

**SYSTEM TEST DATA**

Date 2/3/2012

System GEUS Location GREENVILLE, TX.

**STATEMENT OF QUALIFICATIONS**

Name <u>[REDACTED]</u>	Title <u>Proof of Performance Eng.</u>	Company <u>[REDACTED]</u>
Address <u>[REDACTED]</u>		
Experience <u>42 years experience in CATV industry. 37 years in system testing.</u>		
Education <u>CATV services school, basic electronics, NCTI CATV Technical training, FCC Tech seminar</u>		
<u>2 years at Angelo State University.</u>		

**LIST OF TEST EQUIPMENT**

Model	Manufacturer	Function	Serial No.	Calib. Date
HP 8591C	HP	SPECTRUM ANALYZER	4109A04524	6/3/2011
MDA5/30T	AUGAT	PRE AMP	1918779	6/25/2011
VDA-16	VIDEO-TEK	VIDEO DIST. AMP	TO1977399	6/25/2011
TSG-95	TEKTRONIX	VIDEO SIGNAL GEN.	B029326	6/25/2011
SEARCHER PLUS	TRILITHIC	SIGNAL LEAKAGE REC.	117603	6/25/2011
8647A	HP	SIGNAL GENERATOR	3319U02212	6/25/2011

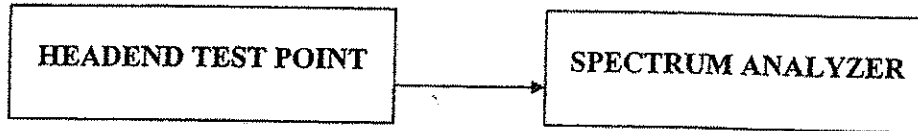
SUMMARY OF FCC STANDARDS (From Fcc Rules and Regulations, Part 76, As amended through June 30, 1994. Applicable to each NTSC or similar video downstream cable television channel in the system.)

FCC Reference	System Parameter	
76.605(a) (1)	The cable television channels delivered to the subscriber's terminal shall be capable of being received and displayed by TV broadcast receivers used for the off-the-air reception of TV Broadcast signals, as authorized under part 73 of rules.	
76.605(a) (3)	Aural carrier separation	4.5 MHz ± 5 KHZ above visual carrier frequency.
76.605(a) (4)	Minimum visual carrier level	0 dBmv, at subscriber terminal, and 3 dBmv at end of 100-foot cable test drop
76.605(a) (5)	Visual Carrier level variation For any channel over 24 hr. period Between Adjacent Channels Between any two channels Maximum Level	8 dB max. 3 dB max. 10 dB max. for system up to 300 MHz (1) Not to overload subscriber's set.
76.605(a) (6)	Aural Carrier level.	10 to 17 dB below associated visual carrier level; 6.5 to 17dB for baseband converters
76.605(a) (7)	Channel Frequency Response	± 2dB max., from .75 to 5.0 MHz above the lower boundary frequency of channel.
76.605(a) (8)	Visual carrier-to-noise ratio (2)	43 dB min. (June 30, 1995)
76.605(a) (9)	Visual carrier-to-coherent disturbance ratio (standard systems) Visual carrier-to-frequency coincident disturbance ratio (HRC)	51 dB min. 47 dB min.
76.605(a) (10)	Subscriber termination isolation	18 dB, min.
76.605(a) (11)	Hum and low-frequency disturbance level	3% peak to peak modulation, max.
76.605(a) (12)	Chrominance-Luminance delay (3) Differential gain (3) Differential phase (3)	170 nanoseconds ± 20% max. ± 10 degrees max.
76.605(a) (13)	*Leakage (4) Up to and including 54 MHz Over 54 MHz up to and including 216 MHz Over 216 MHz	15uV/m, max. at 30 meters 20uV/m, max. at 3 meters 15uV/m, max. at 30 meters

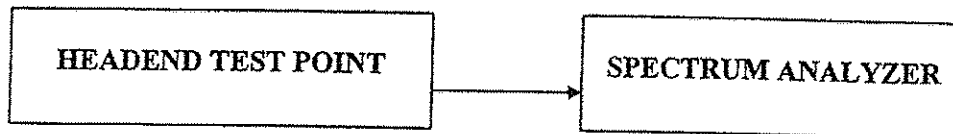
**\*Leakage**  
The leakage requirement may be met by complying with 76.614. The monitoring records shall be maintained in the system's Public for 5 years. The FCC Form 320 must be maintained in the system's FCC Inspection File for 5 years.

