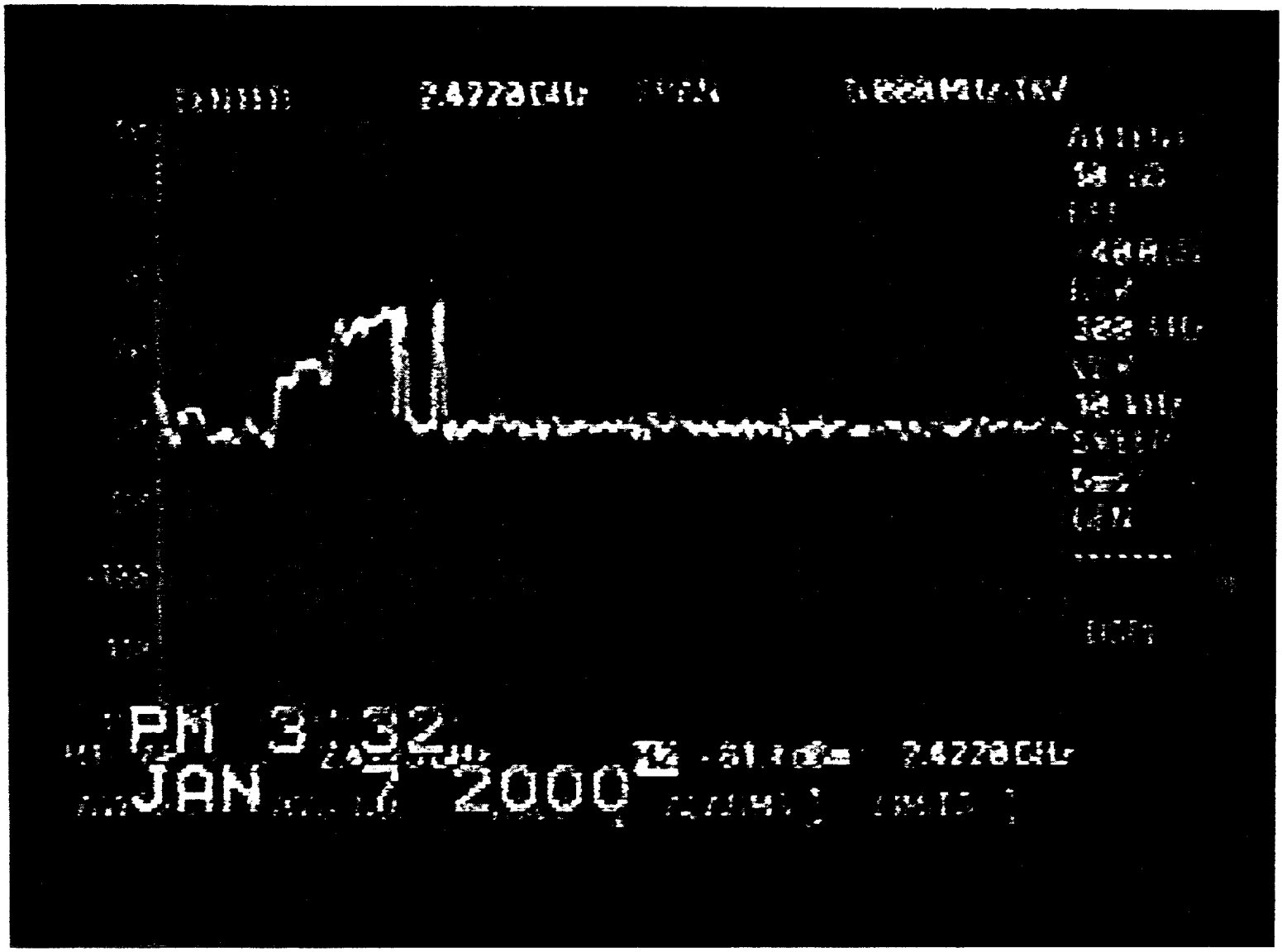


EXHIBIT 14

RIH 1/7/2000

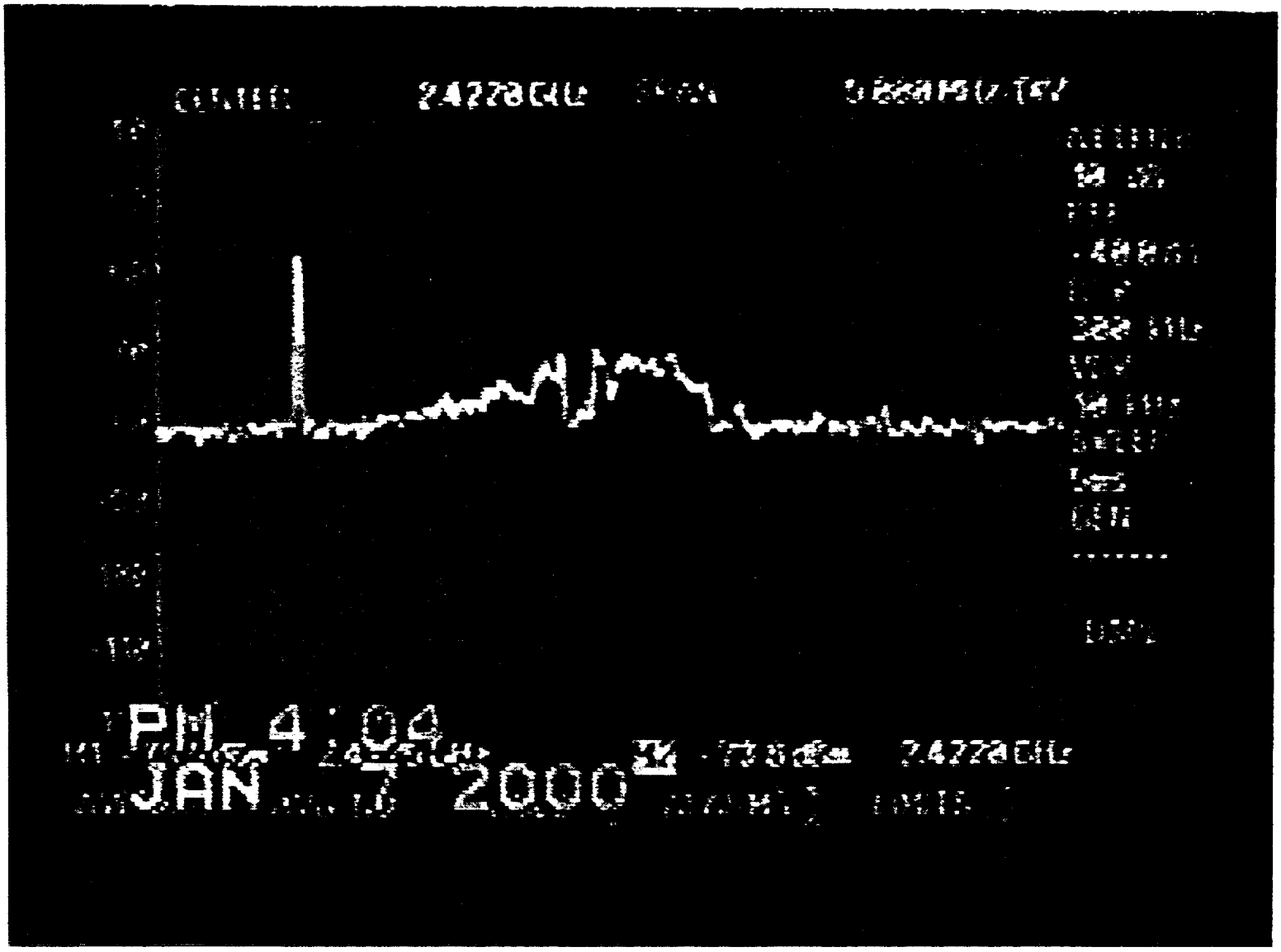


EXHIBIT 15

RIH 1/7/2000

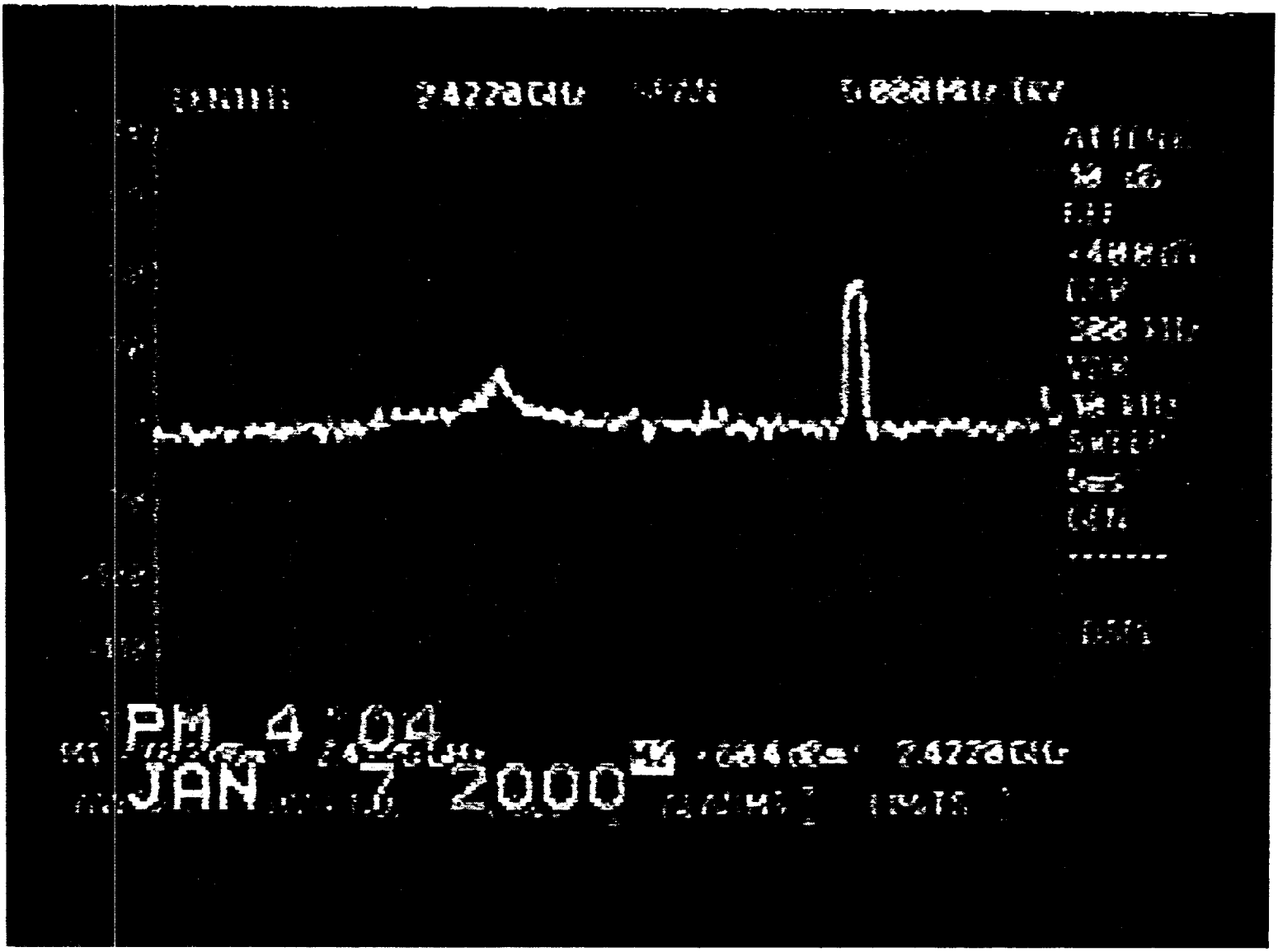


EXHIBIT 6

RIH 1/7/2000

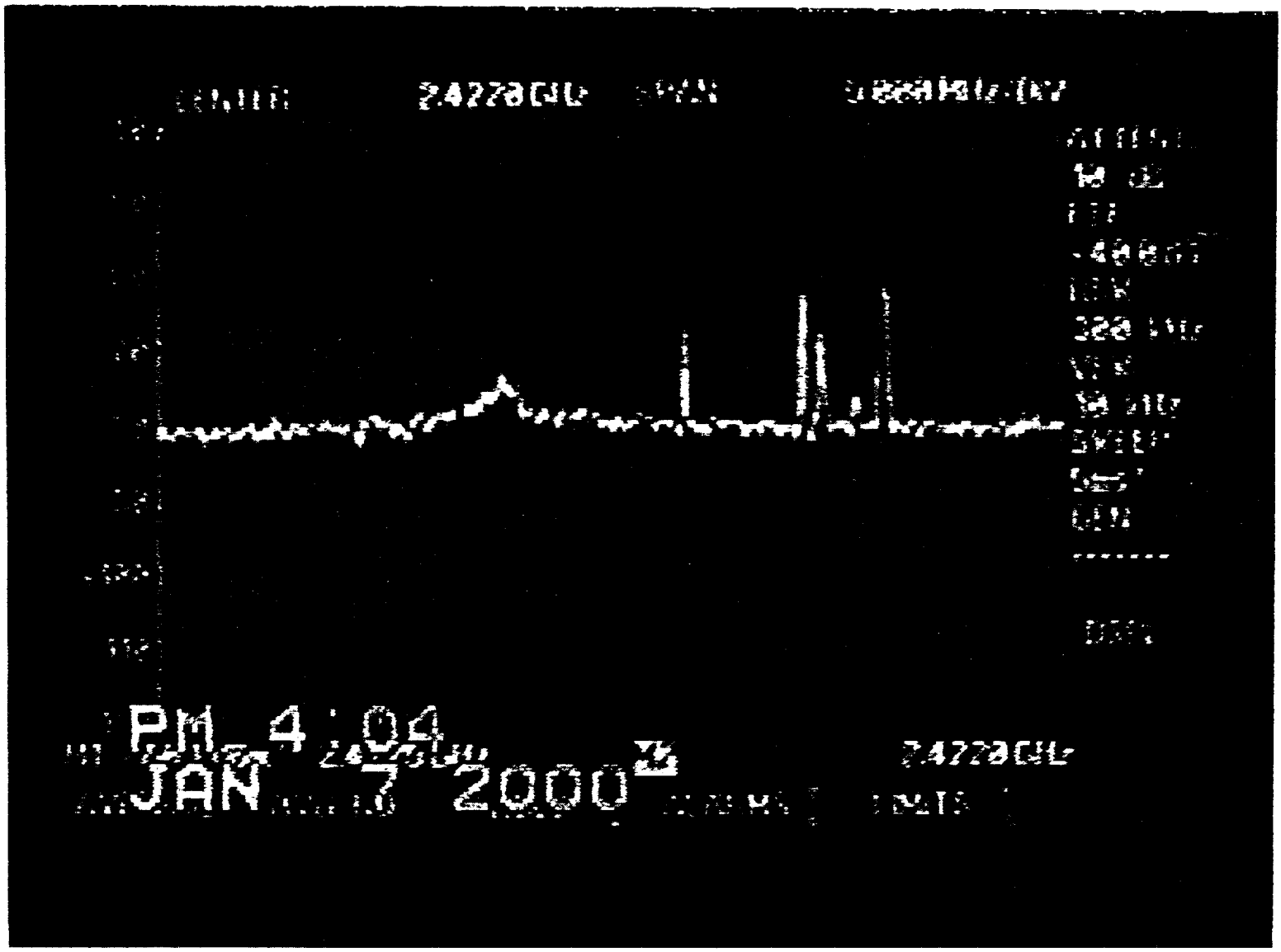
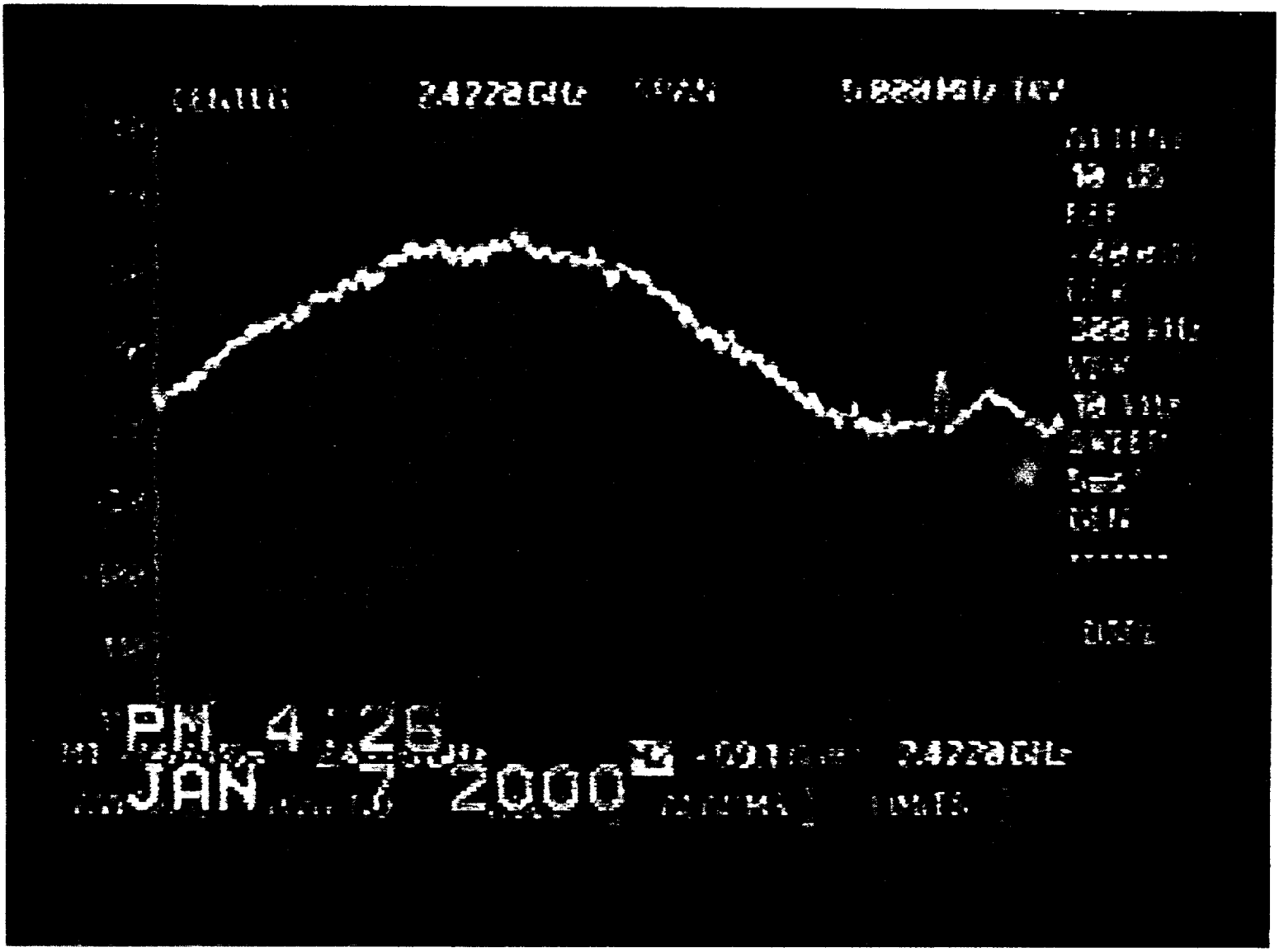


