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BIG RALLY II COMMUNICATION SYSTEM
TEST DATA
PHASE I
VOLUME IV

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II COMMUNICATION SYSTEM
TEST DATA
PHASE I
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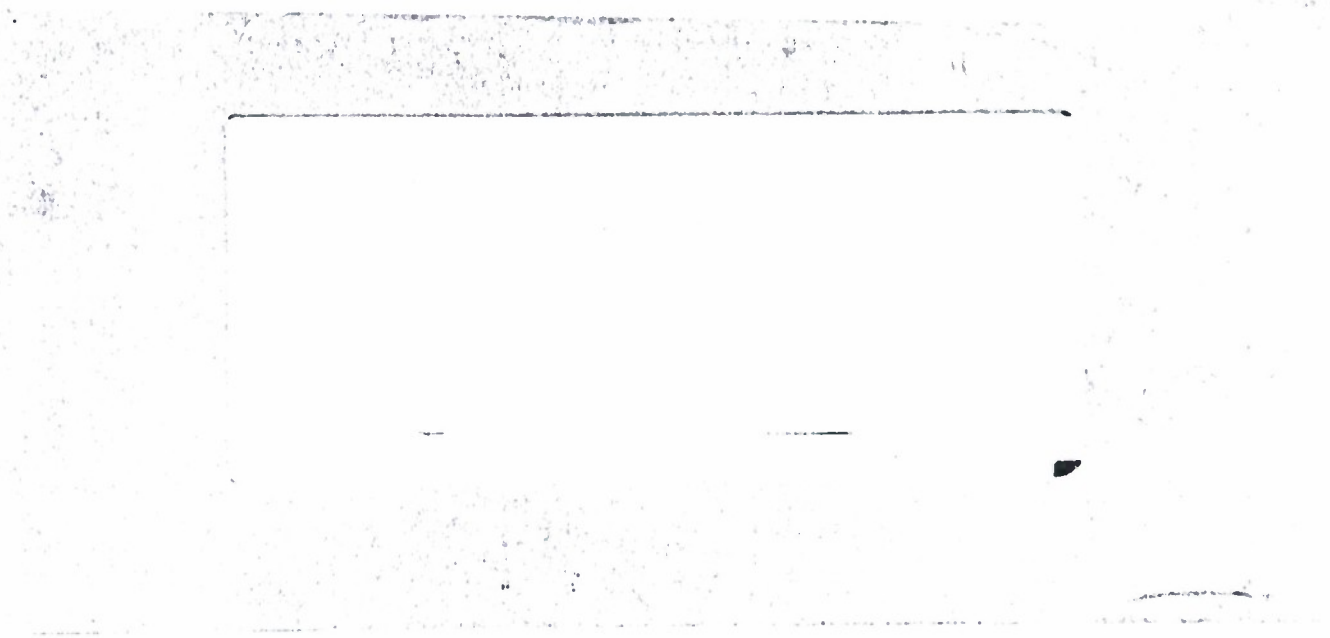

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A ORIGINAL ISSUE

REVISIONS

SYM	ZONE	DESCRIPTION	DATE	APPROVED

GROUP	NEXT ASSEMBLY	FIRST USED ON
G		
G		
G		
G		
G		
G1		
	APPLICATION	

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES

COML. TOL. APPLY TO STOCK SIZES

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FEDERAL ELECTRIC CORPORATION
PARAMUS INDUSTRIAL PARK PARAMUS, NEW JERSEY
A SUBSIDIARY OF INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

TEST DATA
PHASE I
VOLUME IV

CODE IDENT. NO.	DWG. SIZE	
14842	A	6271955 A

SCALE | FEC NO. | SHEET

OGILVIE PRESS, INC., BROOKLYN 17, N. Y. REPROVEL NO. 400M

DRAWING NUMBER 6271955 2

LIST OF MATERIALS

ITEM NO.	QTY REQD	U OF M	NOMENCLATURE OR DESCRIPTION	PART OR IDENTIFYING NO.	
			SEC I System Test	1-1 to 1-49	
			SEC II Multiplex	2-1 to 2-51	
			SEC III Order Wire & Technical Control	3-1 to 3-35	
			SEC IV Radio Set MW-503-A Microwave	4-1 to 4-50	
			SEC V Radio Set, AN/MRC-85	5-1 to 5-63	
			SEC VI Radio Set, AN/MRC-35	6-1 to 6-8	
			SEC VII Alarms	7-1 to 7-20	
			SEC VIII Power Generating System	8-1 to 8-65	

FEDERAL ELECTRIC CORPORATION
PARAMUS INDUSTRIAL PARK PARAMUS, NEW JERSEY
A SUBSIDIARY OF INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

PREPARED BY DATE SEE SHEET 01

CHECKED BY DATE

CODE IDENT. NO. 14842

DWG SIZE A

LM 6271955A

FEC NO.