(1) 1 dB for each additional 100MHz of cable distribution system upper frequency limit (e.g. 11 dB for 301-400 MHz; 12 dB for 401-500 MHz; 13 dB for 501-600 MHz, etc.)  
 (2) Applicable to signals delivered to subscribers within the predicted grade B contour of the signal, or first received within the grade B contour, or first received by direct feed from a TV broadcast station, a low power TV station, or a TV translator station.  
 (3) Effective June 30, 1995.  
 (4) Without regard to the type of signal.

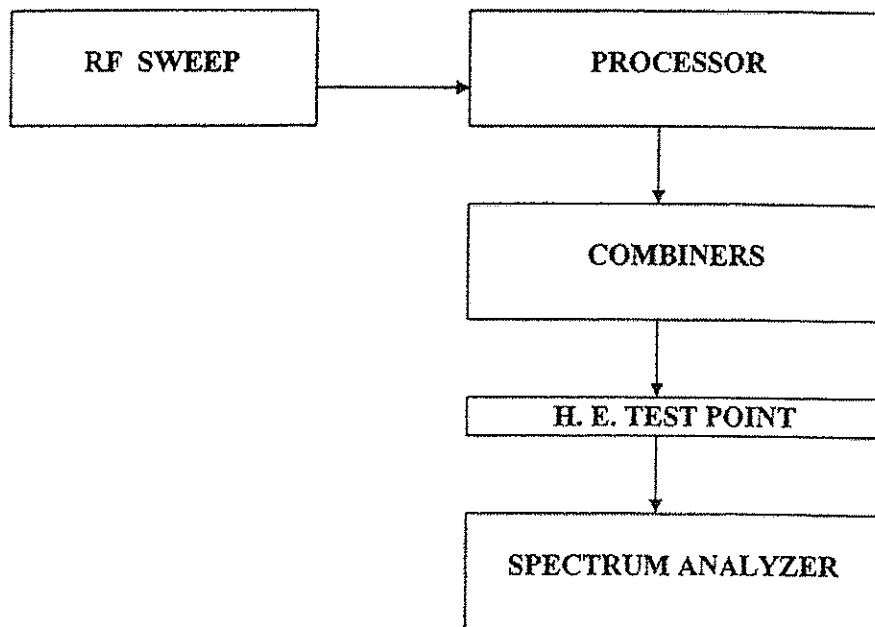
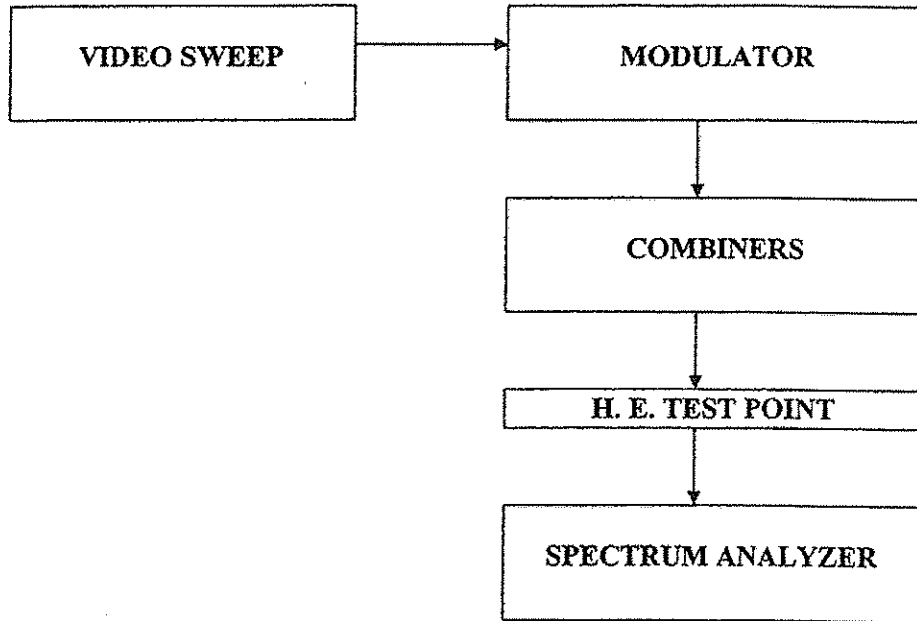
# VISUAL & AURAL CARRIER FREQ.