EXHIBIT 7

RIH 1/7/2000



RIH 1/7/2000

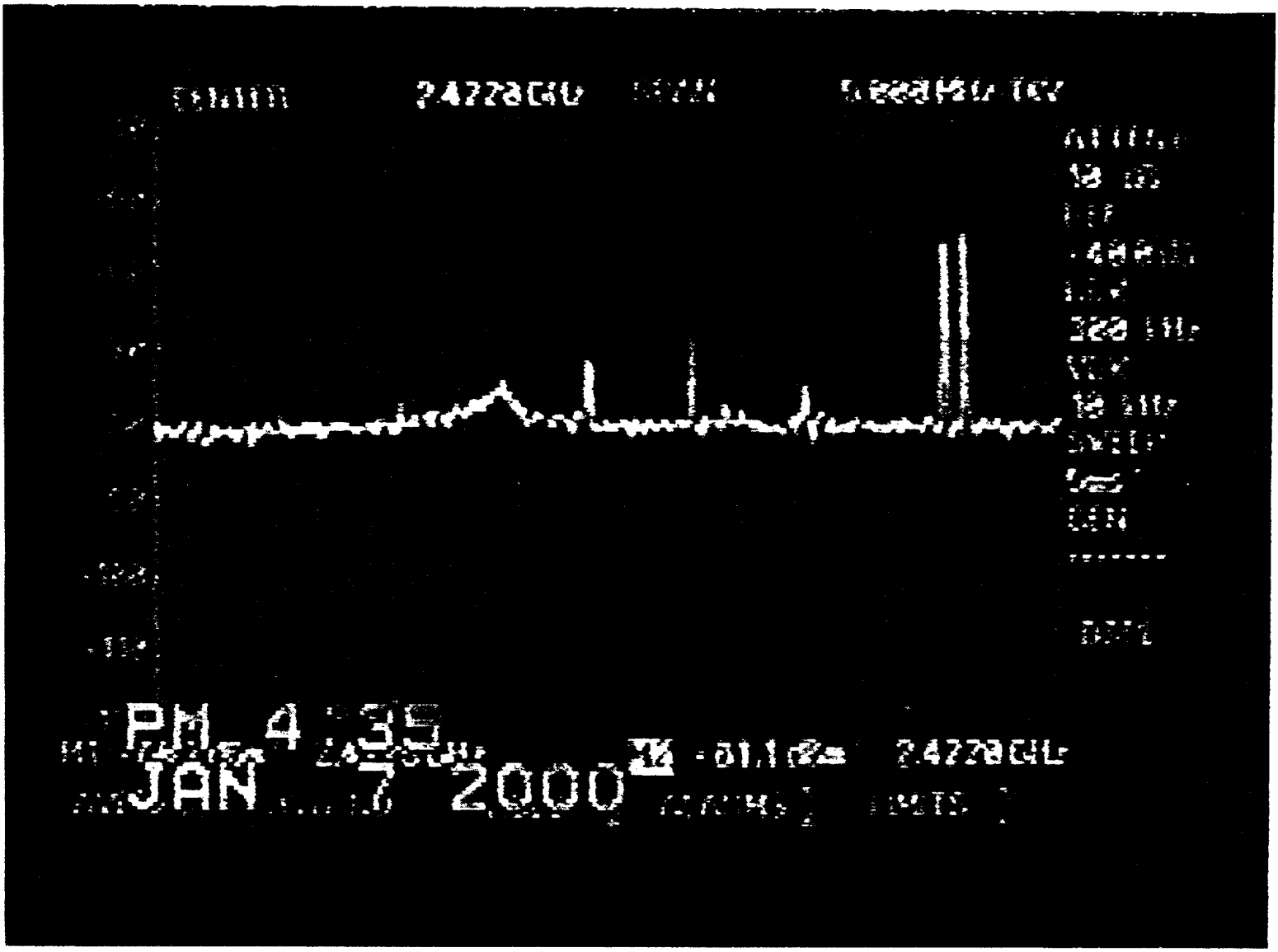


EXHIBIT 13

RIH 1/7/2000

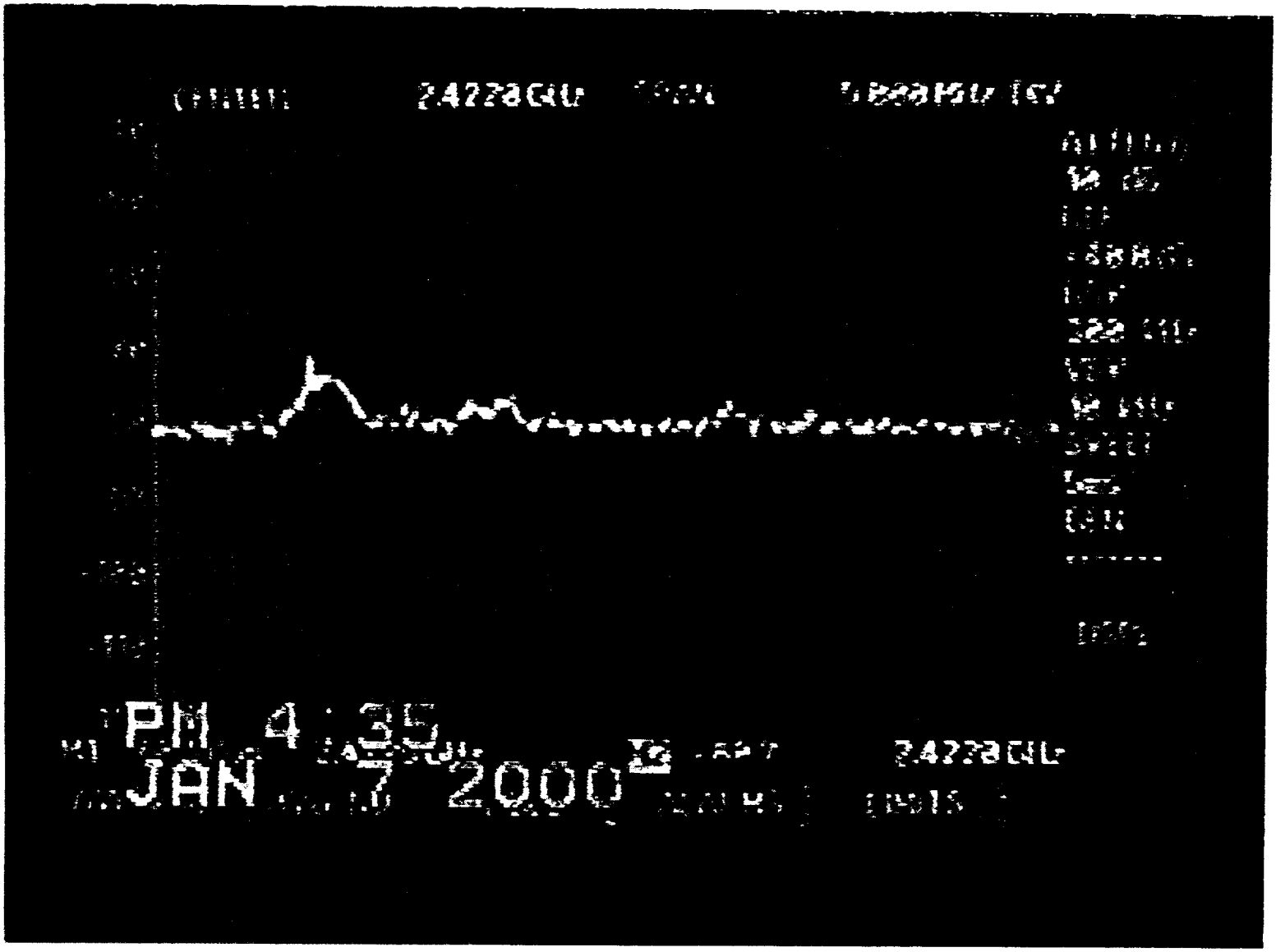


EXHIBIT 20

RIH 1/7/2000