SHEET

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE 1

BR II/91

SITE GPA
ID Sending

ID to GPA

1. INSERTION LOSS VS. FREQUENCY

FREQUENCY		EXPECTED
REFERENCE	1000 cps	∠7.0 ±.5 dbm
300	With respect to 1000 cps REF	∠3.1 -7.4 db
400	" " " " " "	∠3.1 -4.6 db
600	" " " " " "	∠3.1 -3.1 db
2400	" " " " " "	∠3.1 -3.1 db
3000	" " " " " "	∠3.1 -4.6 db
3400	" " " " " "	∠3.1 -7.4 db

HIGH GROUP CHANNELS

FREQ.	1	2	3	4	5	6	7	8	9	10	11	12
1000	∠7.0	∠7.0	∠7.0	∠7.0	∠7.0	∠7.0	∠7.0	∠7.0	∠7.0	∠7.0	∠7.0	∠7.0
300	∠7.0	∠3.2	∠3.8	∠6.5	∠4.8	∠4.5	∠5.2	∠8.0	∠4.3	∠6.7	∠8.5	∠5.0
400	6.8	5.3	5.5	6.5	6.0	6.3	7.4	7.5	6.0	6.7	7.1	6.8
600	6.8	7.5	7.5	7.4	7.4	7.3	7.2	7.5	7.3	7.6	7.6	7.4
2400	8.2	7.5	7.6	7.0	7.1	7.5	6.8	8.2	7.5	6.2	6.0	8.0
3000	8.3	7.2	7.4	6.0	6.5	6.4	7.6	7.8	7.2	5.4	6.5	8.3
3400	7.8	6.2	6.3	6.5	5.3	5.8	6.8	5.1	7.2	5.5	5.0	6.8

NOTE:1 ALL READINGS ARE POSITIVE
2 READINGS TAKEN AT SITE GPA WITH STATION IDASENDING THE TONES.

DATE 9/4/63

TESTER [signature]

SUPERVISOR [signature]

QUAILITY ASSURANCE [signature]

GEEIA [signature]

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PHASE ONE
SYSTEM TESTS

BRII/91
SITE GPA
ID Sending

1. Insertion loss vs. Frequency Test

FREQ.	CHANNELS 1 thru 12 of the HIGH GROUP											
	1	2	3	4	5	6	7	8	9	10	11	12
1000 cps	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
300 cps	7.0	3.1	4.2	6.6	3.8	4.1	4.7	7.4	4.1	4.0	8.0	4.7
400 cps	6.8	5.0	5.7	6.6	6.1	5.8	6.4	6.5	6.1	6.0	7.0	6.6
600 cps	7.0	6.8	7.5	7.7	7.7	7.0	7.5	6.9	7.5	7.0	7.3	7.3
2400 cps	7.8	7.5	8.1	7.4	7.3	7.0	7.2	8.0	7.5	5.9	6.2	7.9
3000 cps	8.4	7.1	8.5	6.2	6.8	5.5	7.6	7.6	7.0	4.8	6.3	8.3
3400 cps	8.0	5.2	6.7	6.6	6.3	5.1	6.8	4.2	6.7	4.6	5.3	6.8

NOTE: 1 READINGS WERE TAKEN AT SITE GPA USING HP-400D VTVM

2 A XXXXXX VARIATION OF APPROXIMATELY 1db WAS OBSERVED ON THE METER WHILE THESE RECORDINGS WERE BEING MADE.

3. All Reading Are Positive

DATE 9/6/63

TESTER [signature]

QUALITY ASSURANCE [signature]

GEEIA REP. [signature]

2nd Hi group Test - After Repair of filter at Site GK

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PHASE ONE

SYSTEM TESTS

DA TA SHEET

BRII/91
SITE GPA
ID SENDING

1. INSERTION LOSS VS FREQUENCY

LOW GROUP		EXPECTED
1000 cps	REFERENCE	+7.0 ±.5 dbm

WITH RESPECT TO 1000 cps REFERENCE

300	+4.0 -12.6 db
400	+4.0 -7.0 db
600	+4.0 -4.0 db
2400	+4.0 -4.0 db
3000	+4.0 -7.0 db
3400	+4.0 -12.6 db

FREQ.	CHANNELS OF THE LOW GROUP											
ID	7	8	9	10	11	6*	1	2	3	4	5	12
GPA	1	2	3	4	5	6	7	8	9	10	11	12
1000	+7.0	+7.0	+7.0	+7.0	+7.0	+7.0	+7.0	+7.0	+7.0	+7.0	+7.0	+7.0
300	+7.7	+5.5	+6.8	+7.4	-5.6	+2.1	+7.0	+9.2	+5.1	+5.5	+10.9	+6.1
400	+7.4	+5.5	+6.5	+6.8	+7.7	-.2	+7.0	+6.8	+6.3	+6.7	+7.8	+6.8
600	+7.7	+7.4	+7.6	+8.0	+2.8	+3.5	+8.0	+6.9	+8.1	+8.0	+7.7	+7.2
2400	+7.4	+8.1	+9.0	+8.5	+10.9	+12.2	+8.7	+7.3	+8.6	+7.6	+8.5	+7.4
3000	+7.3	+8.3	+8.7	+8.2	+9.8	+11.8	+8.7	+6.1	+8.7	+5.6	+8.2	+7.0
3400	+7.0	+4.1	+6.5	+7.2	+8.5	+7.0	+7.3	+1.8	+6.3	+4.2	+6.7	+.9

NOTE 1. LEVEL VARIATIONS OF .3 db MAX. WERE OBSERVED ON THE METER WHILE THESE READINGS WERE BEING TAKEN.

2. THESE READINGS WERE TAKEN AT SITE GPA WITH SITE ID SENDING THE TONES.

DATE 6 Sept 1963

SITE SUPERVISOR [signature]

TESTER [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

*Ch 6 ok on retest. See next sheet.

EUROPEAN REGION
GROUND ELECTRONICS ENGINEERING-INSTALLATION AGENCY
UNITED STATES AIR FORCE
APO 794, U S Forces

REPLY TO ATTN OF: Team Leader, Big Rally II T & A.

