

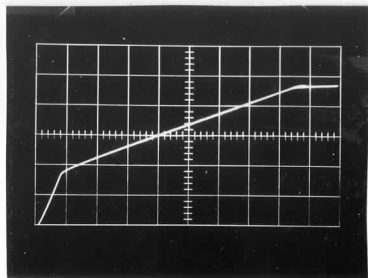
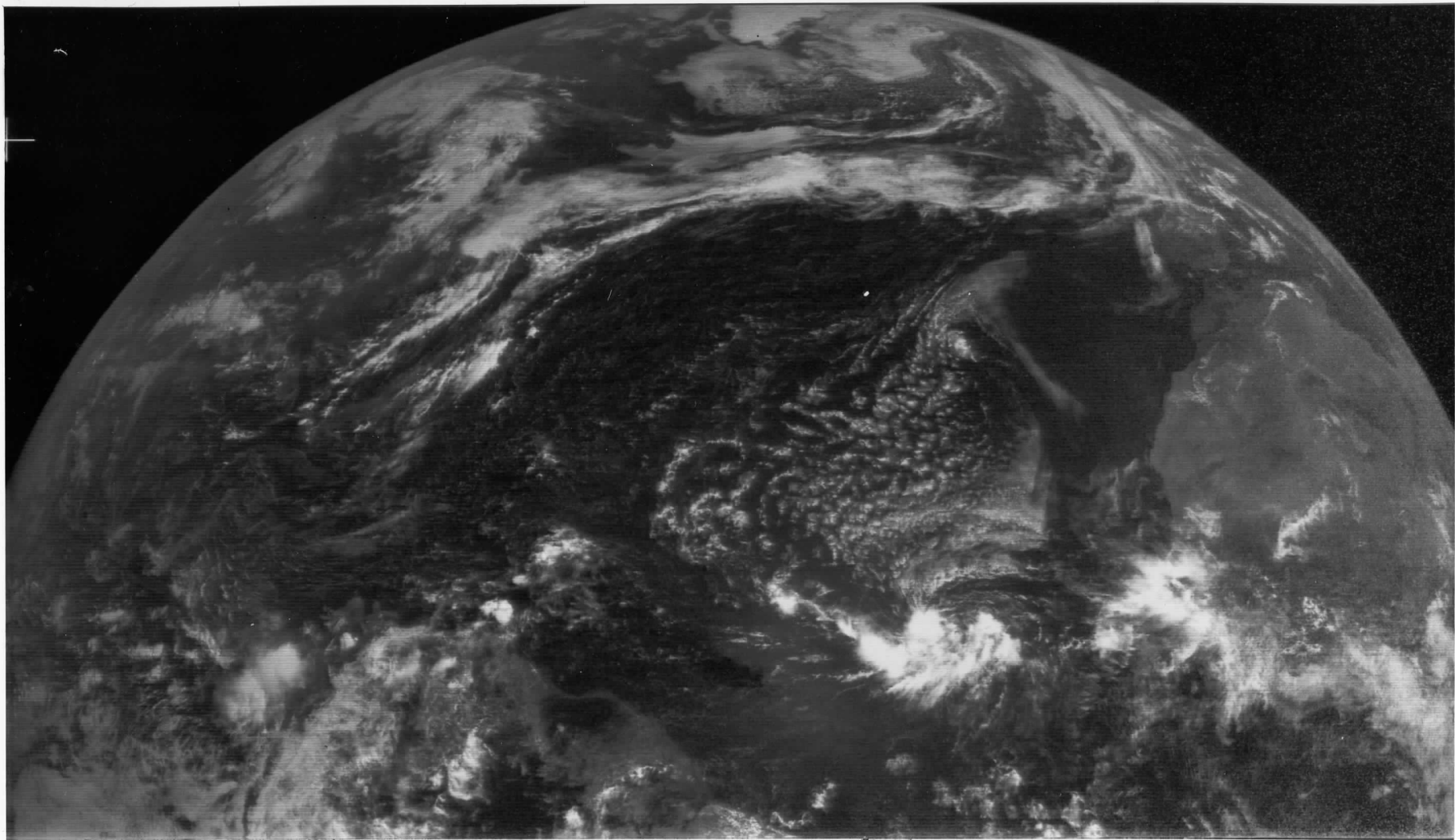
UW-Madison.

SSEC Publication No.71.02.M2.

ENHANCEMENT CASE BOOK

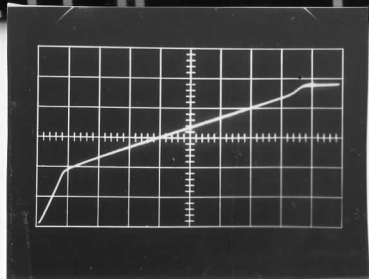
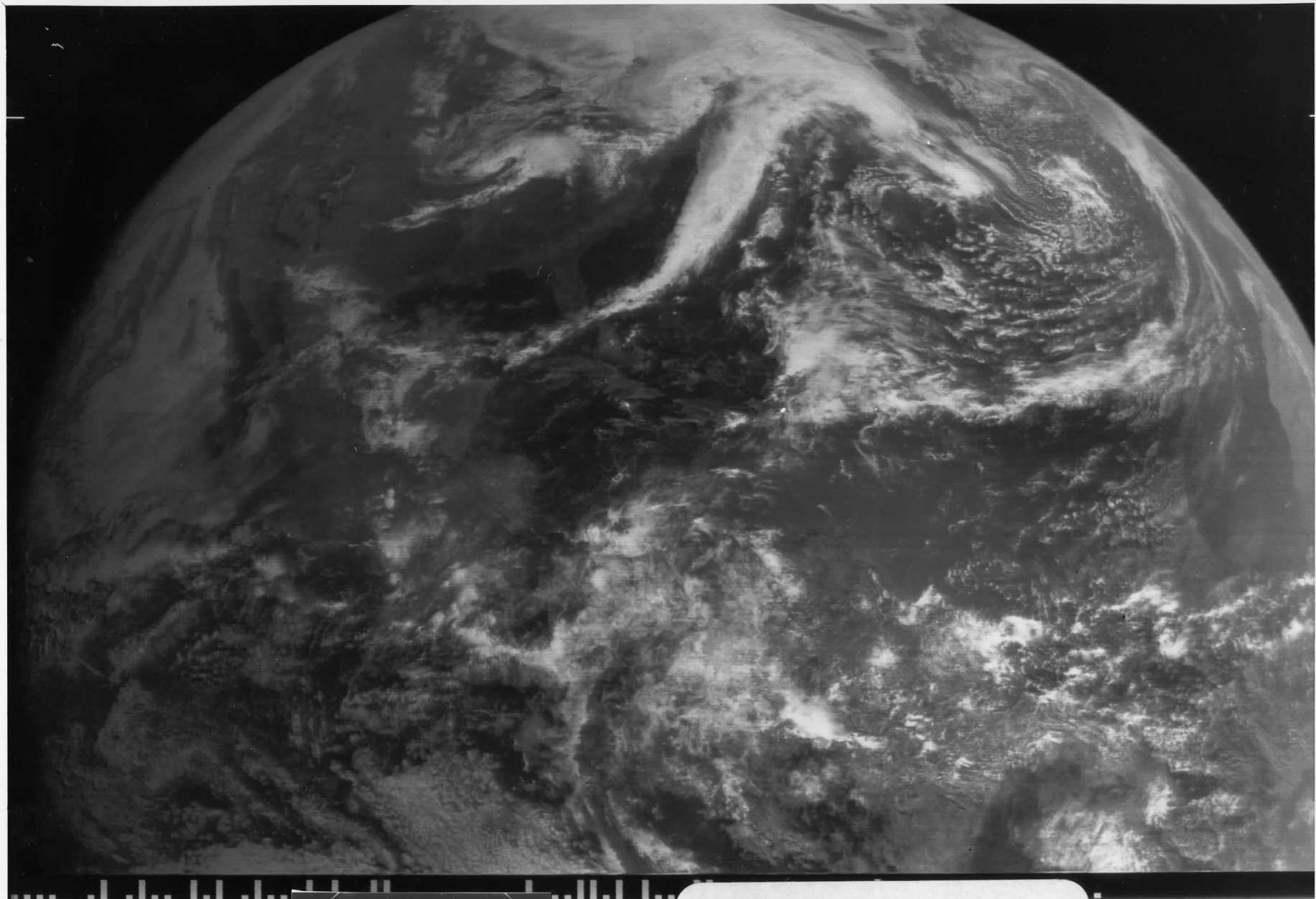