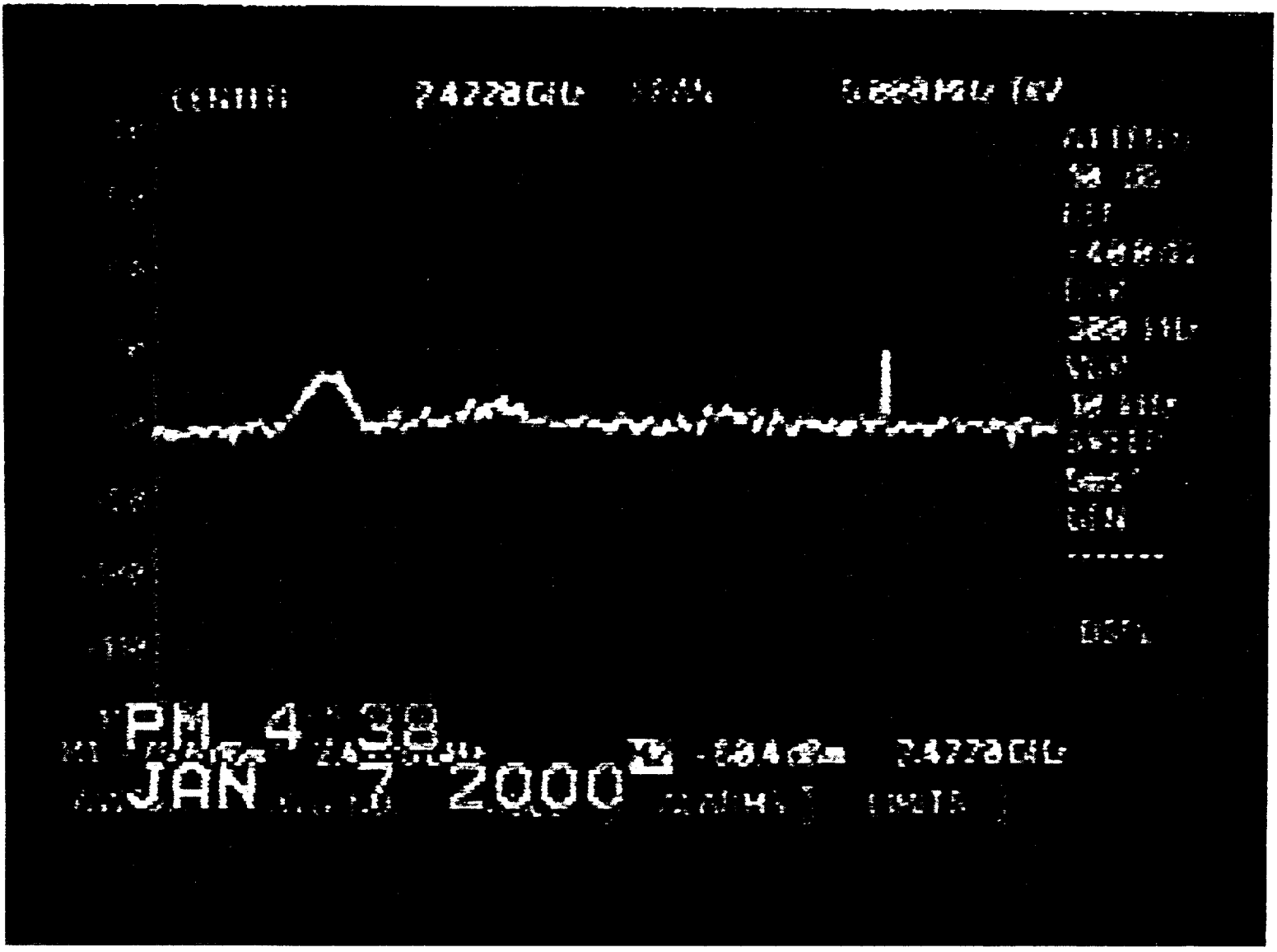


EXHIBIT 41

RIH 1/7/2000

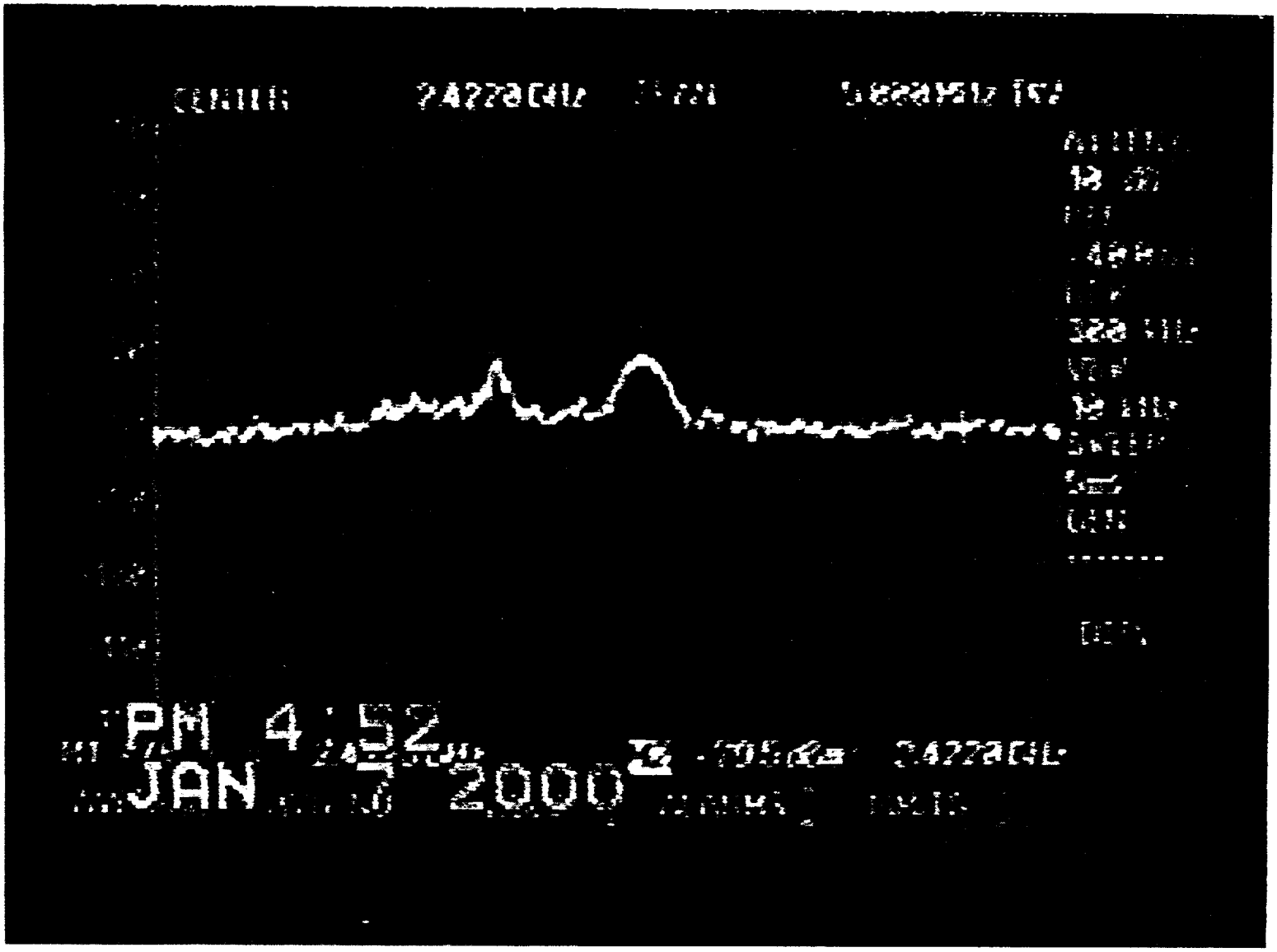


EXHIBIT 22

RIH 1/7/2000

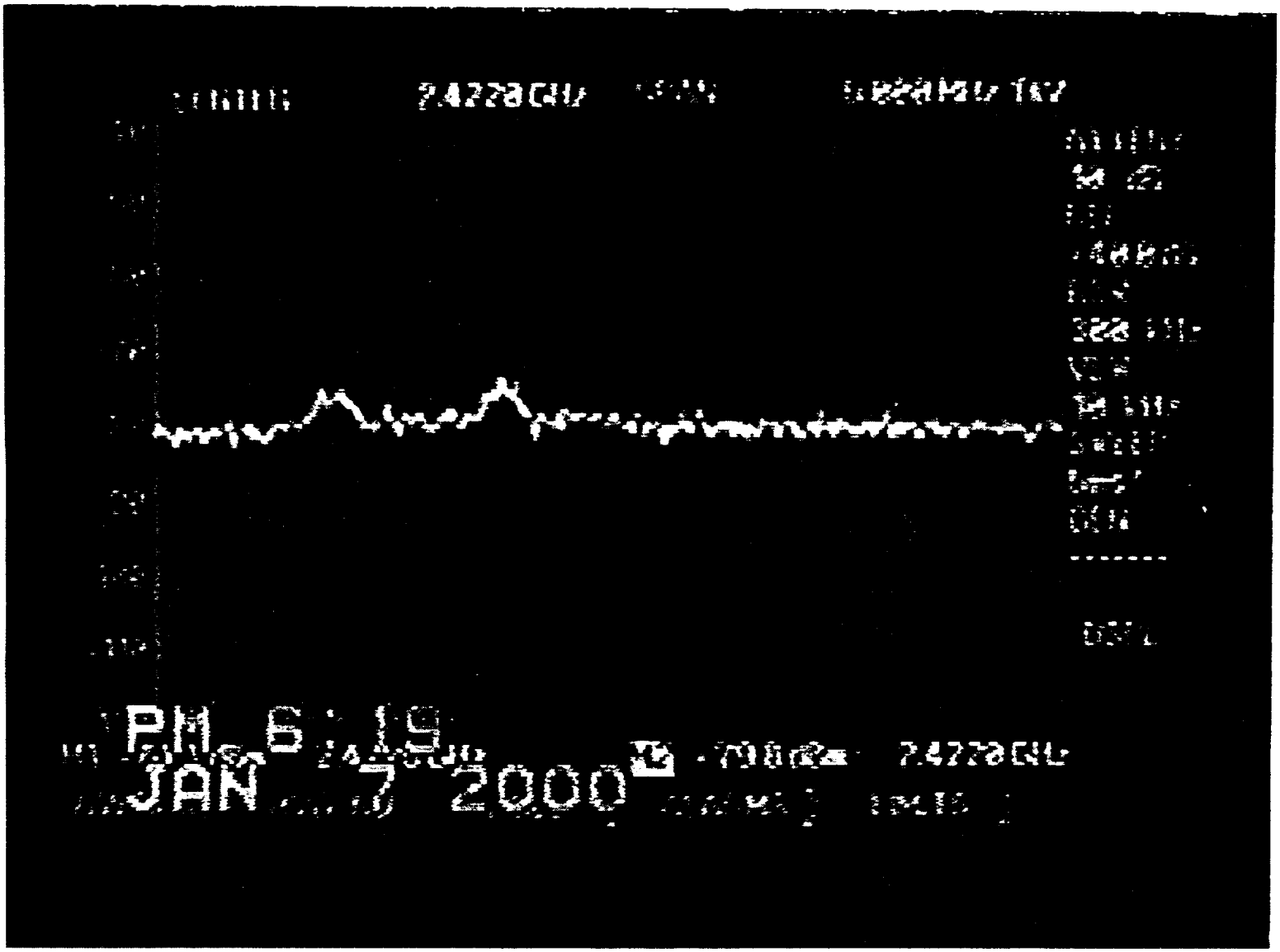


EXHIBIT 23

RIH 1/7/2000

