

CLOUD PHYSICS

19780916I - CLDPHY

HURRICANE: GRETA

Penabud

FLIGHT# 780916-17 I

TAKE OFF: 213730Z

TEST CHECK OKAY AT 220340Z

TAPE 1:

START: 225625Z

STOP: 000136Z

TAPE 7:

START: 034610Z

STOP: 030449Z

TAPE 2:

START: 000335Z

STOP: 002700Z

TAPE 8:

START: 040700Z

STOP: 043440Z

TAPE 3:

START: 002925Z

STOP: 010000Z

TAPE 9:

START: 043635Z

STOP: 052340Z

TAPE 4:

START: 010308Z

STOP: 012510Z

TAPE 10:

START: 052505Z

STOP: 053725Z

└ TROUBLE - WENT OFF LINE BY ITSELF

└ TAPE 5:

START: 012705Z

STOP: 013225Z

TAPE 11:

START: 053925Z

STOP: 055500Z

TAPE 6:

START: 013725Z

STOP: 034435Z

R: HEADING OUT TOWARDS THE 300 MILE TRACK AWAY FROM THE STORM ↔

780916 I

Flight Folder

1978 HOT Film System CALIBRATION GRETA

6637 $B/A = 0.671$, $\boxed{0.646}$ Preferred
 8244 $B/A = 0.501$

$$\frac{2E'}{E} = \frac{1}{3} \left[1 - \frac{1}{\left(1 + \frac{B}{A} \bar{u}^{1/3}\right)} \right] \frac{u'}{\bar{u}} - \frac{\theta'}{\Delta T}$$

TAS for Greta flights: $\bar{u} = 120 \text{ m/s}$

$$\bar{u}^{1/3} = 4.932$$

B/A	0.671	0.646	0.501
$(1 + B/A \bar{u}^{1/3})$	0.232	0.239	0.288
$\frac{1}{3} \left(1 - \frac{1}{(1 + B/A \bar{u}^{1/3})}\right)$	0.256	0.254	0.237

Within 5% - for Both Probes
 and within 2% for 6637 and
 Neglecting $\theta' / \Delta T$ we have

$$\boxed{\frac{8E'}{E} \bar{u} = u'}$$

at anemometer output.

Signal Processing Gain is 30dB (31.6 v/v)

Tape recorder voltage gain = $\frac{5}{\text{INPUT Scale}}$

Spectrum Analyzer gain depends on Control settings.