# VISUAL & AURAL CARRIER LEVELS



# HEADEND IN CHANNEL RESPONSE



# HEADEND TEST

DATE 2/2/2012

SYSTEM GEUS

LOCATION GREENVILLE, TX

NAME [REDACTED]

CHNL	CALL LETTER	NOMINAL FREQ.	VISUAL FREQ.	AURAL FREQ.	FREQ. SEP. (V/A)	V/A DB	IN CH. RESP.	DELAY(ns)	DIFFERENTIAL	
									PHASE(°)	GAIN(%)
2	KDTN	55.2500	55.2500	59.7500	4.500000	15.4	0.4			
3	LOCAL	61.2500	61.2500	65.7500	4.500000	15.2	1.6			
4	KDFW	67.2500	67.2499	71.7499	4.499990	15.3	0.6			
5	KXAS	77.2500	77.2499	81.7499	4.499980	14.5	0.8			
6	KTXA	83.2500	83.2498	87.7498	4.499990	14.5	0.6			
A-5		91.2500								
A-4	EVENTS	97.2500	97.2500	101.7500	4.500000	15	0.4			
A-3		103.2500								
A-2		109.2750								
A-1	KMPX	115.2750	115.2751	119.7751	4.500000	15.3	0.4			
A 14	KDTX	121.2625	121.2626	125.7626	4.500000	15	0.6			
B 15	KSTR	127.2625	127.2622	131.7622	4.499990	14.6	0.6			
C 16	KTAQ	133.2625	133.2621	137.7621	4.499970	15	0.8			
D 17	KDFI	139.2500	139.2499	143.7499	4.499990	15.1	0.4			
E 18	WGN	145.2500	145.2500	149.7500	4.500000	15.1	0.6			
F 19	GUIDE	151.2500	151.2502	155.7502	4.500000	14.7	1			
G 20	TWC	157.2500	157.2501	161.7501	4.500000	14.9	0.6			
H 21	HSN	163.2500	163.2501	167.7501	4.500000	15.1	0.6			
I 22	KFWD	169.2500	169.2499	173.7499	4.499950	14.8	0.6			
7	KPXD	175.2500	175.2499	179.7498	4.499940	14.6	0.6			
8	WFAA	181.2500	181.2497	185.7496	4.499910	15.2	0.8			
9	KDTX	187.2500	187.2496	191.7495	4.499920	14.6	0.4			
10	KXTX	193.2500	193.2495	197.7494	4.499930	15.2	0.8			
11	KTVT	199.2500	199.2494	203.7493	4.499930	14.6	0.4			
12	KUVN	205.2500	205.2493	209.7492	4.499930	15.5	1.2			
13	KERA	211.2500	211.2492	215.7491	4.499940	14.8	2			
J 23	TXCN	217.2500	217.2501	221.7501	4.500000	14.8	0.6			
K 24	FSSW	223.2500	223.2500	227.7500	4.500000	14.8	0.8			
L 25	FAMILY	229.2625	229.2627	233.7627	4.500000	15	0.6			
M 26	ESPNC	235.2625	235.2628	239.7628	4.500000	15.3	0.4			