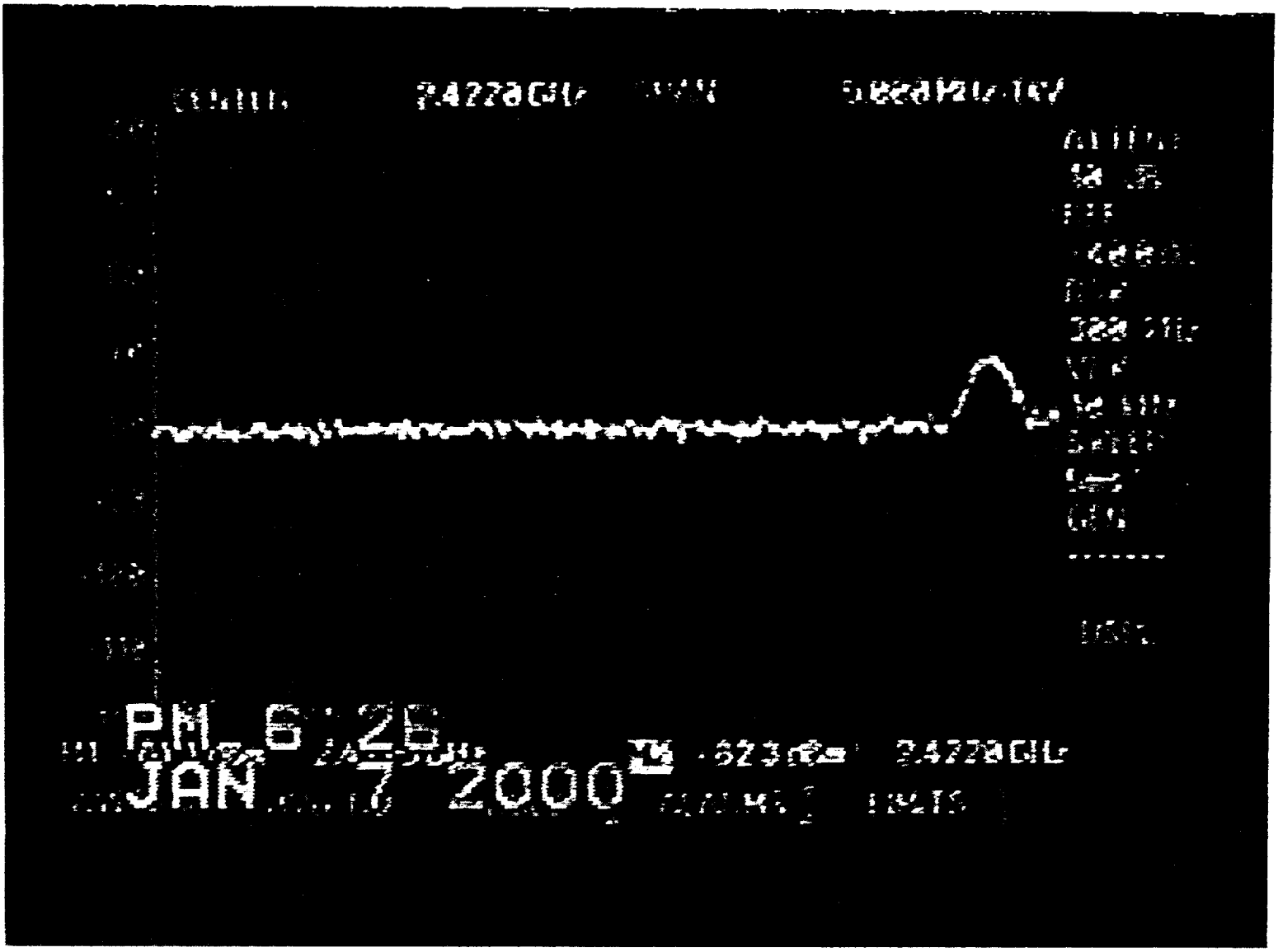


Exhibit 24

RIH 1/7/2000

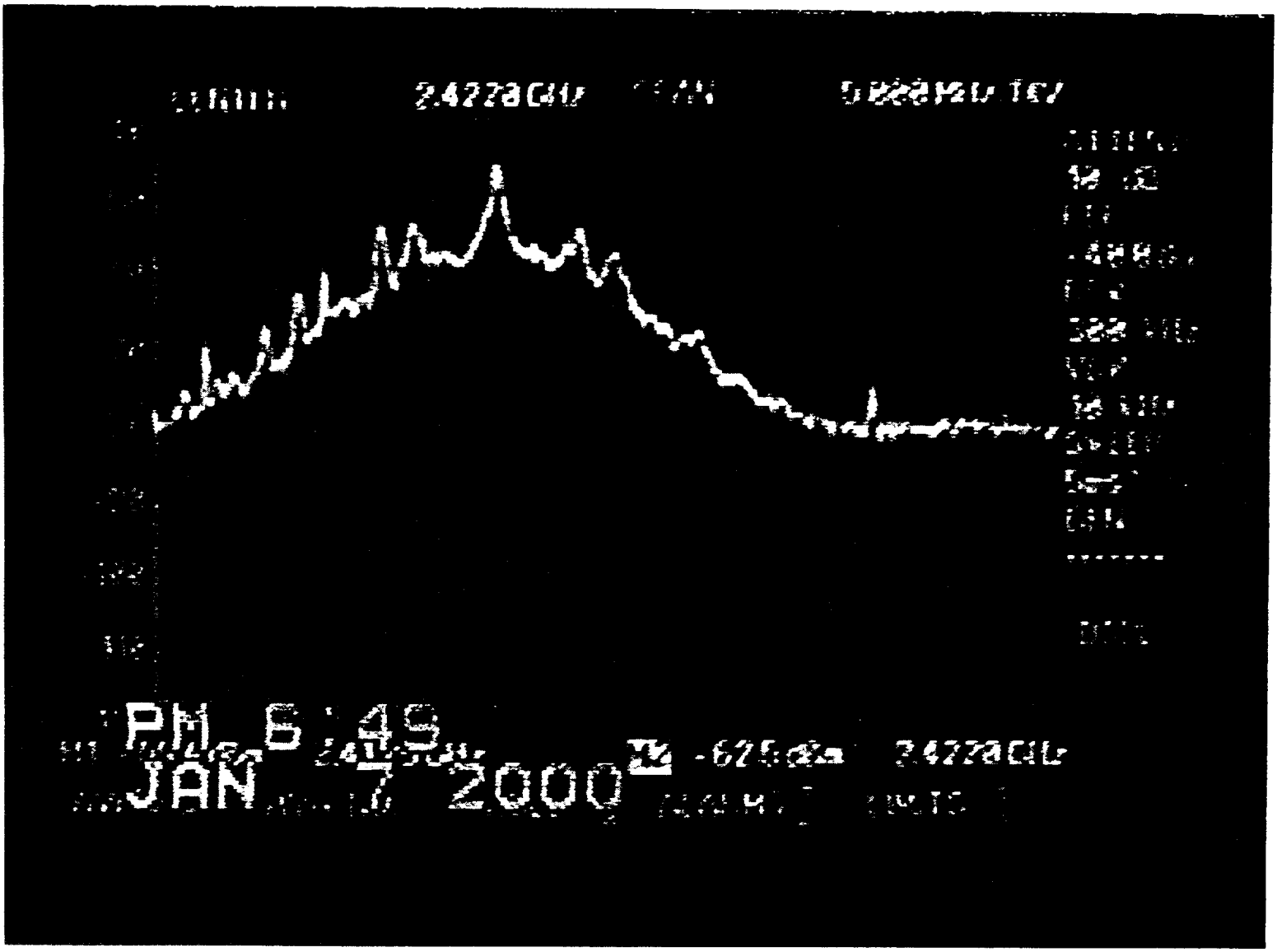


EXHIBIT 25

RIH 1/7/2000

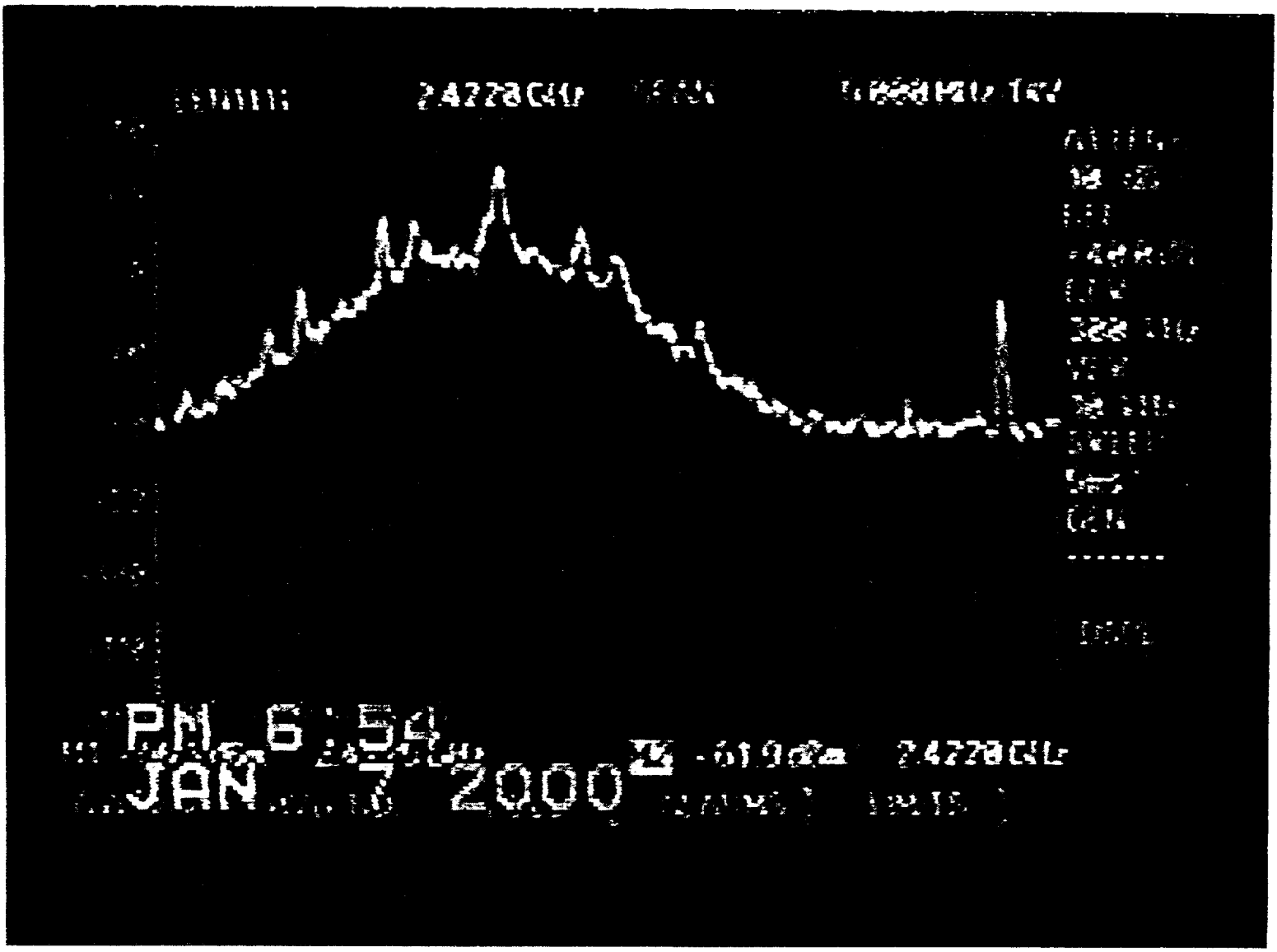


EXHIBIT 26