ENHANCEMENT CASE NO. 0



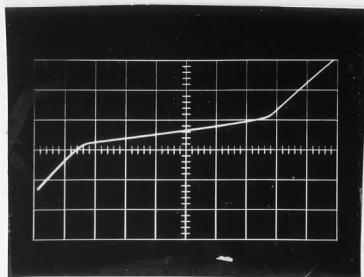
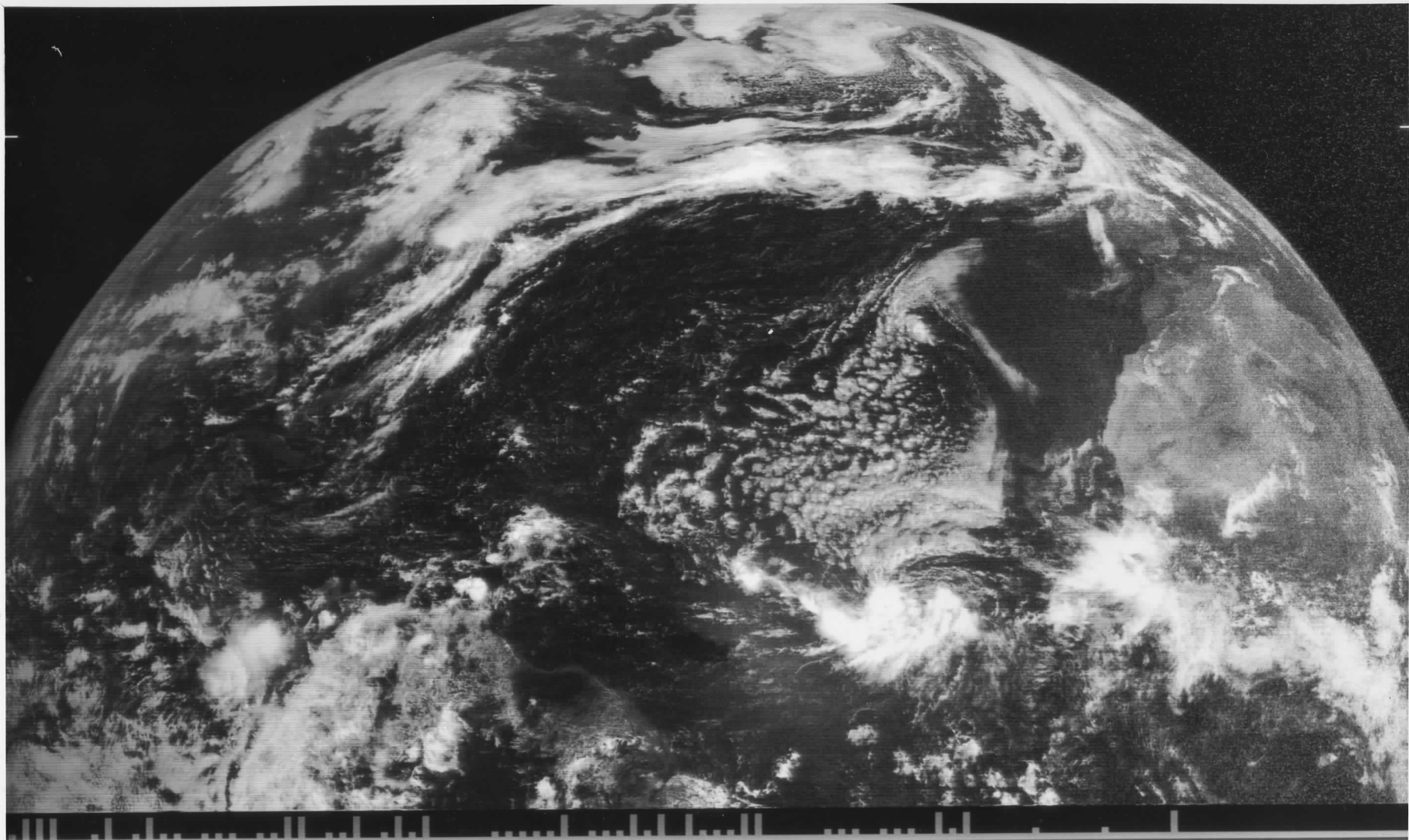
ENHANCEMENT CASE NO. 1

G1 = 1000 Intensity = 4.0
BP1 = 291 Attn.Fctr. = 2.0
G2 = 879
BP2 = 523
G3 = 957



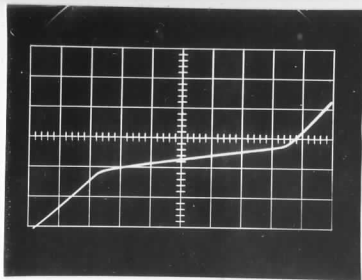
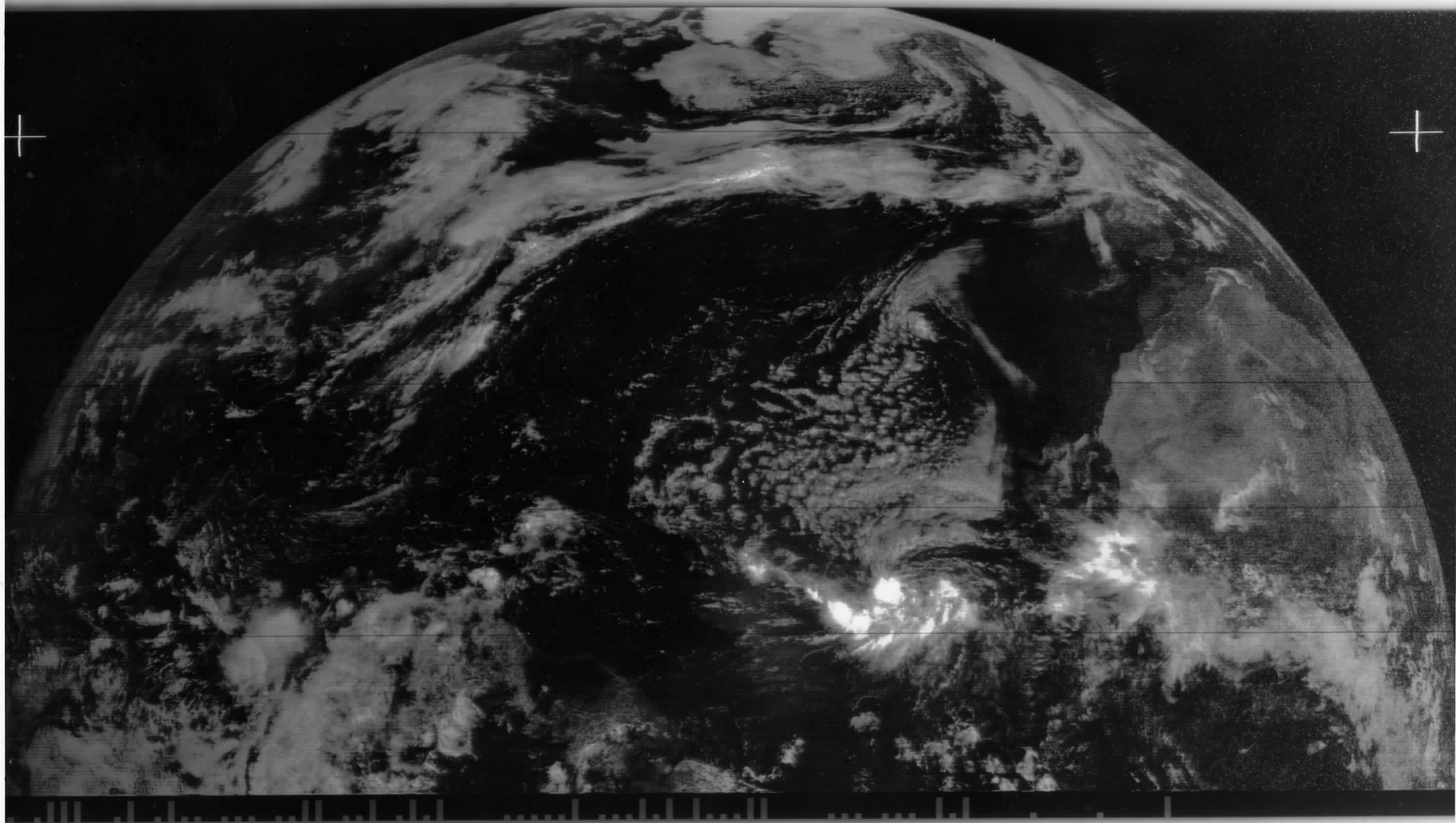
ENHANCEMENT CASE NO. 2