# HEADEND TEST

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									PHASE(°)	GAIN(%)
N 27	ESPN2	241.2625	241.2628	245.7628	4.500000	15	0.6			
O 28	ESPN	247.2625	247.2626	251.7626	4.500000	14	0.6			
P 29	DISCOV	253.2625	253.2629	257.7629	4.500000	15.8	0.6			
Q 30	LIFE	259.2625	259.2626	263.7626	4.500000	14.7	0.6			
R 31	TNT	265.2625	265.2624	269.7624	4.500000	15	0.6			
S 32	SPIKE	271.2625	271.2629	275.7629	4.500000	14.6	0.6			
T 33	A&E	277.2625	277.2626	281.7626	4.500000	16.2	1.2			
U 34	GEUS	283.2625	283.2628	287.7628	4.500000	14.4	0.4			
V 35	CNNHN	289.2625	289.2626	293.7626	4.500000	14.6	0.8			
W 36	CNN	295.2625	295.2629	299.7629	4.500000	15.2	0.8			
AA 37	MTV	301.2625	301.2630	305.7630	4.500000	15.3	0.6			
BB 38	VH-1	307.2625	307.2624	311.7624	4.500000	15.5	0.8			
CC 39	BET	313.2625	313.2626	317.7626	4.500000	14.5	0.8			
DD 40	TBS	319.2625	319.2625	323.7625	4.500000	15.2	1			
EE 41	NICK	325.2625	325.2626	329.7626	4.500000	15.3	0.8			
FF 42	AMC	331.2750	331.2753	335.7753	4.500000	15.4	1			
GG 43	TCM	337.2625	337.2625	341.7625	4.500000	14.9	0.4			
HH 44	FXNEW	343.2625	343.2626	347.7626	4.500000	15.6	0.8			
II 45	CNBC	349.2625	349.2627	353.7627	4.500000	15.7	0.6			
JJ 46	MSNBC	355.2625	355.2623	359.7623	4.500000	15.4	0.8			
KK 47	TLC	361.2625	361.2625	365.7617	4.499210	14.5	0.6			
LL 48	HIST	367.2625	367.2626	371.7626	4.500000	14.8	1			
MM 49	TOON	373.2625	373.2630	377.7630	4.500000	14.9	0.8			
NN 50	CMTV	379.2625	379.2625	383.7625	4.500000	14.8	0.8			
OO 51	ANIMAL	385.2625	385.2626	389.7626	4.500000	14.2	0.6			
PP 52	TRAVEL	391.2625	391.2629	395.7629	4.500000	14.7	0.6			
QQ 53	C-SPAN1	397.2625	397.2628	401.7628	4.500000	15.5	0.8			
RR 54	C-SPAN2	403.2500	403.2502	407.7502	4.500000	14.7	0.6			
SS 55	DISNEY	409.2500	409.2506	413.7506	4.500000	15.6	0.8			
TT 56	H-MARK	415.2500	415.2504	419.7504	4.500000	16.2	1			
UU 57	GAC	421.2500	421.2501	425.7501	4.500000	15.9	0.4			
VV 58	LOCAL	427.2500	427.2496	431.7496	4.500000	15.7	1			