RIH 1/7/2000

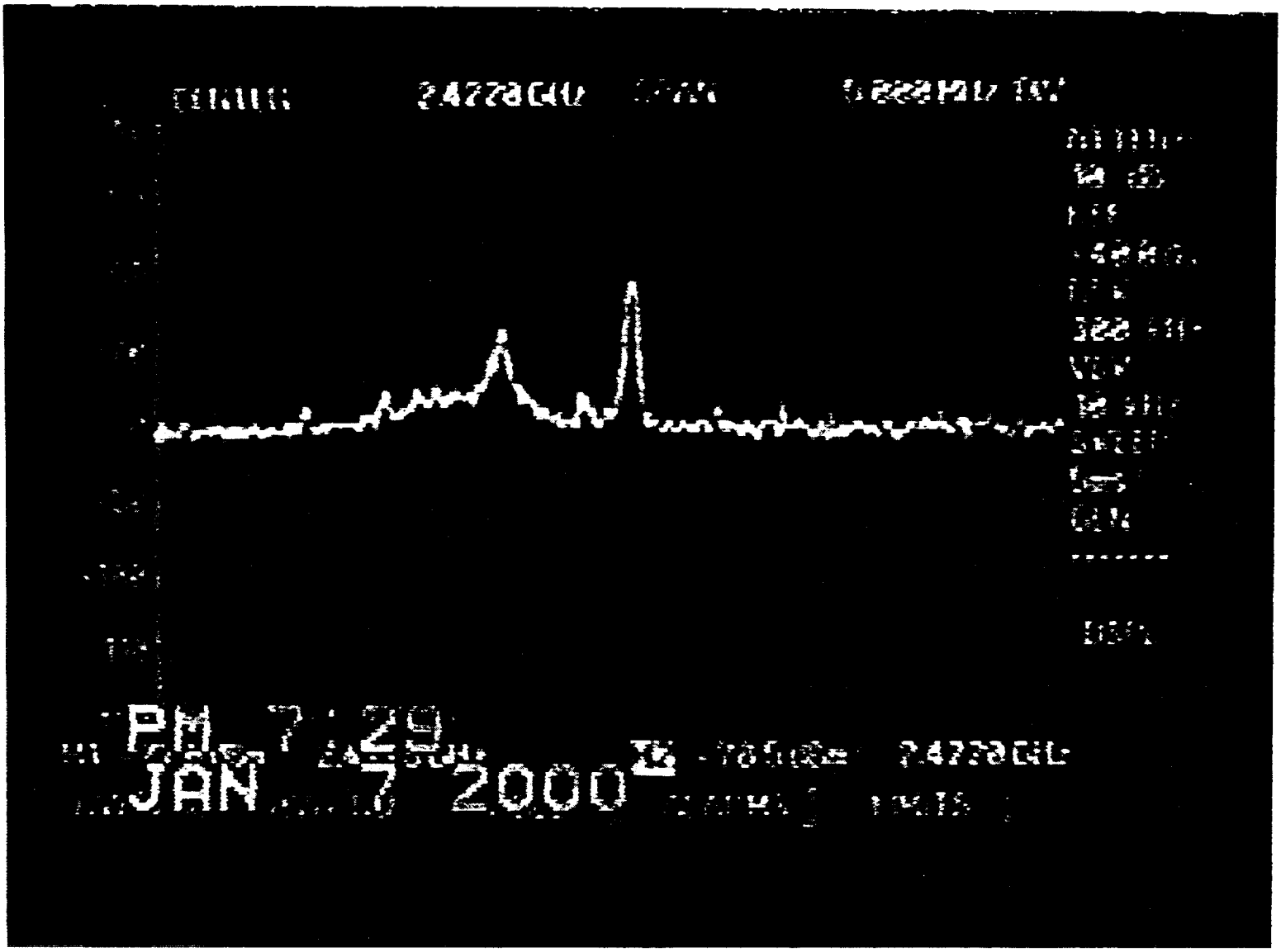


EXHIBIT 67

RIH 1/7/2000

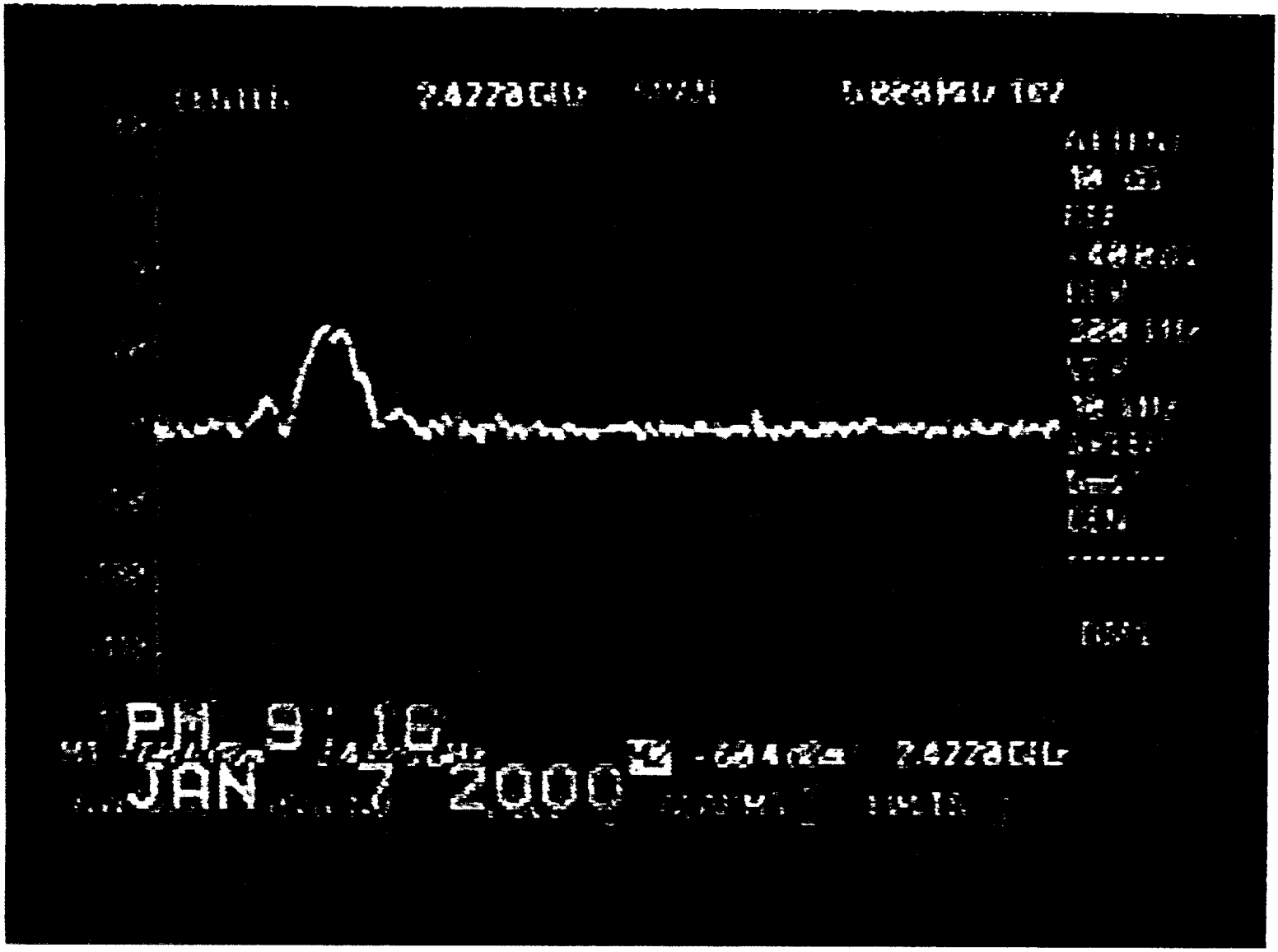


EXHIBIT 28

RIH 1/7/2000

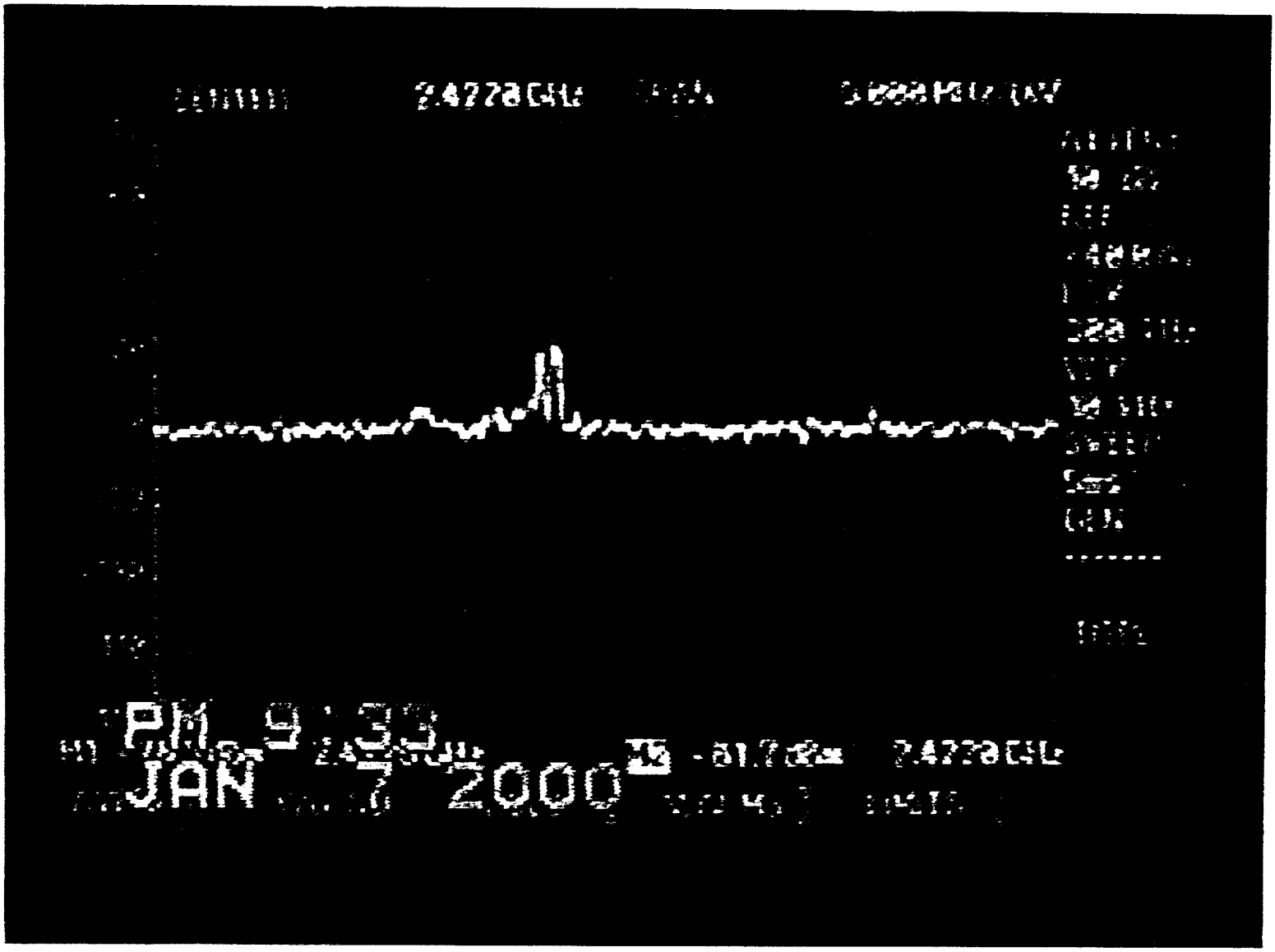