G1 = 995 Intensity = 4.0
BP1 = 289 Attn.Fctr.= 2.0
G2 = 879
BP2 = 523
G3 = 957



ENHANCEMENT CASE NO. 3

G1 = 900 Intensity = 4.0
BP1 = 291 Attn.Fctr.= 3.5
G2 = 879
BP2 = 523
G3 = 957



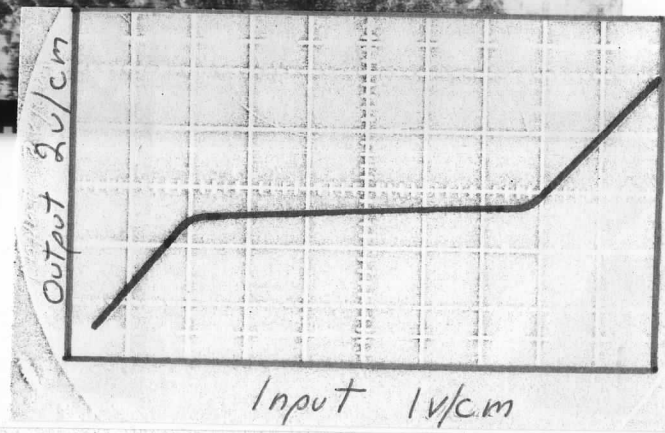
ENHANCEMENT CASE NO. 4

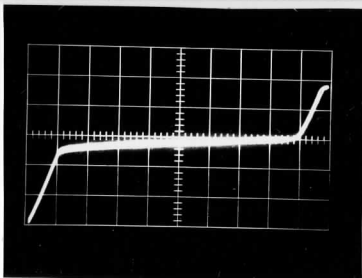
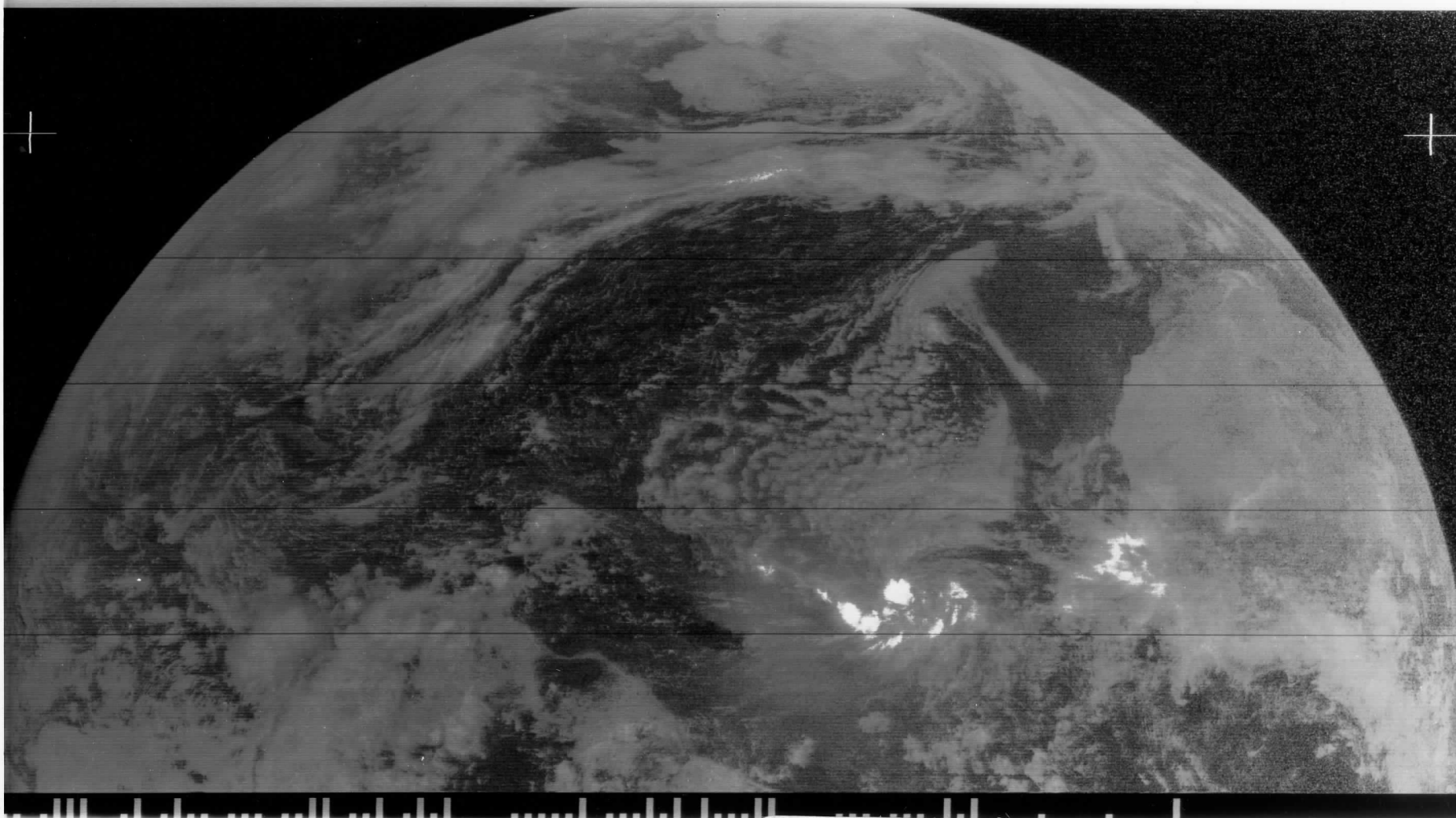
G1 = 900 Intensity = 4.0
BP1 = 291 Attn.Fctr.= 2.0
G2 = 879
BP2 = 523
G3 = 957



ENHANCEMENT CASE NO. 5

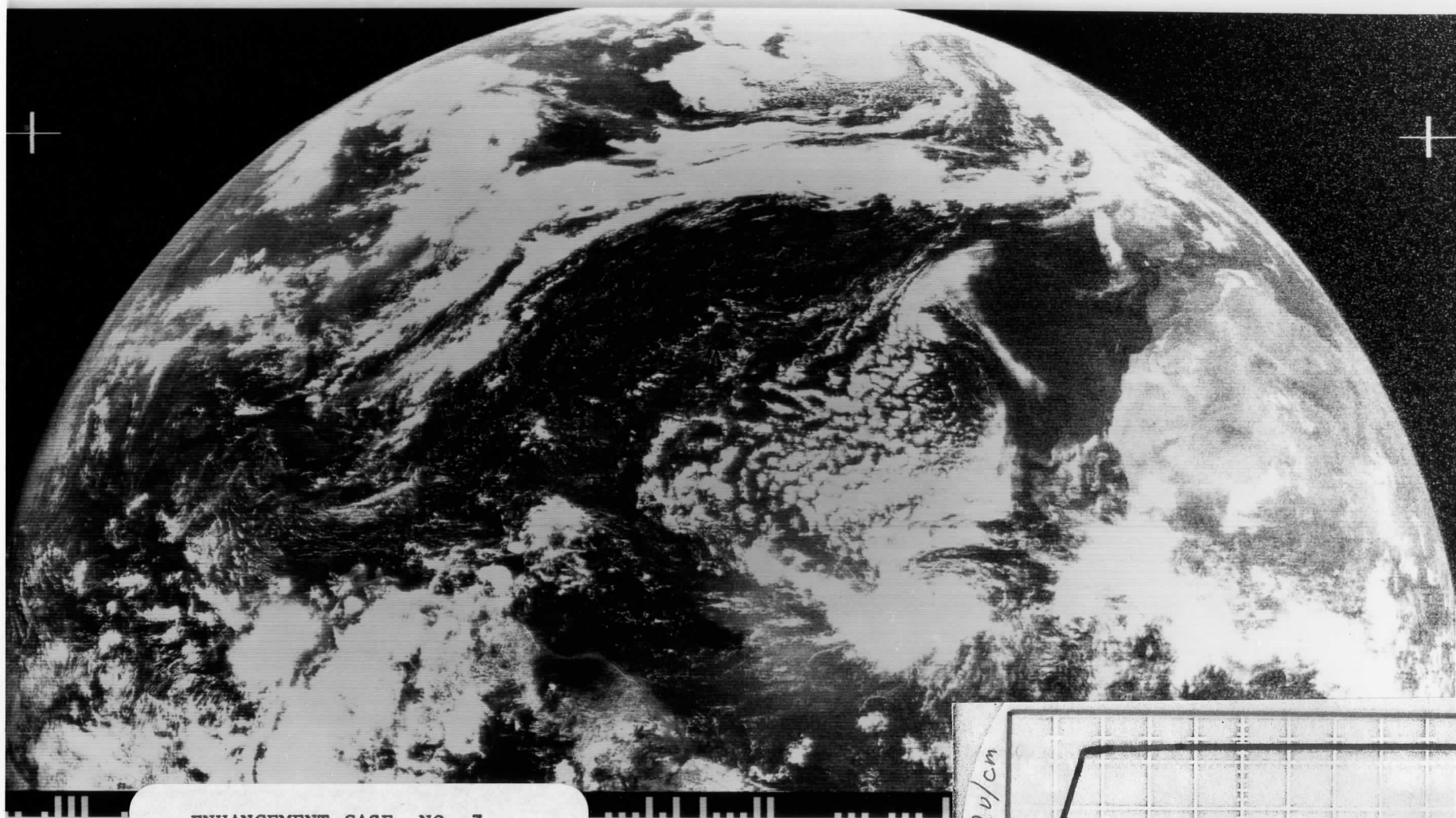
G1 = 929 Intensity = 4.0
BP = 342 Attn.
G2 = 1000 Factor = 2.0
BP = 512
G = 963