SUBJECT: Retests, BR II Phase I System Tests

23 September 1963

TO: Test Director
Big Rally II
APO 794, US Forces

1. Following are retests of specific items that did not originally successfully pass the Phase I System Test.

a. Insertion Loss vs Frequency: (21 Sep 63)

Channel #6 Low Group			*Channel #11 Low Group	
1000N	REF	+7.0 - (± 0.5)	1000N	REF _____ +7 (± 0.5)
300		+4.5	300	_____
400		+6.25	400	_____
600		+7.8	600	_____
2400		+6.8	2400	_____
3000		+6.4	3000	_____
3400		+3.9	3400	_____

GERALD R. PELANT
T&A Team Leader

*Bad Channel Modulator at ID.

1-4

ERRATA SHEET

ID-GPA-12

FEDERAL ELECTRIC CORPORATION Loop Test

BIG RALLY II TEST PROCEDURES
SYSTEMS TEST

This errata sheet should be attached to errata sheet, Systems Test, dated 22 August 1963. (For ID-GPA) Insertion loss vs frequency

HIGH GROUP

Freq.	Limits	Channels 1	2	3	4	5	6	7	8	9	10	11	12
1000	+7.0 ± 0.5db *	+7	+7	+7	+7	+7	+7	+7	+7	+7	+7	+7	+7
300	+3.1 - 7.4	+6.6	+2.5	+2.5	+3.5	+3.6	+5.2	+5.2	+5.6	+4	+3.5	+5	+4.6
00	+3.1 - 4.6	+6	+4.5	+6.2	+5.3	+6.2	+6	+5.6	+5	+6.3	+6.8	+6.1	+7.2
600	+3.1 - 3.1	+7.1	+7	+8	+8.2	+8.4	+7.6	+7.5	+6.6	+8.1	+8.4	+8	+7.6
00	+3.1 - 3.1	+9.6	+8.2	+9.6	+8	+7	+7.5	+6.9	+8.5	+8.1	+5.6	+6	+8.1
3000	+3.1 - 4.6	+10	+7.2	+9.2	+6.2	+5.7	+5.8	+8.6	+7.2	+7.7	+3.8	+6.5	+8
00	+3.1 - 7.4	+9.5	+5.2	+7	+6.2	+5	+4	+6.9	+2.5	+6.7	+3	+4.8	+4.8

Channel 1 of High Group is affected 0.3db worse because of Thru Group Filter. On Loop it is 2 x 0.3 = 0.6 db.

LOW GROUP

Freq.	Limits	Channels 1	2	3	4	5	6	7	8	9	10	11	12
1000	+7. ± 0.5db	+7	+7	+7	+7	+7	+7	+7	+7	+7	+7	+7	+7
00	+4.0 - 12.6	+3.4	+6.9	+8.2	+5.2	+8.2	-1.8	+10.5	+4.9	+7.1	+9	-3.0	+5.9
400	+4.0 - 7.0	+6.5	+5.6	+7.5	+7.2	+5.1	(-1)	+6.9	+4.6	+6.5	+7.4	(-1.0)	+7.2
00	+4.0 - 4.0	+8.1	+7.2	+9.0	+8.6	+7.5	+5	+8.5	+7.5	+8.4	+9.0	+3.6	+7.6
2400	+4.0 - 4.0	+8.5	+7.2	+9.2	+7.5	+8.5	+10.5	+9.0	+9.6	+8.9	+8.5	+9.8	+7.8
00	+4.0 - 7.0	+6.5	+4.9	+10	+3.5	+7.5	+9.5	+8.5	+6.5	+9.0	+7.5	+8.1	+4.8
3400	+4.0 - 12.6	+4.2	-2.5	+4.5	+2.9	+5.5	+4.8	+8.8	-1.8	+5.8	+7.0	+6.1	-4.5

* REFERENCE 1000 ~ LEVEL adjusted AT VF OUT for +10.5 DBM.

System Test Figures

Note: Low Group, channels 6 & 12 normally terminate at TC, for purpose of test they were patched thru to G.P.A. Channels 6 & 12 of Low Group did not meet specs. on all frequencies.

6 Sept 63
F.E. Corp.
R.C.A. 1-5

FEDERAL ELECTRIC CORPORATION, BR11/91

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE I

1. INSERTION LOSS VS. FREQUENCY

Frequency	Expected	Actual
Circuit ID to IGC		
1000	≠7 ± 0.5 dbm	_____ dbm
	With respect to 1000 cps level	
300	≠3.9 -11.0 dbm	_____ dbm
400	≠3.9 -4.1 dbm	_____ dbm
600	≠3.9 -1.8 dbm	_____ dbm
2400	≠3.9 -2.0 dbm	_____ dbm
3000	≠3.9 -3.5 dbm	_____ dbm
3400	≠3.9 -8.6 dbm	_____ dbm
Circuit: ID to GEL	CH 9 - HI GROUP	
1000	≠7 ± 0.5 dbm	+6.5 dbm
	With respect to 1000 cps level	
300	≠7.7 -16.7 dbm	+3.3 dbm
400	≠7.7 -6.1 dbm	+5.5 dbm
600	≠7.7 -3.4 dbm	+7.5 dbm
2400	≠7.7 -4.0 dbm	+6.3 dbm
3000	≠7.7 -7.1 dbm	+1.7 dbm
3400	≠7.7 -15.8 dbm	+1.5 dbm