EXHIBIT 2

ONK 1/8/2000

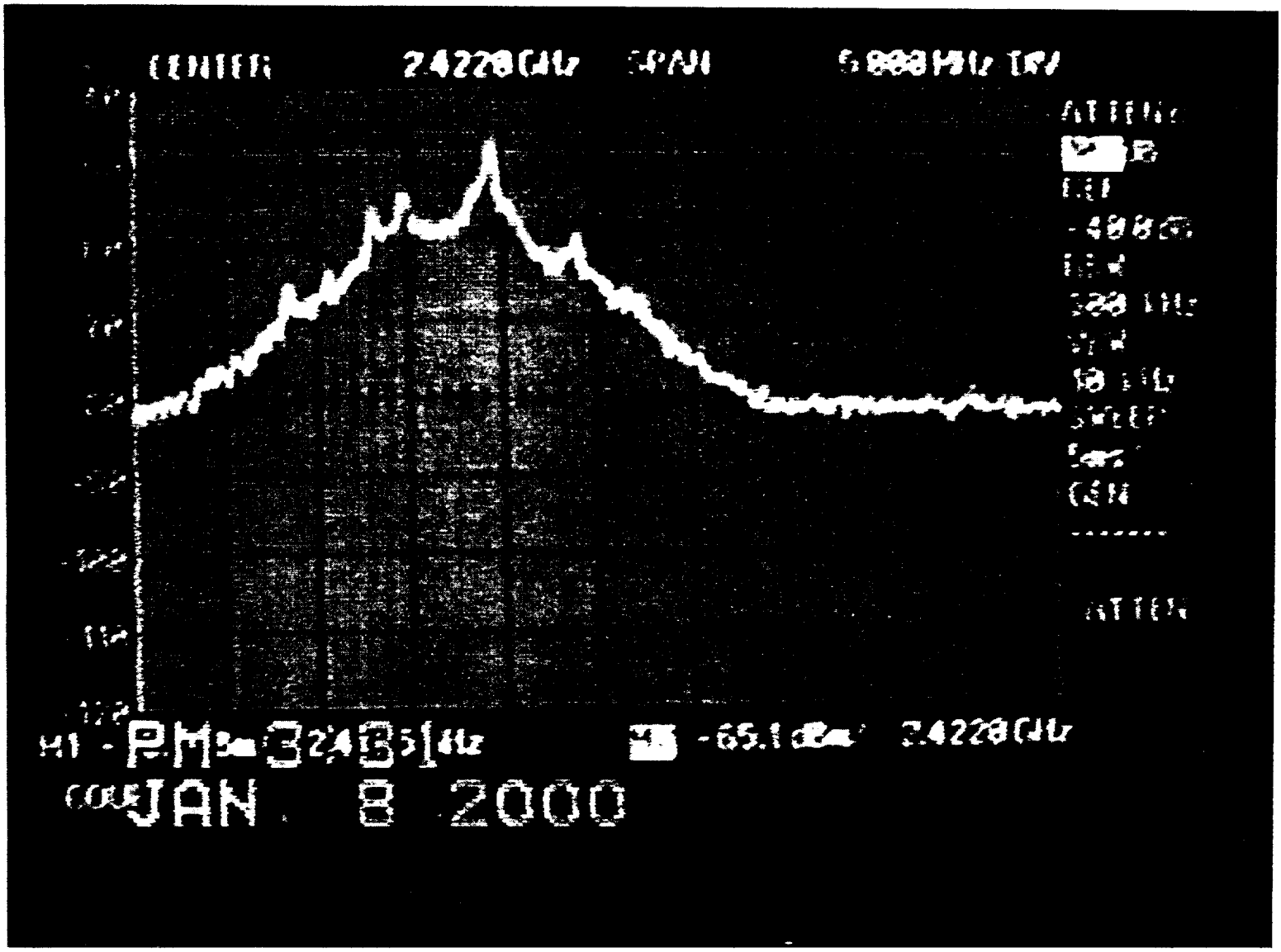


EXHIBIT 30

ONK 1/8/2000

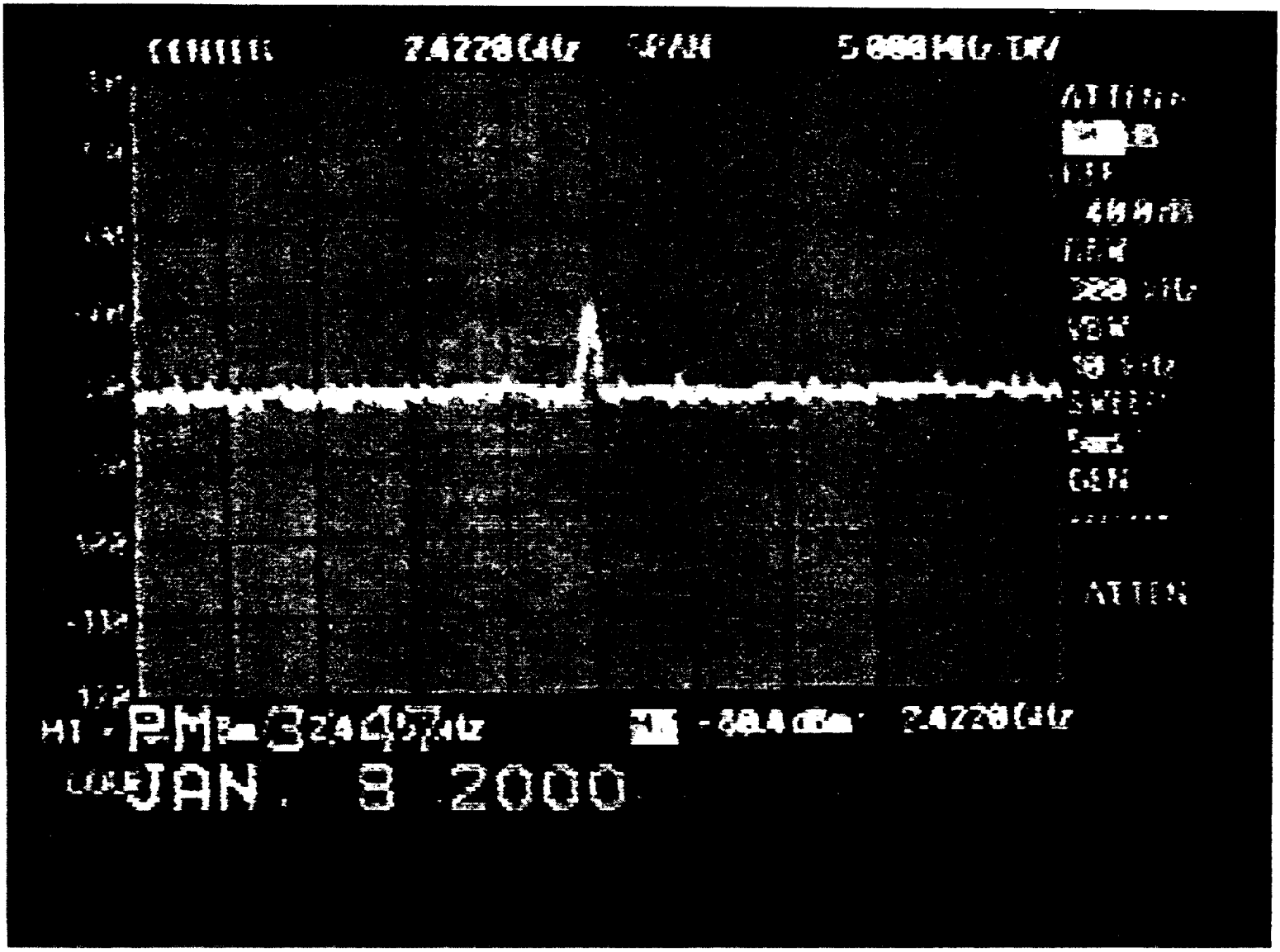


EXHIBIT 31

ONK 1/8/2000

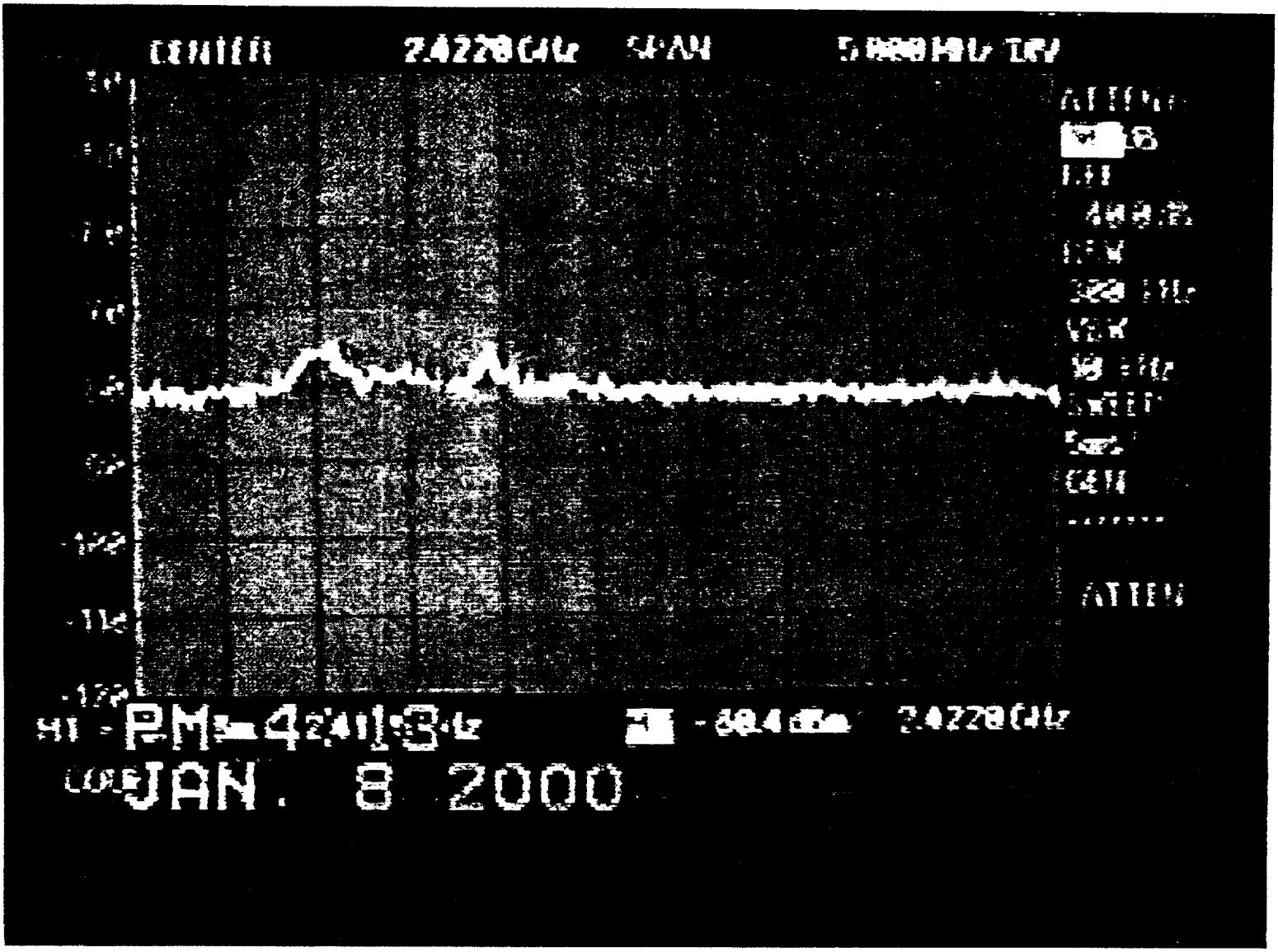