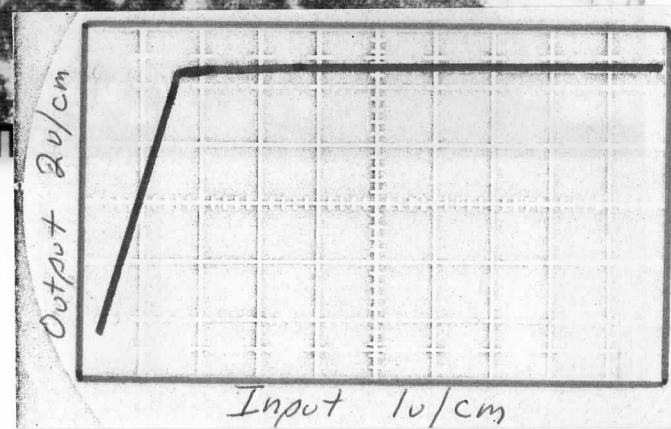
ENHANCEMENT CASE NO. 6

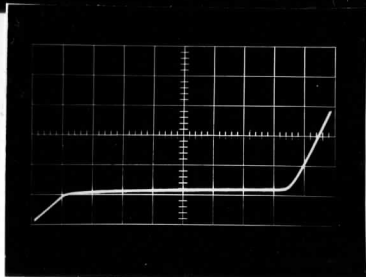
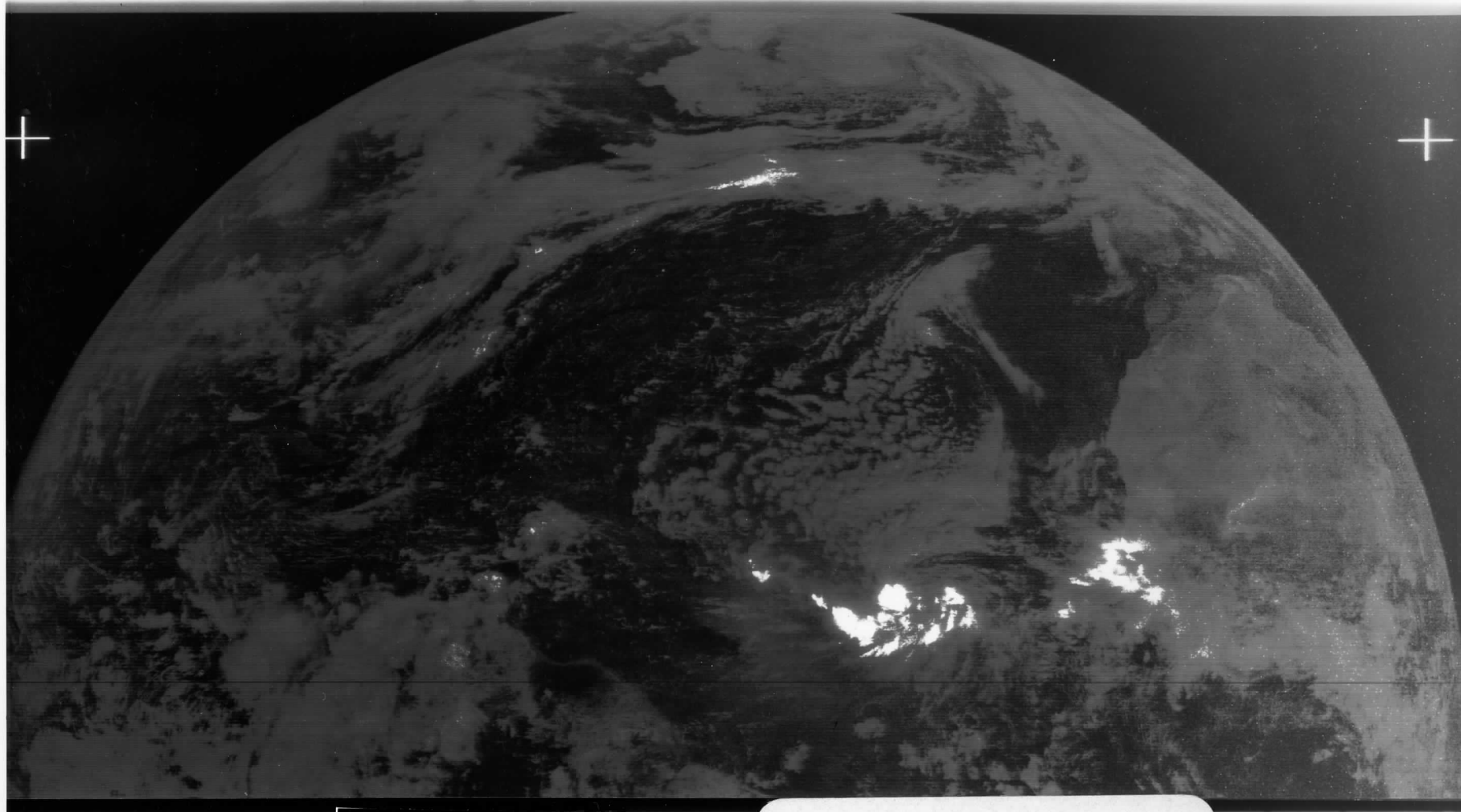
G1 =1000 Intensity = 4.0
BP1 = 359 Attn.Fctr.= 2.0
G2 =1000
BP2 = 545
G3 =1000