Note: 1000 ~ REFERENCE adjusted AT VF Rec. To +7 ± 0.5 DBM OUT

~~Sheet 1 of 3~~

6 Sept. 63

FEDERAL ELECTRIC CORPORATION, BR11/91

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE I

1. INSERTION LOSS VS. FREQUENCY

Frequency	Expected	Actual
Circuit ID to IGC		
1000	±7 ± 0.5 dbm	_____ dbm
	With respect to 1000 cps level	
300	±3.9 -11.0 dbm	_____ dbm
400	±3.9 -4.1 dbm	_____ dbm
600	±3.9 -1.8 dbm	_____ dbm
2400	±3.9 -2.0 dbm	_____ dbm
3000	±3.9 -3.5 dbm	_____ dbm
3400	±3.9 -8.6 dbm	_____ dbm
Circuit: ID to GEL	CH 7 to Group	
1000	±7 ± 0.5 dbm	+7.5 dbm
	With respect to 1000 cps level	
300	±7.7 -16.7 dbm	+12 dbm
400	±7.7 -6.1 dbm	+11 dbm
600	±7.7 -3.4 dbm	+10.5 dbm
2400	±7.7 -4.0 dbm	+9.6 dbm
3000	±7.7 -7.1 dbm	+6.8 dbm
3400	±7.7 -15.8 dbm	+7.7 dbm

Note: 1000~ REFERENCE adjusted AT VF Rec to +7 ± 0.5 DBM. OUT

6 Sept. 63

~~Sheet 1 of 8~~

FEDERAL ELECTRIC CORPORATION BR11/92

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE I

1. ENVELOPE DELAY DISTORTION

Group No. Low ID/GPA.

ACTUAL

Channels		1	2	3	4	5	6	7	8	9	10	11†	12
To Station													
Frequency													
300													
500													
700													
900	SS	6.6	6.6	6.2	6.3	6.0	6.2	6.1	6.6	6.2	6.3	6.7	7.7
	MR	100	90	75	120	50	70	100	50	100	120	40	65
1000	SS	6.7	6.5	6.1	6.2	5.9	6.1	6.6	6.4	6.1	6.2	6.2	7.7
	MR	0	0	0	0	0	0	0	0	0	0	0	0
1200	SS	6.4	6.3	6.0	6.1	5.7	5.9	6.4	6.1	6.0	6.0	6.0	7.5
	MR	130	55	10	25	110	105	40	140	10	95	60	130
1400	SS	6.5	6.3	6.0	6.1	5.9	5.9	6.4	6.2	6.0	6.2	6.4	7.6
	MR	75	100	120	125	55	170	140	90	100	25	70	150
1600	SS	6.5	6.4	6.2	6.2	6.0	6.0	6.6	6.3	6.2	6.3	6.7	7.7
	MR	150	75	55	165	110	155	75	145	60	105	30	135
1800	SS	6.5	6.4	6.2	6.2	6.0	6.0	6.6	6.3	6.2	6.3	6.6	7.6
	MR	120	100	40	135	35	135	30	130	60	90	65	120
2000	SS	6.5	6.4	6.2	6.2	5.9	6.0	6.6	6.3	6.2	6.3	6.4	7.7
	MR	120	40	25	130	50	60	30	60	50	55	160	140
2200	SS	6.5	6.3	6.2	6.2	5.9	5.9	6.4	6.3	6.3	6.2	6.4	7.1
	MR	35	35	5	90	25	140	140	25	30	60	1325	1260
2400	SS	6.5	6.3	6.2	6.2	5.9	5.9	6.6	6.3	6.2	6.2	6.5	7.1
	MR	35	25	10	145	90	145	25	30	10	100	130	1560
2600	SS	6.4	6.3	6.2	6.2	5.9	6.0	6.3	6.3	6.1	6.2	6.6	7.1
	MR	90	90	70	140	160	70	50	25	45	140	155	1200
2800	Note: MR = The actual reading on the meter in milliseconds, 1 time in												
3000		SS = Switch setting of 6.45 is equal to 6.45 Milliseconds											
3200		SS = The switch setting on the delay measuring set in milliseconds while the MR is the actual delay in milliseconds.											
3400		changes in the set in milliseconds. The change of 1.3 = 1300 microseconds											

SS = Switch Setting
MR - Meter Reading

† Band Pass Filter at station ID faulty incorrect frequency response

Sheet 1 of 2

7 Sept 65

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FEDERAL ELECTRIC CORPORATION BR11/92

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE I

1. ENVELOPE DELAY DISTORTION 1D/6PA

Group No. LOW

ACTUAL

Channels	1	2	3	4	5	6	7	8	9	10	11	12
To Station												
Frequency												
300												
500												
700	410	355	265	295	325	265	450	410	320	330	[illegible]	1170
900	+200	+190	+175	+225	+150	+170	+200	+250	+200	+230	+540	+165
1000	0	0	0	0	0	0	0	0	0	0	0	0
1200	-170	-145	-90	-75	-90	-95	-160	-160	-90	-165	-140	-70
1400	-125	-100	+30	+75	+95	-30	-60	-110	0	+25	+300	+50
1600	-50	-25	+125	+165	+210	+55	+75	+145	+160	+205	+530	+135
1800	-60	0	+140	+135	+235	+135	+130	+130	+160	+170	+465	+220
2000	-60	-60	+175	+130	+180	-40	+130	-20	+150	+155	+360	+320
2200	-165	-165	+105	+90	+125	-60	-60	-75	+135	+165	+325	+600
2400	-165	-115	+110	+145	+190	-55	+175	-70	+110	+100	+450	+900
2600	-210	-110	+170	+140	+160	-30	-250	-75	+195	+140	+555	+1100
2800	Readings are relative to the delay at the [illegible] +130 micro seconds											
3000	indicates that the delay is 310 micro seconds greater than at 1000 cps.											
3200	a -125 micro second indicates that the delay is 400 micro seconds											
3400	less than at 1000 cps.											