Exhibit 32

ONK 1/8/2000

EXHIBIT 55

ONK 1/8/2000

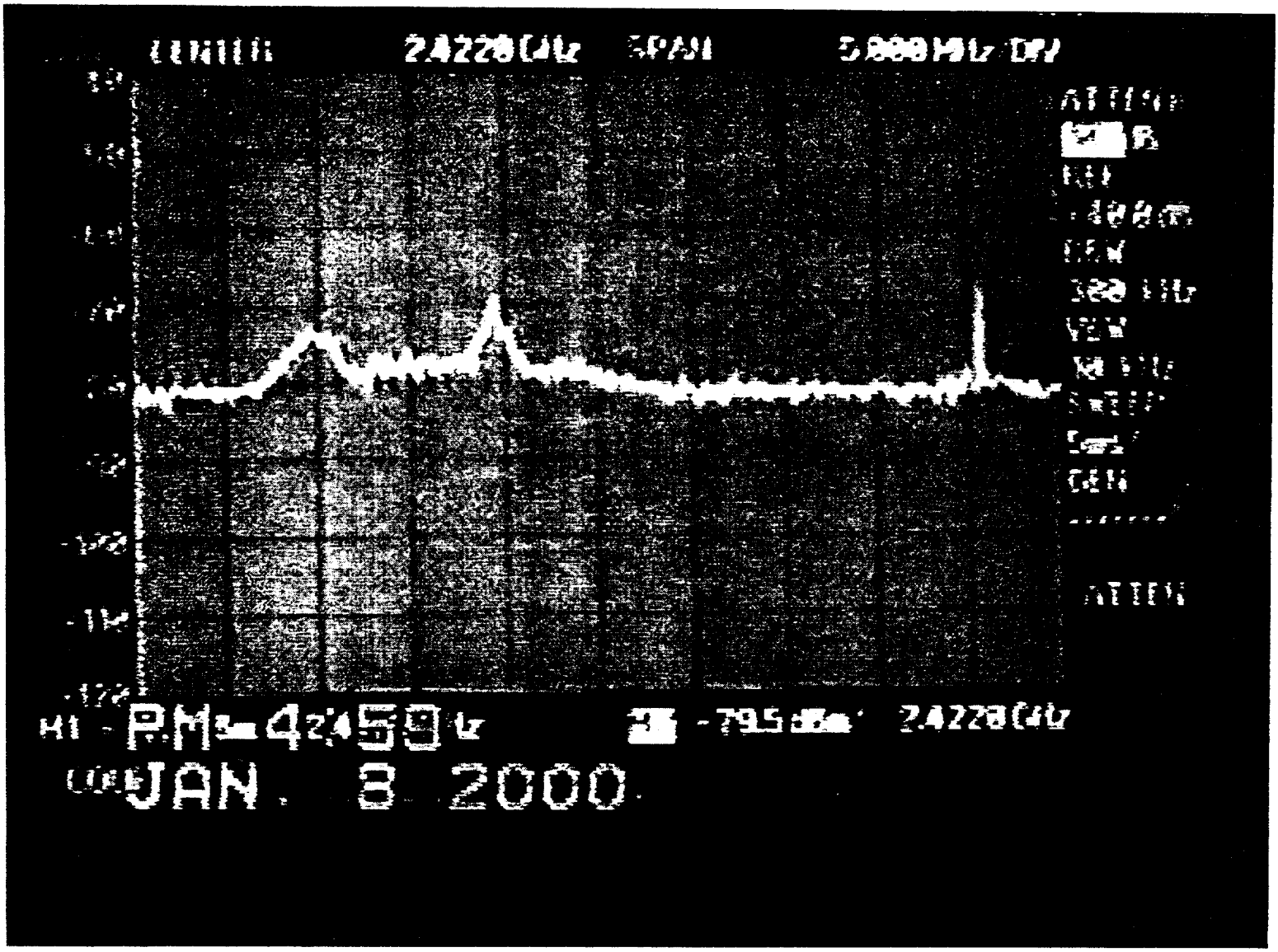
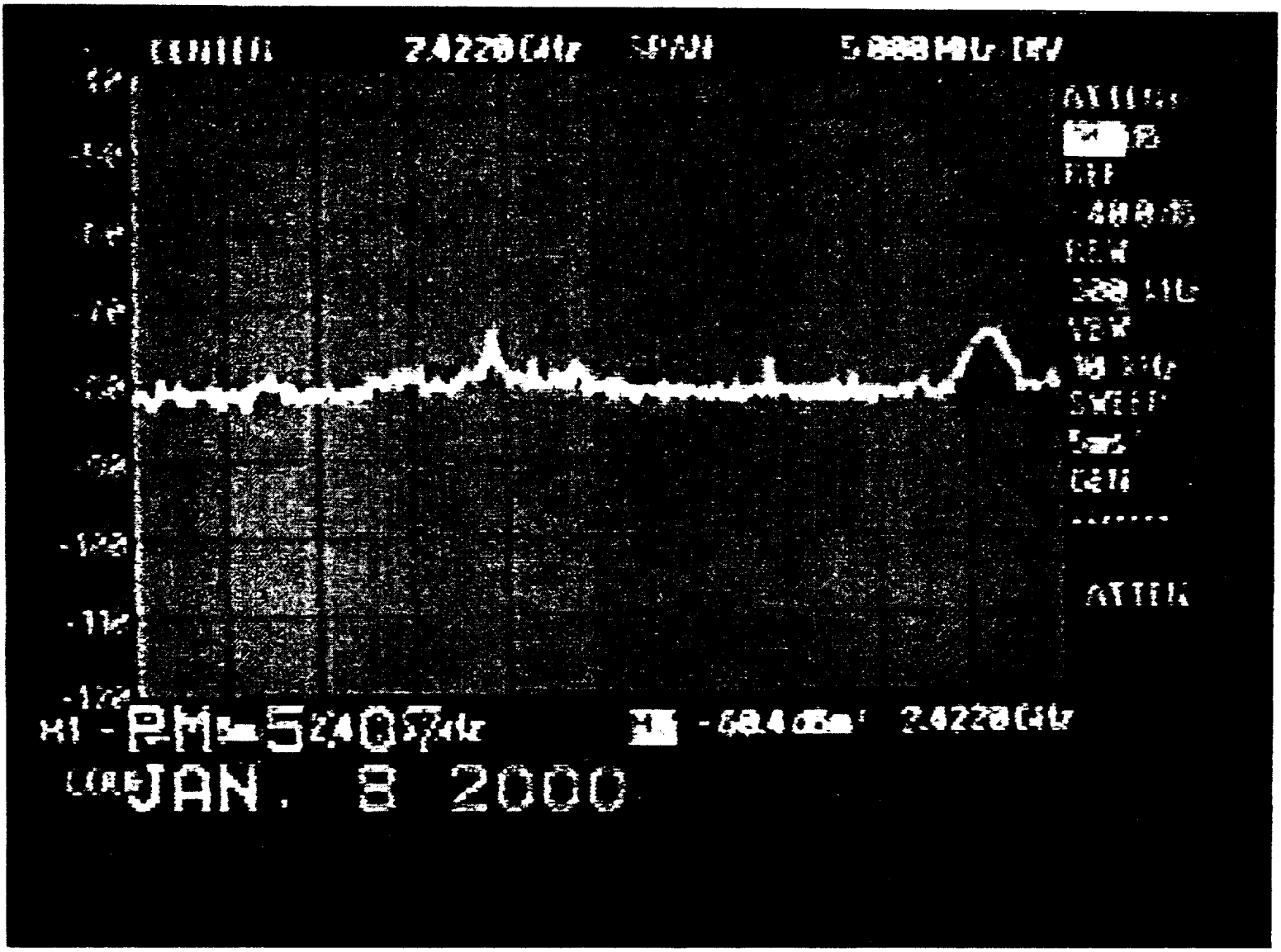
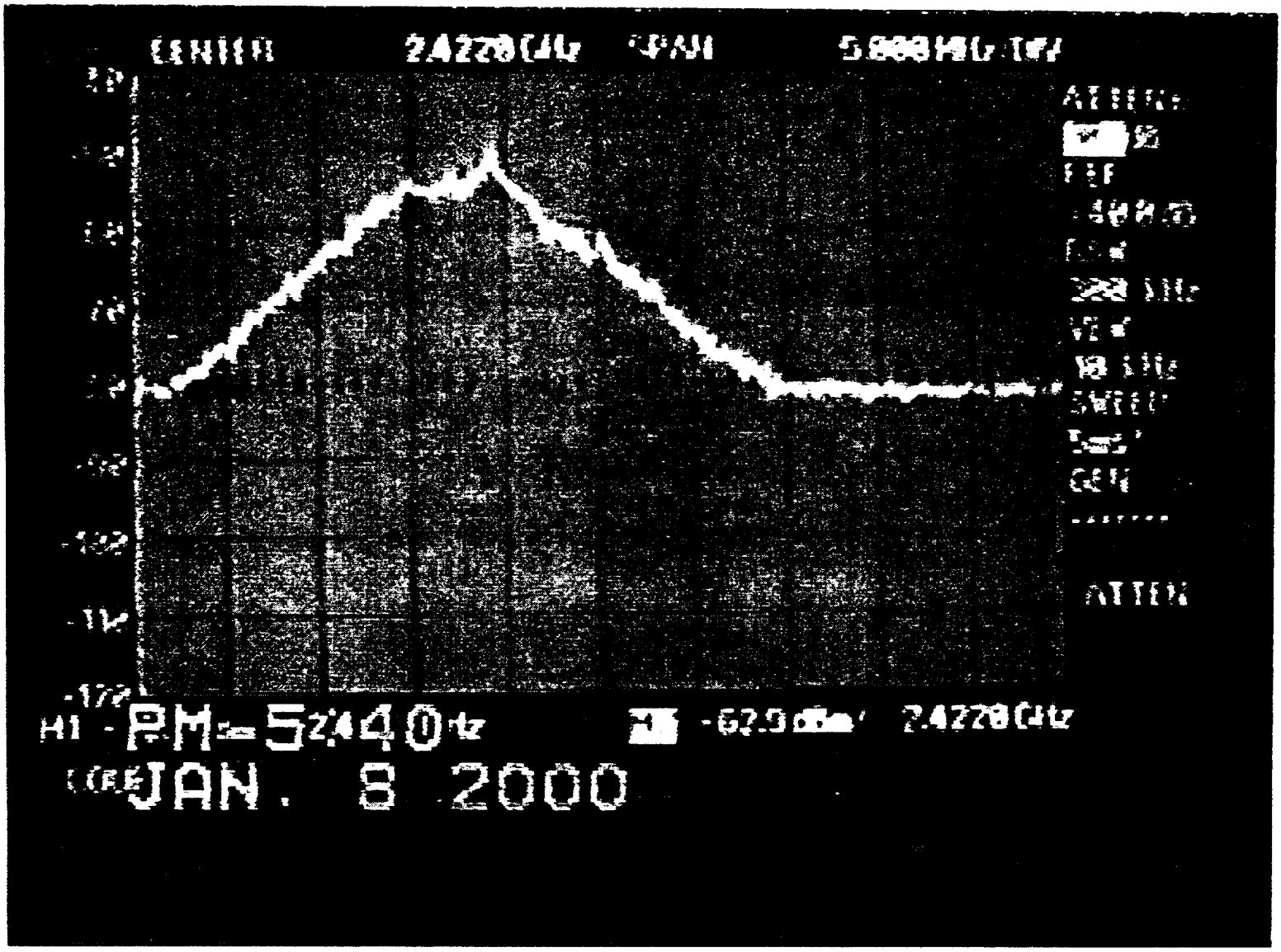