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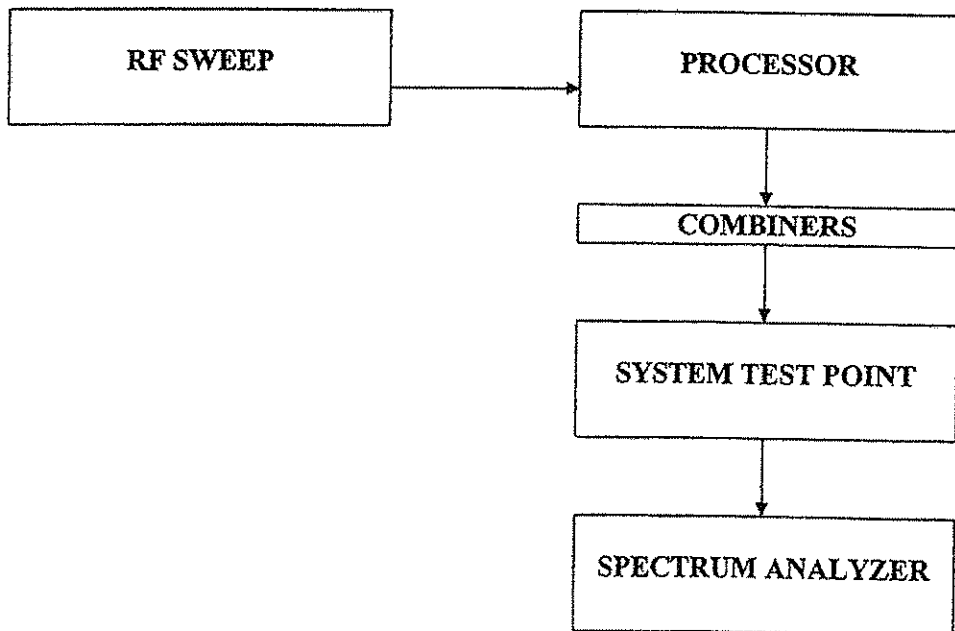
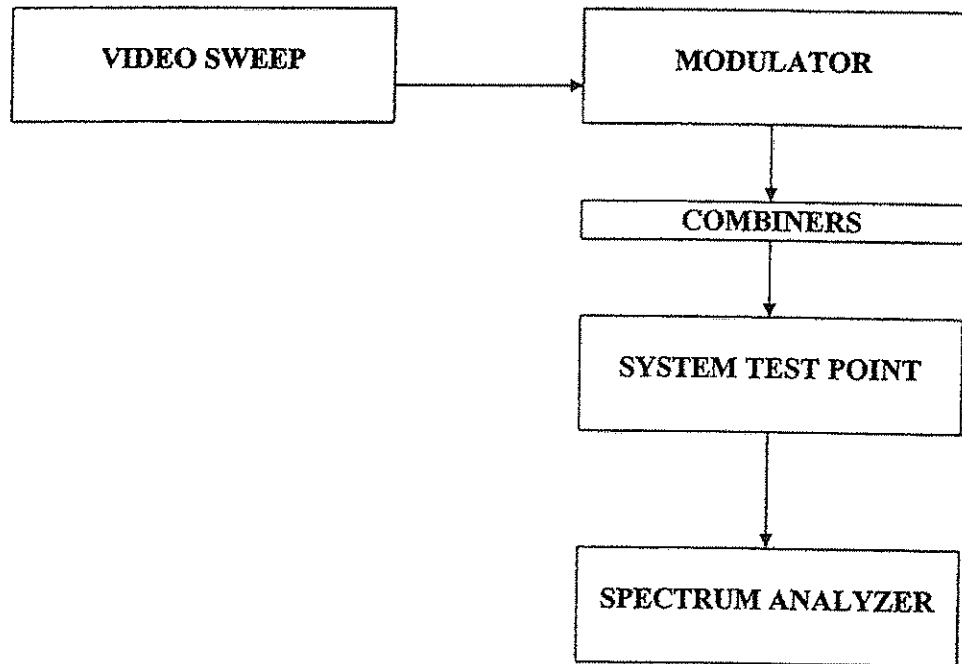
SYSTEM GEUS

LOCATION GREENVILLE, TX

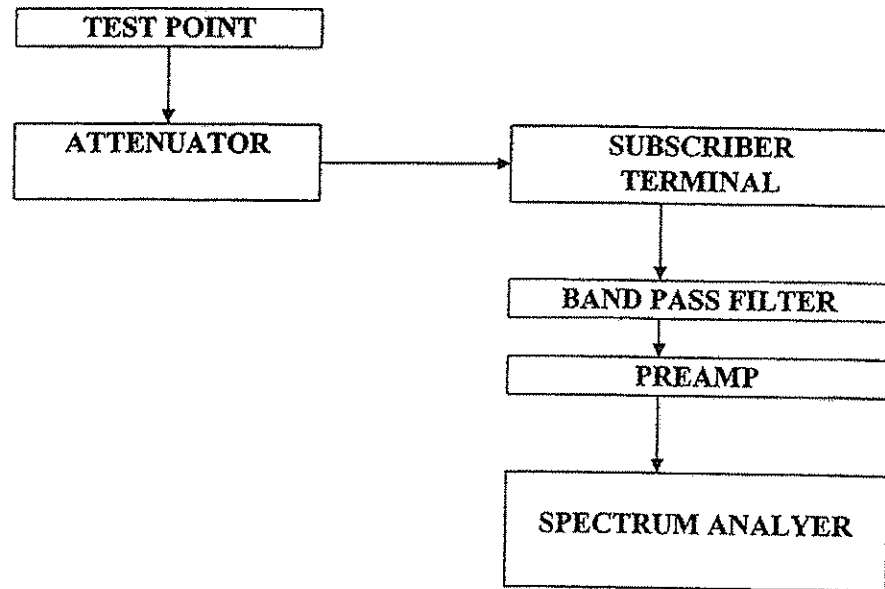
NAME [REDACTED]