Sheet 1 of 2

2

Exhibit 7 Sept. 63

1-9

FEDERAL ELECTRIC CORPORATION BR11/92

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE I

1. ENVELOPE DELAY DISTORTION

Group No. High ID/6PA.

ACTUAL

Channels		1	2	3	4	5	6	7	8	9	10	11	12
To Station Frequency													
300													
500													
700													
900	SS	3.5	3.0	2.6	2.6	2.7	2.6	2.6	2.6	2.7	2.6	3.2	3.7
	MR	100	20	45	10	50	50	1.5	10	6.5	16.5	5	7.5
1000	SS	3.5	3.0	2.6	2.6	2.7	2.6	2.6	2.6	2.7	2.6	3.2	3.6
	MR	0	0	0	0	0	0	0	0	0	0	0	0
1200	SS	3.3	2.7	2.4	2.3	2.5	2.3	2.2	2.6	2.6	2.6	3.1	3.7
	MR	60	100	160	80	75	150	115	30	30	40	50	45
1400	SS	3.2	2.7	2.7	2.3	2.7	2.3	2.4	2.6	2.6	2.6	3.1	3.7
	MR	50	150	40	160	100	170	90	150	60	55	95	75
1600	SS	3.2	2.9	2.7	2.6	2.7	2.5	2.6	2.7	2.7	2.8	3.1	3.6
	MR	100	55	10	100	90	135	85	80	100	85	145	125
1800	SS	3.2	2.6	2.5	2.6	2.7	2.5	2.6	2.7	2.7	2.6	3.1	3.6
	MR	25	100	100	0	55	140	30	100	125	150	135	125
2000	SS	3.1	2.7	2.6	2.4	2.7	2.4	2.5	2.7	2.7	2.8	3.1	4.6
	MR	60	80	80	80	0	110	65	15	70	130	70	50
2200	SS	3.1	2.7	2.6	2.4	2.6	2.4	2.5	2.6	2.7	2.6	3.1	4.0
	MR	30	25	130	40	35	85	40	65	13	80	45	120
2400	SS	3.0	2.6	2.5	2.4	2.6	2.4	2.5	2.7	2.7	2.6	3.1	4.2
	MR	100	60	130	65	140	155	20	65	50	75	75	80
2600	SS	3.0	2.8	2.5	2.4	2.6	2.4	2.5	2.7	2.7	2.8	3.2	4.4
	MR	15	110	120	135	150	170	35	75	140	150	110	110

Note MR= THE ACTUAL READING AS READ ON THE METER IN MILLISECONDS THUS A READING OF 045 IS EQUAL TO 45 MICROSECONDS.

SS= THE SWITCH SETTING ON THE DELAY MEASURING SET, THE WHOLE NUMBERS INDICATE A CHANGE IN MILLISECONDS WHILE THE TENTHS INDICATE A CHANGE IN TENTHS OF A MILLISECOND. THUS 1.3 CHANGE IS = 1300 MICROSECONDS.

SS=Switch Setting
MR=METER Reading

CHANNELS 5, 6 & 12 TERMINATES AT I.C.

17 Sept 63 [signature] 1-10

FEDERAL ELECTRIC CORPORATION BR11/92

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE I

1. ENVELOPE DELAY DISTORTION ID/GPA.

Group No. High

ACTUAL

Channels	1	2	3	4	5	6	7	8	9	10	11	12
To Station												
Frequency												
300												
500												
700	185	205	180	330	425	240	310	120	210	150	145	165
900	+100	+30	+45	+10	+50	+50	+15	+10	+100	+165	+5	-25
1000	0	0	0	0	0	0	0	0	0	0	0	0
1200	-140	-200	-40	-220	-125	-150	-285	-170	-70	+40	-50	-55
1400	-250	-150	+140	-140	+100	-130	-110	-50	-40	+55	-5	-25
1600	-200	-45	+10	+100	+90	+35	+65	-20	+100	+65	+45	+125
1800	-275	-100	0	0	+55	+40	+30	0	+125	+150	+35	+175
2000	-340	-220	+60	-120	0	-90	-35	-65	+70	+130	-30	+250
2200	-370	-275	+130	-160	-65	-115	-60	-135	+13	+80	-55	+350
2400	-400	-120	+30	-135	+40	-45	-80	-35	+50	+75	-25	+580
2600	-485	-90	+20	-65	+50	-30	-65	-25	+140	+150	+110	+510
2800												
3000	READINGS ARE RELATIVE TO: THE DELAY AT 1000 CPS. THIS AT											
3200	A +310 MICROSECONDS INDICATES THAT THE DELAY IS 310											
3400	MICROSECONDS GREATER THAN AT 1000 CPS. A -485 MICROSECOND											

INDICATES THAT THE DELAY IS 485 MICROSECONDS LESS THAN AT 1,000 CPS.

FEDERAL ELECTRIC CORPORATION BR11/92

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE I

1. ENVELOPE DELAY DISTORTION

Group No. Hi CH-9 LO-CH-7.
ID/GEL.