ENHANCEMENT CASE NO. 7

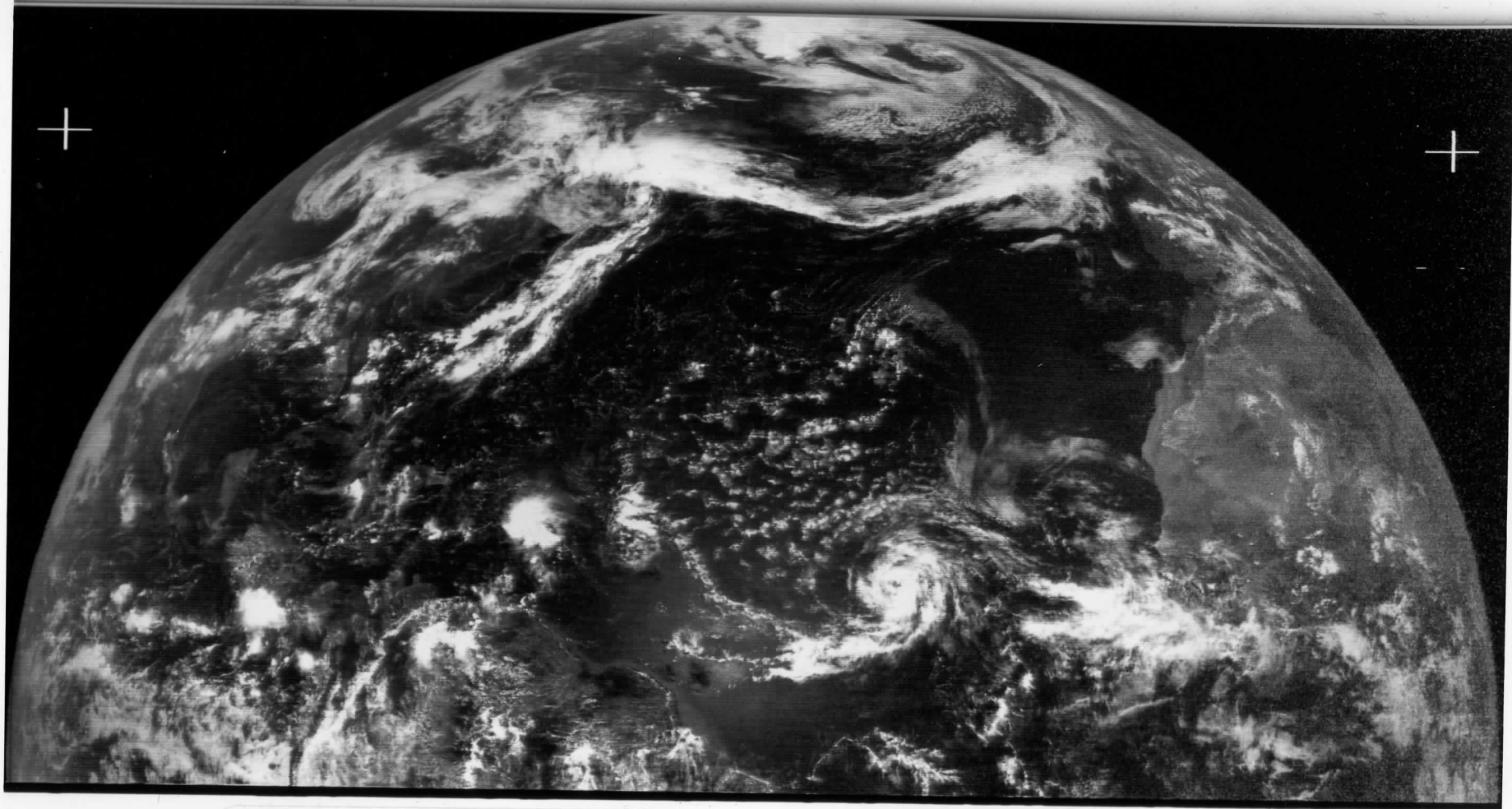
G1 = 1000 Intensity = 4.0
BP = 47 Attn. Factor = 1.2
G2 = 0
BP = 0
G = 983





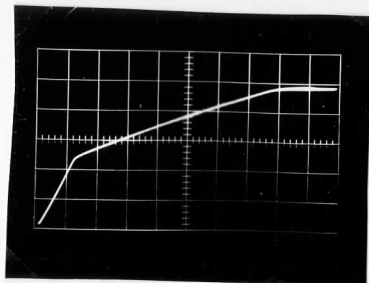
ENHANCEMENT CASE NO. 8

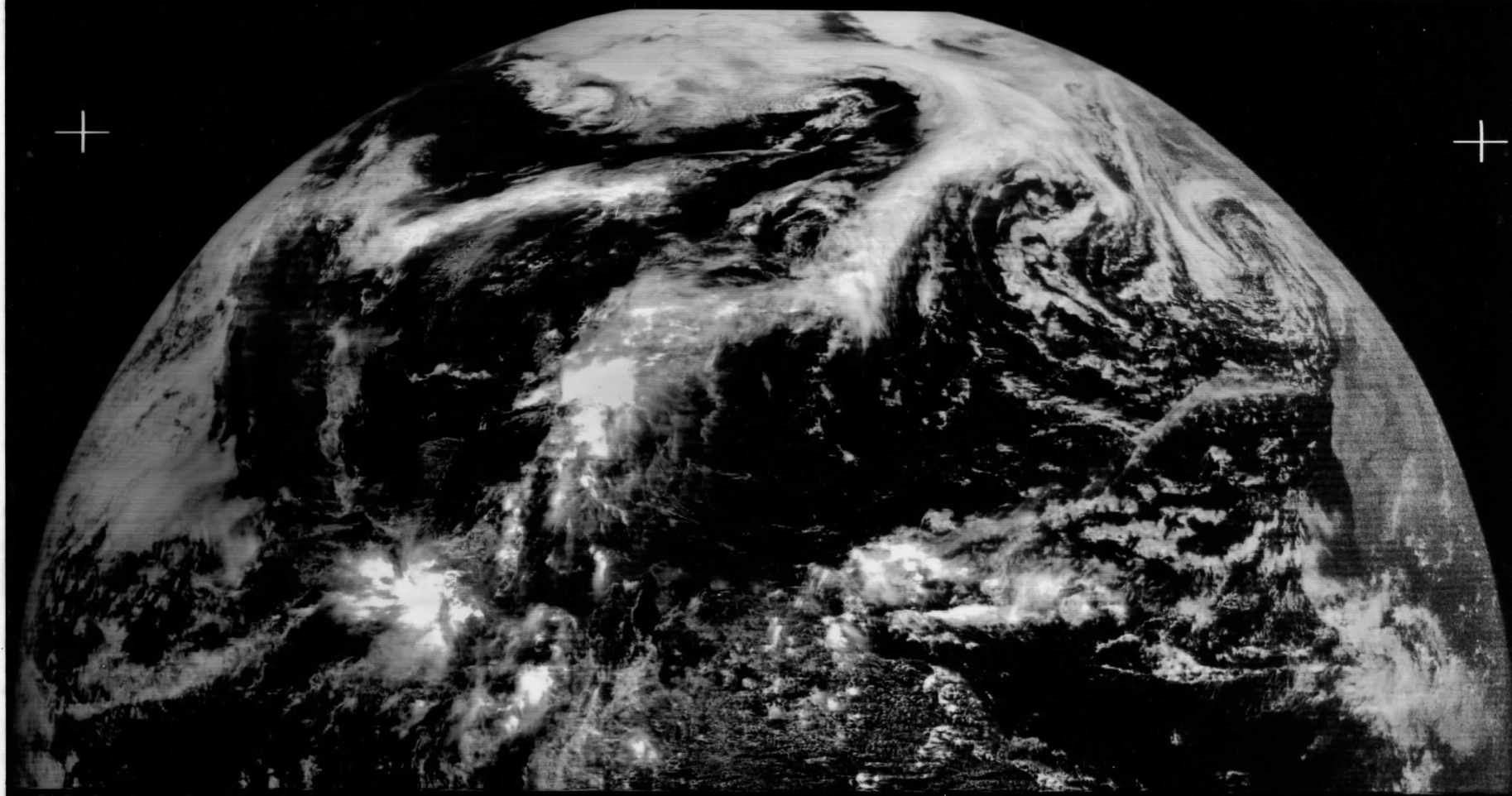
G1 = 897 Intensity = 4.0
BP1 = 135 Attn.Fctr.= 1.2
G2 = 1000
BP2 = 525
G3 = 983



ENHANCEMENT CASE NO. 9

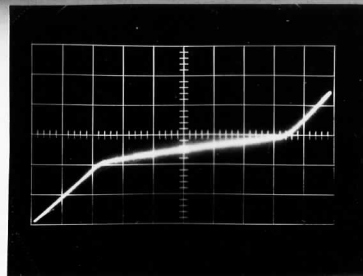
G1 = 986 Intensity = 4.0
BP = 348 Attn. Factor = 2.0
G2 = 853
BP = 1000
G = 950