EXHIBIT 34

ONK 1/8/2000



ONK 1/8/2000



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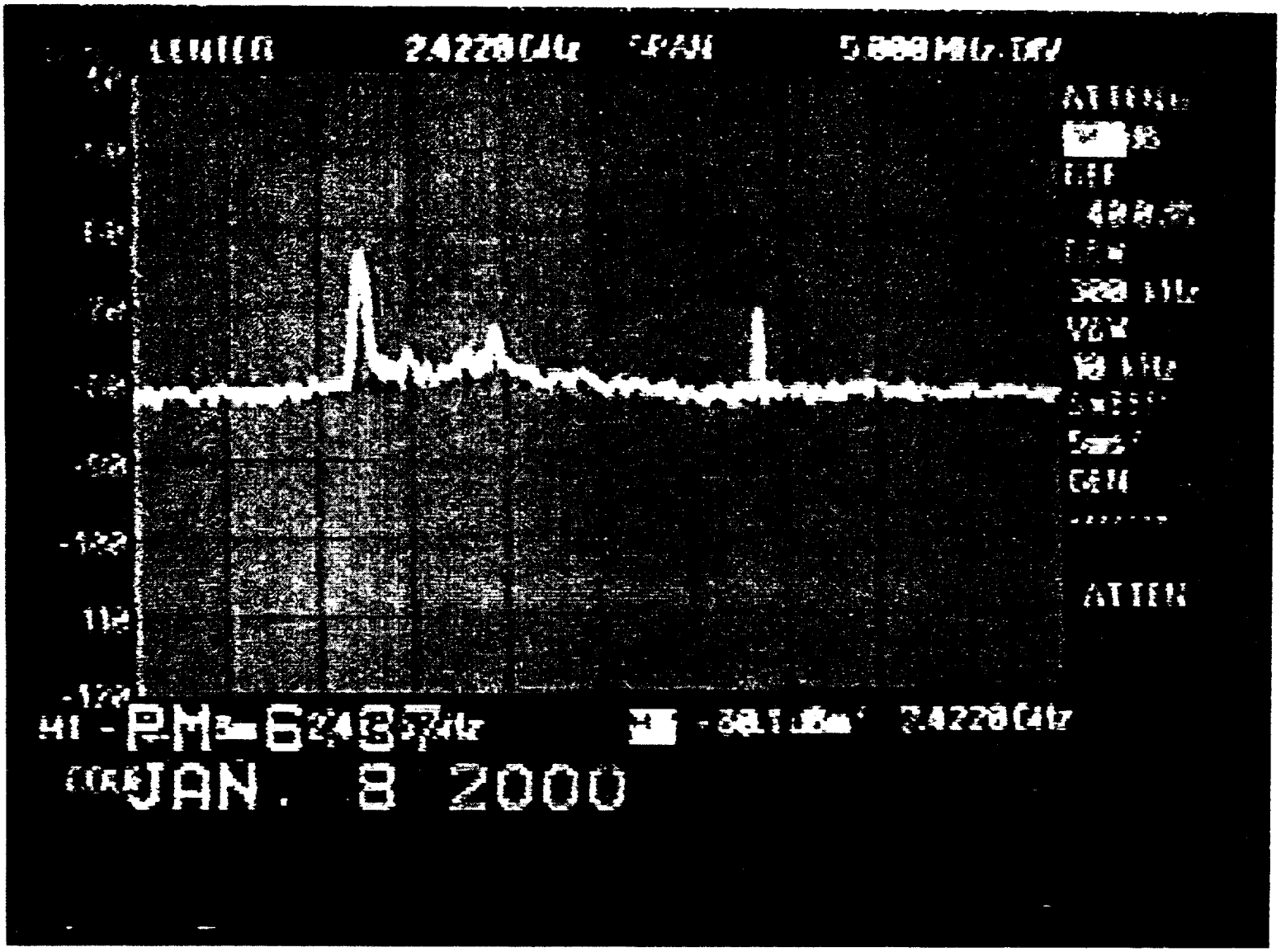

ONK 1/8/2000

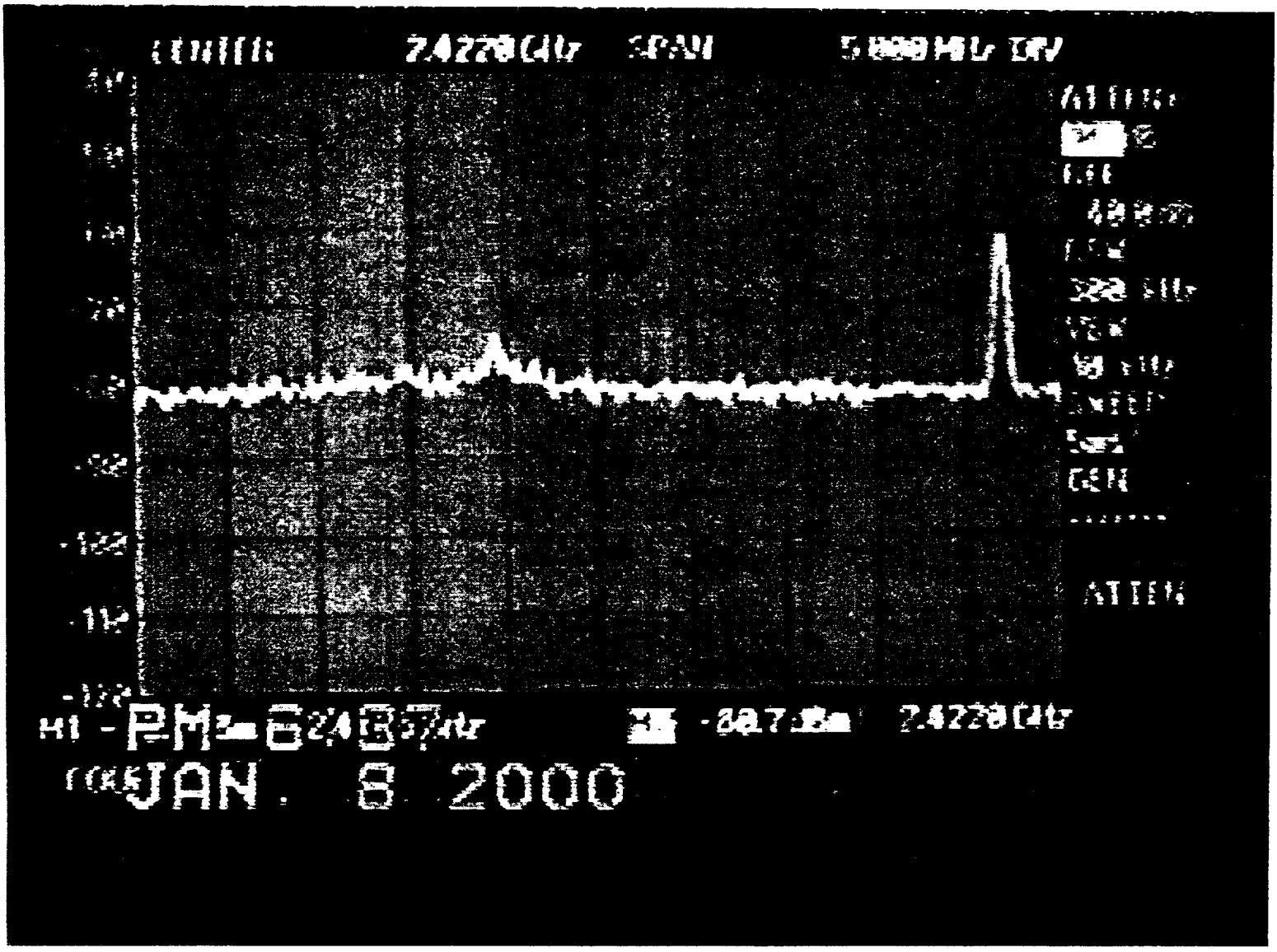

EXHIBIT 3E