CHNL	CALL LETTER	NOMINAL FREQ.	VISUAL FREQ.	AURAL FREQ.	FREQ. SEP. (V/A)	V/A DB	IN CH. RESP.	DELAY (ns)	DIFFERENTIAL	
									PHASE (°)	GAIN (%)
WW 59	E!	433.2500	433.2502	437.7502	4.500000	15.2	0.8			
XX 60	COMEDY	439.2500	439.2504	443.7504	4.500000	14.6	0.4			
YY 61	G-VISION	445.2500	445.2502	449.7502	4.500000	15.4	1			
ZZ 62	DIY	451.2500	451.2477	455.7477	4.500000	15	0.6			
AAA 63	FOOD	457.2500	457.2511	461.7511	4.500000	15.5	1.2			
BBB 64	HGTV	463.2500	463.2499	467.7499	4.500000	14.8	0.6			
DDD 65	DISCOV	469.2500	469.2501	473.7501	4.500000	15.7	0.8			
EEE 66	COURT	475.2500	475.2504	479.7504	4.500000	14.8	0.8			
FFF 67	MBC	481.2500	481.2504	485.7504	4.500000	15	0.6			
GGG 68	EWTN	487.2500	487.2505	491.7505	4.500000	16	1			
HHH 69	TVLAND	493.2500	493.2499	497.7499	4.500000	15	0.6			
III 70	QVC	499.2500	499.2500	503.7500	4.500000	15.3	1			
JJJ 71	OXYGEN	505.2500	505.2499	509.7499	4.500000	15	0.8			
KKK 72	GEUS	511.2500								
LLL 73	FAMILY	517.2500	517.2483	521.7483	4.500000	15.9	0.8			
MMM 74	PRAISE	523.2500	523.2502	527.7502	4.500000	15	0.6			
NNN 75	BRAVO	529.2500	529.2503	533.7503	4.500000	15.7	0.4			
OOO 76	SCI-FI	535.2500	535.2505	539.7505	4.500000	15.8	0.8			
PPP 77	EWTN	541.2500	541.2506	545.7506	4.500000	15.3	0.6			
QQQ 79		547.2500								
RRR 80		553.2500								
SSS 81		559.2500								
UUU 82		565.2500								
VVV 83		571.2500								

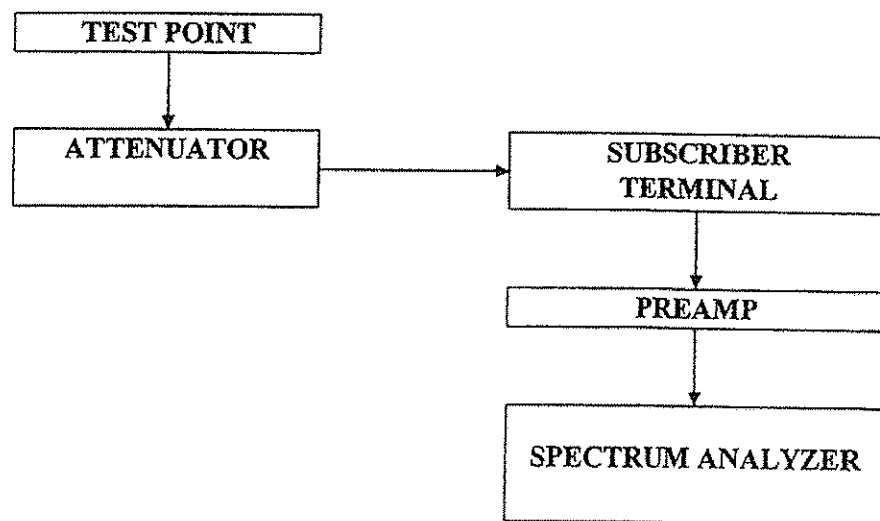
# SYSTEM IN CHANNEL RESPONSE



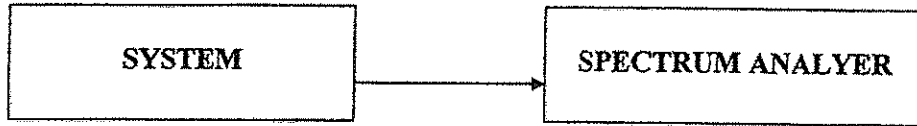
# C/N, CTB & HUM TEST



# 4.5 MHz V/A FREQ. SEPERATION



# 24 HOUR SYSTEM VARIATION



# SYSTEM SIGNAL LEAKAGE