ACTUAL

Channels	1	2	3	4	5	6	9 / 7	8	7 / 9	10	11	12
To Station												
Frequency												
300												
500												
700												
900 MR							.01		0			
900 SS							1.6		5.2			
1000 MR							0		0			
1000 SS							0.7		4.8			
1200 MR							.05		.07			
1200 SS							0.4		4.3			
1400 MR							.045		0			
1400 SS							0.3		4.3			
1600 MR							.06		.02			
1600 SS							0.4		4.3			
1800 MR							.095		.01			
1800 SS							0.3		4.3			
2000 MR							.035		0			
2000 SS							0.3		4.3			
2200 MR							.02		.015			
2200 SS							0.3		4			
2400 MR							.01		.015			
2400 SS							0.3		4			
2600 MR							.055		.015			
2600 SS							0.5		4			
2800	Note: MR-The actual reading as read on the meter in milliseconds											
3000	SS- The numbers indicate change in milliseconds with the tenths indicate	This reading of .045 is equal to 45 micro-seconds with the whole										
3200												
3400		A change in 10th of a millisecond. This is change is to 100 micro seconds										

Variable atten. used between MUX output & TMS input to bring the level down from +7 to A -0 DBM.

Sheet 1 of 2

XR Ckt 1

Dept 63 BC Dec 1-12

FEDERAL ELECTRIC CORPORATION BR11/92

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE I

1. ENVELOPE DELAY DISTORTION

Group No. HI CH-9 LO CH-7

ID/GEL

ACTUAL

Channels	1	2	3	4	5	6	9	8	7	10	11	12
To Station Frequency												
300												
500												
700							805		1185			
900							+310		+1100			
1000							0		0			
1200							-350		-430			
1400							-445		-500			
1600							-380		-460			
1800							-445		-490			
2000							-435		-500			
2200							-420		-765			
2400							-460		-785			
2600							-255		-785			
2800	Note: Readings are relative to the delay at 1,000 cps: thus a +310											
3000	Microseconds indicates that the delay is 310 microseconds greater											
3200	than at 1,000 cps; a -495 microseconds indicates 495 less delay											
3400	is 495 microseconds less than at 1,000 cps.											

Sheet 1 of 2

2

FEDERAL ELECTRIC CORPORATION BR11/93

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION

	Expected	Actual
Output level of both oscillators	ref.	_____ volts
Levels of harmonics	ref.	_____ volts
		_____ volts
SEE ATTACHED DATA SHEETS FOR DATA		_____ volts
		_____ volts
		_____ volts
% Distortion (All Circuits) End to End CR MAX 5% loop back.	max. ~~2%~~	3.37 %

2. CIRCUIT MONITOR AND ALARM _____ Initial

3. MASTER OSCILLATOR STABILITY (ID)

Frequency Frequency Change of 1 part in 10^6 63,999,975 cps

Frequency (after 30 days) per month _____ cps

Oscillator measurment performed 1200 Z 8 Sept., 1963
Oscillator chassis production Serial # 8485874A01
H.P. Model 524 D calibrated to Rugby, England on 10MC at 1130Z
Transmission period 8 September, 1963
The above test to be repeated at 1200Z 7 October, 1963

DATE 8 Sept 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE [signature]

GEEIA [signature]

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

III - GEL LOOP

L. HARMONIC DISTORTION

	CHANNEL 7 GROUP Lo		CHANNEL 9 GROUP Hi.	
FUNDAMENTAL FREQUENCY	400 cps	2050 MV	400 cps	1150 MV
	1000 cps	1110 MV	1000 cps	1300 MV
HARMONICS	600 cps	11.5 MV	600 cps	11 MV
	800 cps	14 MV	800 cps	0 MV
	1100 cps	19 MV	1100 cps	0 MV
	1800 cps	85 MV	1800 cps	62 MV
	2400 cps	21 MV	2400 cps	15 MV
	3000 cps	17 MV	3000 cps	17 MV
	1200 cps	8 MV	1200 cps	10 MV
	____ cps	____ MV	1400 cps	10 MV
	____ cps	____ MV	1600 cps	60 MV
	% distortion		% distortion	
	(4.73 %)		(5.23 %)	
	4.105 %		5.124 %	

DATE 7 Sept. 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE [illegible]

GEEIA [illegible]

FORMULA FOR % distortion, SEE PAGE 11-8 OF Test Procedures. System Tests 10 April, 1963

SAME SPEC. WAS WRITTEN FOR GEL/ID LOOP AS GPM/SD LOOP. THIS SPECIFICATION HAS BEEN EXCEEDED ON GEL CHAN #9

HARMONIC DISTORTION

ID/GEL Channel #9

Output level of both Oscillators

1000N REF 1500 M Volts

400N REF 1350 M Volts

Level of Harmonics 300 to 3500 cps

Frequency	Milli volts
600 cps	30
800	12
1200	32
1400	15
1600	110
1800	80
2000	24
2400	52
2800	12

Formula found on page 11-8
BR II System Tests Procedures

% Distortion greater than 7

BR11/43

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 1 Group Hi

FUNDAMENTAL FREQUENCY	
400 cps	1500 MV
1000 cps	1200 MV

HARMONICS	
600 cps	8 MV
1200 cps	13 MV
1400 cps	12 MV
1800 cps	10 MV
2400 cps	12 MV
3000 cps	20 MV
_____ cps	_____ MV
_____ cps	_____ MV
_____ cps	_____ MV
_____ cps	_____ MV

% distortion = 1.79%

DATE 7 Sept 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE BE Boyd
GEEIA AR Eckert

1-17

BR 11/93

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION — Channel 2 Group 11

FUNDAMENTAL FREQUENCY		
400 cps	1050	MV
1000 cps	1200	MV
HARMONICS		
525 cps	10	MV
900 cps	9	MV
1600 cps	30	MV
1800 cps	10	MV
2400 cps	13	MV
3000 cps	11	MV
____ cps	____	MV
____ cps	____	MV
____ cps	____	MV
____ cps	____	MV

% distortion = 2%

DATE 7 Sept. 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE BE Brad
GEEIA AR filed