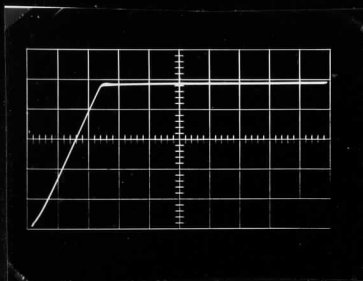


ENHANCEMENT CASE NO. 10

G1 = 900 Intensity = 4.0
BP = 291 Attn. Factor = 3.4
G2 = 879
BP = 523
G = 957



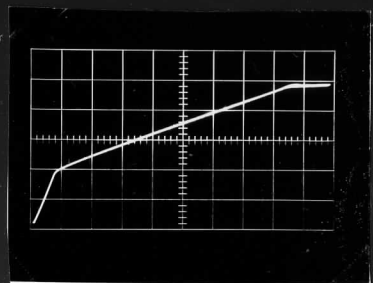
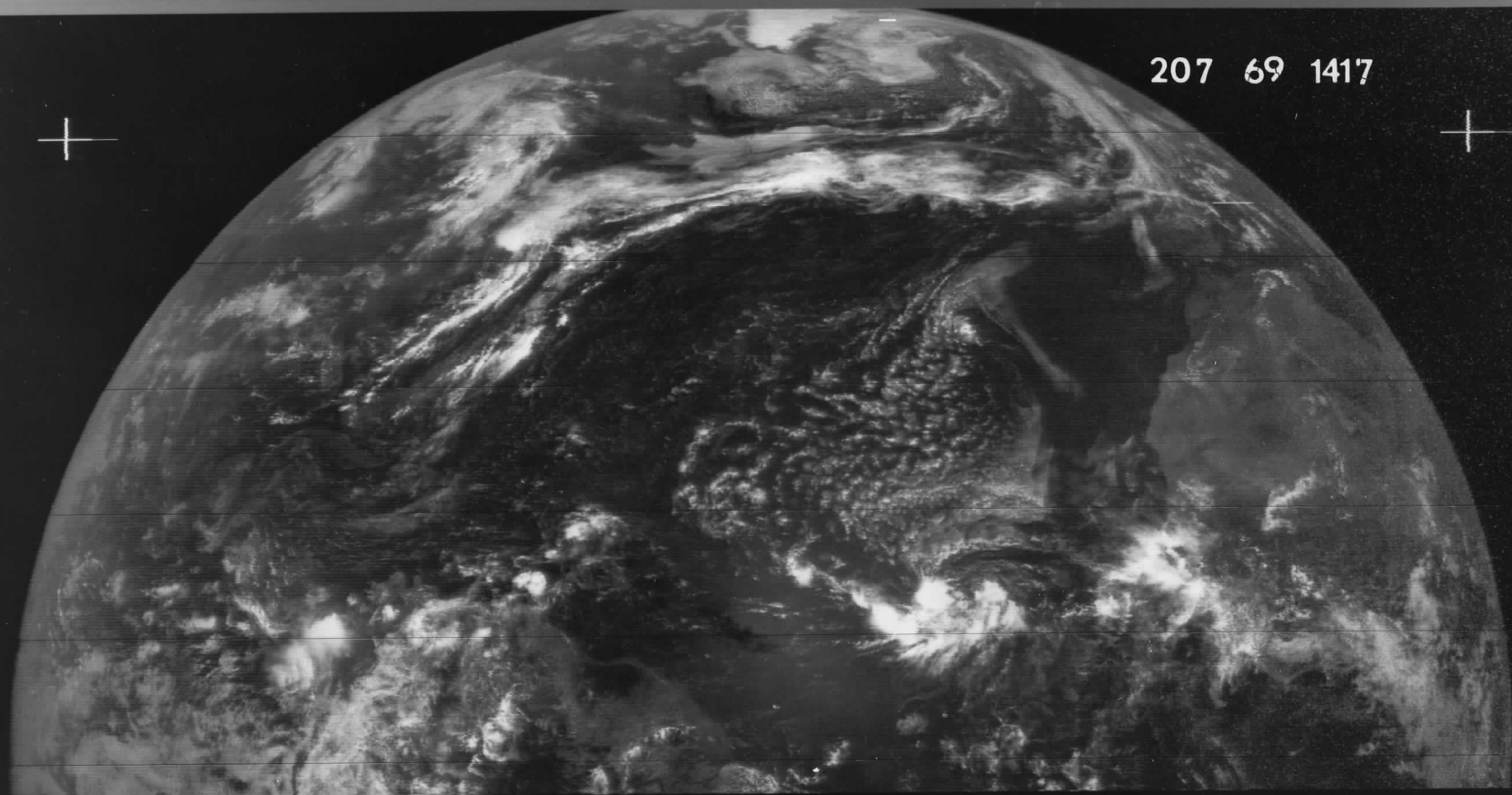
207 69 1417



ENHANCEMENT CASE NO. 12

G1 = 965 Intensity = 4.0
BP1 = 500 Attn.Fctr.= 1.5
G2 = 910
BP2 = 0
G3 = 882

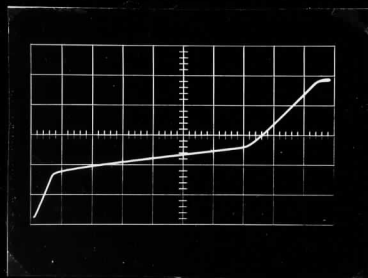
207 69 1417



ENHANCEMENT CASE NO. 13

G1 = 1000 Intensity = 4.0
BP1 = 291 Attn.FCtr. = 1.5
G2 = 879
BP2 = 523
G3 = 957

207 69 1417

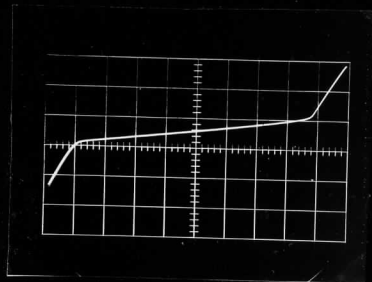
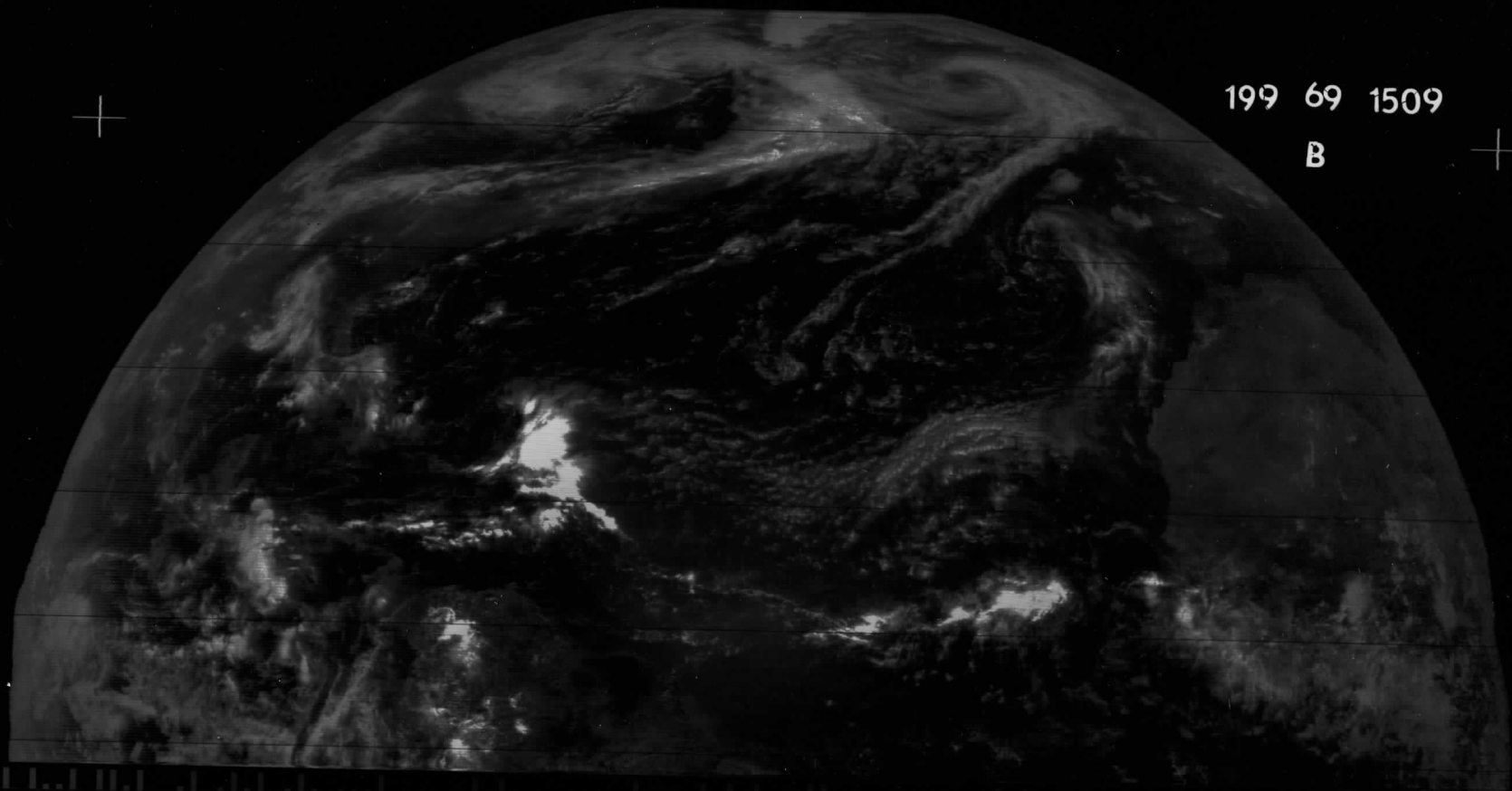