FEDERAL ELECTRIC CORPORATION

BRII/23

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION
FUNDAMENTAL FREQUENCY

Channel 3 Group 1/1

400 cps	1200 MV
1000 cps	1350 MV

HARMONICS

900 cps	10 MV
1600 / 1500 cps	40 MV
1800 cps	9 MV
2400 cps	16 MV
3000 cps	19 MV
1200 cps	6 MV
_____ cps	_____ MV
_____ cps	_____ MV
_____ cps	_____ MV
_____ cps	_____ MV

% distortion = 1.44%

DATE 7 Sept. 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE B. E. Bo...
GEEIA

1-19

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION — Channel 4 — Group 11

FUNDAMENTAL FREQUENCY		
	400 cps	1150 MV
	1000 cps	1250 MV
Harmonics	600 cps	12.5 MV
	800 cps	7 MV
	1200 cps	12 MV
	1400 cps	4.8 MV
	1800 cps	15 MV
	2000 cps	9 MV
	2400 cps	14 MV
	3000 cps	11 MV
	____ cps	____ MV
	____ cps	____ MV

% distortion = 3.25 %

DATE 25 Apl. 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE B. E Bro

GEEIA. [illegible]

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION — Channel 5 Group 1/1

FUNDAMENTAL FREQUENCY	1st	2nd
400 cps	1400 MV	1350
1000 cps	1400 MV	1300
Harmonics		
600 cps	5 MV	7
900 cps	6 MV	7
1200 cps	7 MV	6
1400 cps	65 MV	35
1800 cps	20 MV	7
2000 cps	16 MV	18
3200 cps	12 MV	12
2400 cps	25 MV	20
2600 cps	10 MV	10
2800 cps	10 MV	10
3000 cps	18 MV	4
3300 cps	10 MV	0

run #1 % distortion 4.08%

run #2 % distortion 2.67%

DATE 7 Sept 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE R E Bess

GEE IN. [illegible]

NOTE: These distortion tests were run twice the 1st time with out-of-band signalling unit disabled.

The 2nd time the signalling unit was operating normally

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION — Channel 6 — Group 11c

FUNDAMENTAL FREQUENCY	
1100 cps	1250 MV
1000 cps	1300 MV
Harmonics	
1000 cps	7 MV
1600 cps	26 MV
1800 cps	4 MV
2400 cps	11 MV
3000 cps	6 MV
_____ cps	_____ MV
_____ cps	_____ MV
_____ cps	_____ MV
_____ cps	_____ MV
_____ cps	_____ MV

% distortion 1.74%

DATE 7 Sept 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE B. E. Bess

G.E.E.IA. by R Pelouet

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION — Channel 6 Group Hi

FUNDAMENTAL FREQUENCY	
1000 cps	1250 MV
1000 cps	1300 MV
Harmonics	
1000 cps	7 MV
1600 cps	26 MV
1800 cps	4 MV
2400 cps	11 MV
3000 cps	6 MV
____ cps	____ MV
____ cps	____ MV
____ cps	____ MV
____ cps	____ MV
____ cps	____ MV

% distortion 1.74%

DATE 7 Sept 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE B. E. Bass

G.E.E.IA. A. Rychert

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION

Channel 7 Group 11

FUNDAMENTAL FREQUENCY		2nd	1st	
400	cps	1550	1350	MV
1000	cps	1400	1350	MV
HARMONICS				
900	cps	0	7	MV
1400	cps	9	7	MV
1600	cps	35	26	MV
1800	cps	22	15	MV
2400	cps	20	15	MV
3000	cps	8	6	MV
	cps			MV
	cps			MV
	cps			MV
	cps			MV

run # 1 % distortion = 2.27 %

run # 2 % distortion = 1.93 %

DATE 7 Sept. 63

TESTER

SUPERVISOR

QUALITY ASSURANCE B. E. Bass

GEEIA.

FEDERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SESTAK TEST

1. HARMONIC DISTORTION — Channel E Group Hi

FUNDAMENTAL FREQUENCY

	400 cps	1150 MV
	1000 cps	1150 MV
Harmonics	900 cps	7 MV
	1400 cps	8 MV
	1600 cps	27 MV
	1800 cps	8 MV
	2400 cps	8 MV
	3000 cps	5 MV
	____ cps	____ MV
	____ cps	____ MV
	____ cps	____ MV
	____ cps	____ MV

% Distortion 1.98%

DATE 7 Sept 63

TESTED ____

SUPERVISOR ____

QUALITY ASSURANCE B. E. Bays.

GEEIA. [signature]

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

I. HARMONIC DISTORTION Channel 9 Group 4

FUNDAMENTAL FREQUENCY

400 cps	1200 MV
1000 cps	1200 MV

HARMONICS

1200 cps	5 MV
1400 cps	24 MV
1500 cps	6 MV
2000 cps	5 MV
2400 cps	8 MV
3000 cps	4 MV
____ cps	____ MV
____ cps	____ MV
____ cps	____ MV
____ cps	____ MV

% distortion = 1.74%

DATE 2 Sept. 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE R E Bass

GEEIN. R Pelant

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

L HARMONIC DISTORTION Channel 10 Group Hi

FUNDAMENTAL FREQUENCY

	400 cps	1350 MV
	1000 cps	1350 MV
HARMONICS	1200 cps	5 MV
	1400 cps	7 MV
	1600 cps	35 MV
	1800 cps	12 MV
	2000 cps	4 MV
	2400 cps	10 MV
	3000 cps	15 MV
	3200 cps	5 MV
	cps	MV
	cps	MV