ENHANCEMENT CASE NO. 14

G1 = 1000 Intensity = 4.0
BP1 = 250 Attn.Fctr. = 1.5
G2 = 970
BP2 = 465
G3 = 950

199 69 1509

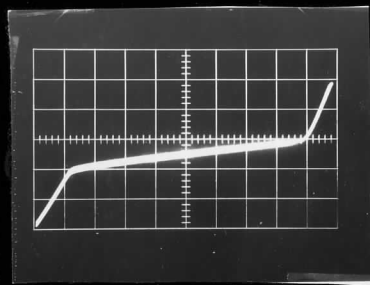
B



ENHANCEMENT CASE NO. 15

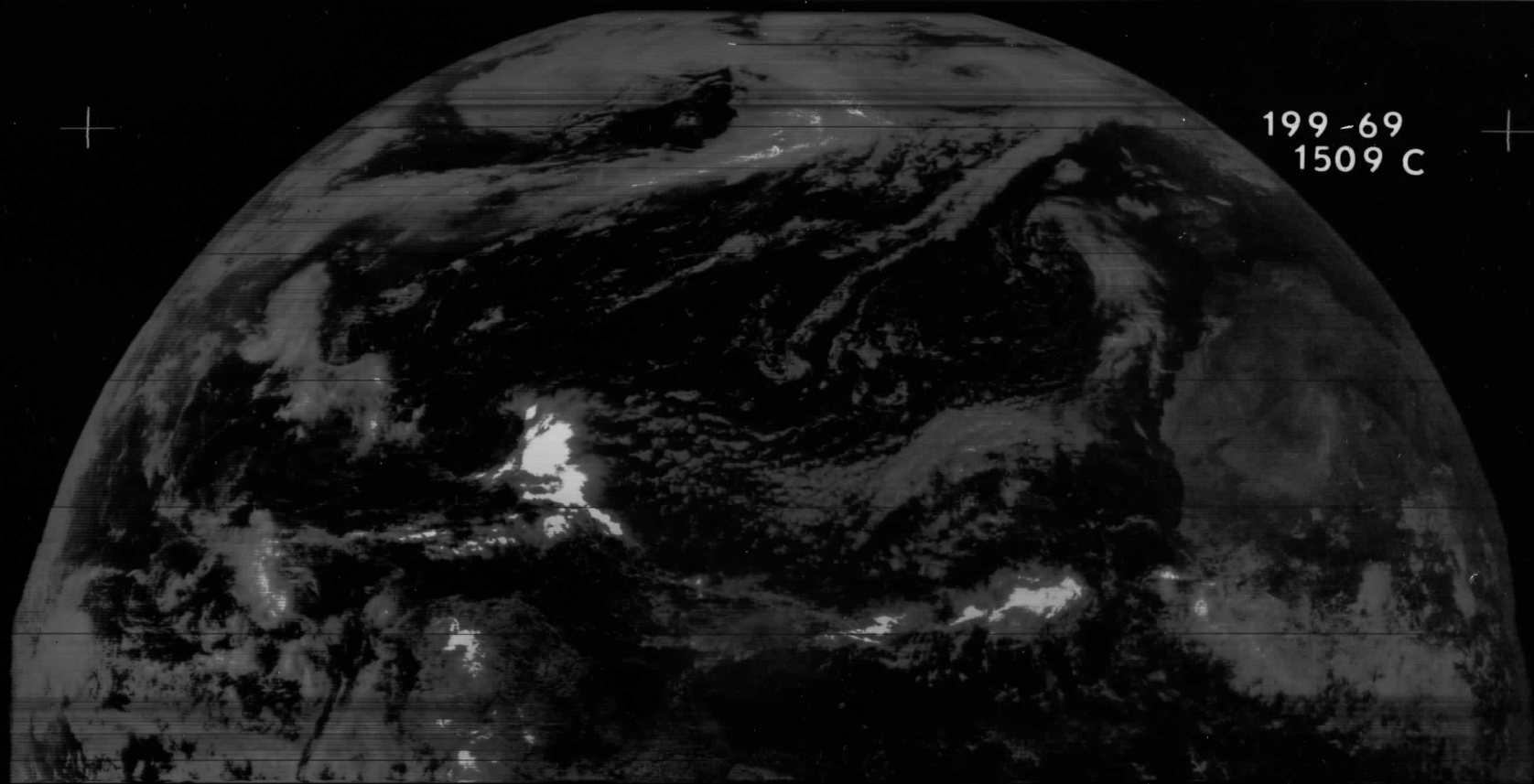
G1 = 968 Intensity = 4.0
BP1 = 279 Attn.Fctr.= 1.5
G2 = 952
BP2 = 547
G3 = 990

199 69 1509

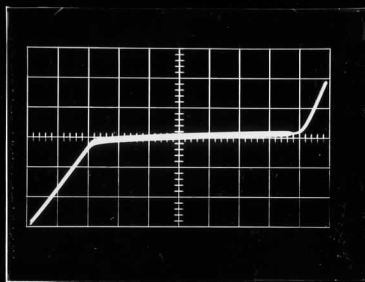


ENHANCEMENT CASE NO. 16

G1 = 968 Intensity = 4.0
BP1 = 279 Attn.Fctr.= 2.0
G2 = 952
BP2 = 547
G3 = 1000



199-69
1509 C



ENHANCEMENT CASE NO. 17

G1 = 949 Intensity = 4.0
BP1 = 383 Attn.Fctr.= 2.0
G2 = 1000
BP2 = 550
G3 = 1000

2-9-71

Purpose: The purpose of this research is to establish an ATS brightness enhancement function to be used on the precision display negatives to be ~~used~~ made as outlined in an NSF proposal for Bomex pictures. (Project 5700)

2-9-71

SSEC 5700 = UWCC 2942

2-9-71

Technique: We will look at cloud clusters on four different days. (Same clouds at same local times). We will try to look at about 3 cloud clusters which are fairly widely spread with one cluster near to the Bomex area. We will try to use about 3-4 pictures each day and 4 days. Statistical evaluation will be done on each cloud cluster to try to understand the brightness relationships to cloud properties. A summary of what will be attempted is outlined by Siskler on the following page

cloud cluster $5^{\circ} \times 5^{\circ}$

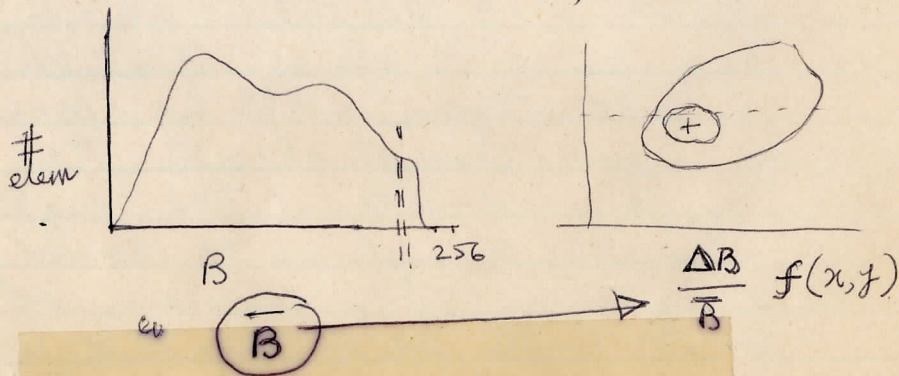
~~Pick~~ Select cloud clusters of various sizes at different locations and times of the day ~~and day~~

compute the following:

- ① average brightness,
- ② frequency \approx distribution of brightness elements,
- ③ ~~brightness slopes~~ location of brightest element in the cluster,
- ④ slope distribution around brightness centers
- ⑤
$$\text{slope} = \sqrt{\left(\frac{dB}{dx}\right)^2 + \left(\frac{dB}{dy}\right)^2}$$

Days to be investigated are:

203, 204, 207, 208



2-9-71

Local Noon is 1500Z
during the period of interest

203-69 = July 22

204-69 = July 23

207-69 = July 26

208-69 = July 27

2-9-71

Preliminary pictures chosen
were

Main Cases - start times

203-9-1402 = CA161 11:00 local

204-9-1400 = CA115

207-9-1404 = CA061 11:00 local

208-9-1406 = CA020

203-9-1454 = CA121 local noon

204-9-1451 = CA045

207-9-1455 = CA166 local noon

208-9-1455 = CA173

203-9-1611 = CA172 1:00 local

204-9-1612 = CA042

207-9-1601 = CA086 1:00 local

208-9-1546 = CA127

Alternate - Start times

207-9-1338 = CA165 11:00 local

208-9-1340 = CA168

203-9-1518 = CA154 local noon?
204-9-1518 = CA044

203-9-1550 = CA140 1:00 local
204-9-1545 = CA043

2-11-71

Prints Chosen were:
End times

22 July 69-141429 Sep 19 11:00
23 July 69-141215 Sep 21

26 July 69-141603 Sep 18 11:00
*27 July 69-141808 Sep 17

*22 July 69-150536 Sep 22 Noon
23 July 69-150431 Sep 26

26 July 69-150725 Sep 22 Noon
27 July 69-150644 Sep 20

22 July 69-162355 Sep 28 1:00
23 July 69-162340 Sep 31

26 July 69-161321 Sep 27 1:00
27 July 69-155757 Sep 24

* Checked out to how Negative

2-11-71

Areas are labeled according to the following scheme

11 - 11:00 local
12 - Local noon
13 - 1:00 local

A - 23rd picture
B - 23rd "
C - 26th "
D - 27th "

1 - left hand area
2 - middle "
3 - right hand "

2-11-71

Orientation checked on
203-9-141429 - CA 161 of
Area 11A2 by photopax

Output is labeled

CO 11A2-1

Orientation fairly well
established

Photofax Area 11A2
CA161 203-9-1414

lines 800-900⁵
elements 3000-3300⁰

Magnification = 1

Enhancement

0-20 0-0

21-60 50, -150

61-255 175-255

2-25-71

Center of cloud program
working. Will be used for all
three 11A areas and photophases
should confirm areas.

2-26-71

Output in folder and
will be labeled - RUNID-H00366
CO-11A Brightness center.

2-26-71

Will run a correlator test
by using photofax.
Will use starting element 150
elements West of center and

Area

Coastal Brightness Area
Center

11A1

11A2

11A3

l 800-899

l 780-879

l 850-949

ele 1400-1699

ele 2850-3149

ele 5900-6199

Cloud cutoff will be 70.

cards

12, 1, 800, 899, 1, 1400, 1699, 1, 0, 70

12, 1, 780, 879, 1, 2850, 3149, 1, 0, 70

12, 1, 850, 949, 1, 5900, 6199, 1, 0, 70

7ASC, 14T 112, T, 45725

#50 lines North of center

11A1

Area definition

center at

lines 811-911

Line 861

Element 1560

elements 1410-1710

11A2

area definition

center at

lines 783-883

Line 833

element 3002

elements 2852-3152

11A3
center at
Line 893
element 6046

area definition
lines 843-943
elements 5896-6196

2-26-71

Photopax output is
as ~~the~~ follows:

1. CO 11A4-P1

a stored at end of pic binder

b. Transfer is:

$0-69 \Rightarrow 00$

$70-255 \Rightarrow 70-255$

2. CO 11A4-P2

a stored at end of pic binder

b. Transfer is:

$0-255 \Rightarrow 0-255$

3. CO 11A2-P1

a stored at end of pic binder

b Transfer = transfer as in 1.

4. CO 11A3-P1

a stored at end of picture binder

b. Transfer = transfer as in 1

5. 11A7 - Photopax - 2-26-71

a stored in CO binder

6. 11A2 - Photopax 2-26-71

a stored in CO binder

7. 11A3 - Photopax, 2-26-71

a stored in CO binder

NOTE. 5, 6, & 7 are frequency

distribution plots.

The photophases were run such that the center of each print was the center of the cloud (Brightness center)

Attached are photophax parameters.

Photophax parameters
magnification = 1

11A1	11A2	11A3
LS 811	LS 783	LS 893
ES 1410	ES 2852	ES 5896

3-1-71

Meeting with Sildsen - Conclusions

1. Use data from 22nd - A series
2. Do statistics for level 1000 up for same clouds over three times

3. Examine changes in frequency distribution

We may go further - this is for the present.

3-1-71

tapes needed for this plan are

CA-161	- 11A
CA-121	- 12A
CA-172	- 13A

3-1-71

Check orientation on 12A
& 13A tapes by running
area 2's on photofax

12A 2

13A 2

CA-121

203-9-1454

CA-172

203-9-1611

lines 800-900

elements 3000-3300

magnification = 1

Enhancement

0-20 \Rightarrow 0-0

21-60 \Rightarrow 50-150

61-255 \Rightarrow 175-255

3-2-71

output labeled

-12A2-1 Photofax

tape 121

-13A2-1 Photofax

tape 172

for frequency distributions
and

CO 12A2-1

tape 121

CO 13A2-1

tape 172

for pictures

3-2-71

Center of a cloud segment
defined in photofax pictures

CO 11A2-1

CO 12A2-1

CO 13A2-1

Center coordinates as follows

CO 11A2-1	CO 12A2-1	CO 13A2-1
line 848	line 853	line 864
ele 3266	ele 3213	ele 3156

Will use center of brightness
routine to find centers for
6 areas on 3 tapes.

Corrections for shifts with CO 11A2-1
as standard is as follows

CO 12A2-1 + 5 lines, - 53 elements

CO 13A2-1 + 16 lines, - 110 elements

Input parameters are on
following page

Output labeled

RUNNO H 00029

CO-12A Brightness Centers

CO-13A

3-2-71

Cloud centers have been
found - see bottom of following
page for list of area defini-
tions that will be used for
final statistics.

Area

Area

area

12 A 1

12 A 2

12 A 3

l 805-904

l 785-884

l 855-954

el 1347-~~1646~~

el 2797-~~3096~~

el 5847-6146

13 A 1

13 A 2

13 A 3

l 816-915

l 796-895

l 866-965

el 1290-1589

el 2740-3039

el 5790-6089

Cloud cut off at 70

Cards

U5758 => 12 Area

U5759 => 13 Area

12, 1, 805, 899, 1, 1347, ~~1646~~, 1, 0, 70

12, 1, 785, 884, 1, 2797, 3096, 1, 0, 70

12, 1, ~~866~~, ~~965~~, 1, ~~1290~~, 5847, 6146, 1, 0, 70

- ~~13~~, 1, 816, 915, 1, 1290, 1589, 1, 0, 70

~~13~~, 1, 796, 895, 1, 2740, 3039, 1, 0, 70

~~13~~, 1, 866, 965, 1, 5790, 6089, 1, 0, 70

ATSTIX Area

11 A 1 Lines 811-911 elements 1410-1710

12 A 1 Lines 811-911 elements 1375-1675

13 A 1 Lines 823-923 elements 1327-1627

~~12 A 2~~ Lines 783-~~883~~ elements 2852-3152

~~12 A 2~~ Lines 785-885 elements 2815-3115

~~13 A 2~~ Lines 797-897 elements 2760-3060

11 A 3 Lines 843-943 elements 5896-6196

12A3 Lines 843-943 elements 5858-6158
13A3 Line 849-859 elements 5805-6105

3-2-71

All ATSTIX initial Runs will be with cloud thresholds of 100

3-3-71

Output of statistics of 9, A areas are labeled by area

3-3-71

Results of statistics (frequency distribution) show drastic change - Must check to see I have proper areas.

Areas of most question are areas of A2 and A3 series