% distortion = 2.06 %

DATE 25 Sept 63

TESTER

SUPERVISOR

QUALITY ASSURANCE BEBrown

GEEIA JRPickett

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BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

I. HARMONIC DISTORTION Channel 11 Group Hi

FUNDAMENTAL FREQUENCY

	400 cps	1350 MV
	1000 cps	1300 MV
HARMONICS	1200 cps	7 MV
	1400 cps	6 MV
	1600 cps	36 MV
	1800 cps	18 MV
	2400 cps	14 MV
	3000 cps	12 MV
	____ cps	____ MV
	____ cps	____ MV
	____ cps	____ MV
	____ cps	____ MV

% distortion = 2.48%

DATE 2 Sept. 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE TBE Bx 4-5

GEEIA [signature]

GENERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 12 Group Hi

FUNDAMENTAL FREQUENCY

400 cps	1600 MV
1000 cps	1350 MV

HARMONICS

1200 cps	7 MV
1400 cps	12 MV
1600 cps	3F MV
1800 cps	16 MV
2000 cps	6 MV
2400 cps	15 MV
3000 cps	6 MV
_____ cps	_____ MV
_____ cps	_____ MV
_____ cps	_____ MV

% distortion = 2.07%

DATE 7 Sept 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE REBoyd

GEEIA - [illegible]

1-28

GENERAL DYNAMICS CORPORATION

DIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 1 Group LO

FUNDAMENTAL FREQUENCY

400 cps	1150 MW
1000 cps	1300 MW

HARMONICS

600 cps	5 MW
1200 cps	9 MW
1400 cps	12 MW
1600 cps	36 MW
1800 cps	30 MW
2000 cps	12 MW
2400 cps	39 MW
3000 cps	9 MW
3200 cps	6 MW
____ cps	____ MW

% distortion = 3.73%

DATE 7 Sept. 63

ENGINEER _____

SUPERVISOR _____

QUALITY ASSURANCE BEBoss

GEEIA. RFEckert

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 2 Group LD

FUNDAMENTAL FREQUENCY

400 CPS 1350 MV

1000 CPS 1300 MV

HARMONICS

1200 CPS 10 MV

1400 CPS 15 MV

1600 CPS 52 MV

1800 CPS 24 MV

2000 CPS 5 MV

2400 CPS 22 MV

3000 CPS 12 MV

____ CPS ____ MV

____ CPS ____ MV

____ CPS ____ MV

% distortion = 3.18%

DATE 7 Sept. 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE B. E. Bro

G. E. E. D. A. & R Rep

FEDERAL ELECTRIC CORPORATION

BIG BALL II PROJECT

DATA SHEET

SIGTEN TEST

1. HARMONIC DISTORTION Channel 3 Group L.O

FUNDAMENTAL FREQUENCY

400 cps	14500 KW
1000 cps	13000 KW

HARMONICS

600 cps	5 KW
1200 cps	5 KW
1400 cps	13 KW
1600 cps	40 KW
1800 cps	9 KW
2000 cps	1 KW
2400 cps	49 KW
3000 cps	7 KW
____ cps	____ KW
____ cps	____ KW

% distortion = 3.22%

DATE 7 Sept 63

TESTED _____

SUPERVISOR _____

QUALITY ASSURANCE B. E. Reed

GEEIA. S R Pollard

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 4 Group 1C

FUNDAMENTAL FREQUENCY

400 cps	1550 MV
1000 cps	1350 MV

HARMONICS

600 cps	35 MV
1200 CPS	7 MV
1400 CPS	12 MV
1600 CPS	36 MV
1800 CPS	36 MV
2000 CPS	5 MV
2400 CPS	15 MV
3000 CPS	15 MV
CPS	MV
CPS	MV

% distortion = 2.9%

DATE 7 Sept 63

TESTER

SUPERVISOR

QUALITY ASSURANCE B. E. Boo

I. E. E. E. A. SR Eclat

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 5 Group 10

FUNDAMENTAL FREQUENCY

400 cps	1200 MV
1000 cps	1300 MV

HARMONICS

600 cps	10 MV
1200 CPS (18-25)	19 MV
1400 CPS	14 MV
1600 CPS	50 MV
1800 CPS	26 MV
2000 CPS	.5 MV
2400 CPS	38 MV
3000 CPS	12 MV
3200 CPS	5 MV
CPS	MV

% distortion 4.2%

DATE 7 Sept 63

TESTER

SUPERVISOR

QUALITY ASSURANCE B. E. Boos

GEEIA. D/R Reed

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BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 6 Group 1.0

FUNDAMENTAL FREQUENCY

400 cps	1400 MV
1000 cps	1300 MV

HARMONICS

600 cps	11 MV
1200 CPS	11 MV
1400 CPS	10 MV
1600 CPS	40 MV
1800 CPS	21 MV
2000 CPS	6 MV
2400 CPS	20 MV
3000 CPS	7 MV
CPS	MV
CPS	MV

% distortion 2.82 %

DATE 7 Sept. 63

TESTER

SUPERVISOR

QUALITY ASSURANCE B. E. Ross

GEEIA. [signature]

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 7 Group 10

FUNDAMENTAL FREQUENCY

400 cps	1550 MV
1000 cps	1100 MV

HARMONICS

600 cps	11 MV
1200 cps	10 MV
1400 cps	66666 7 MV
1600 cps	32 MV
1800 Cps	55 MV
2000 cps	7 MV
2400 cps	35 MV
3000 cps	14 MV
cps	MV
cps	MV

% distortion 3.7 %

DATE 7 Sept. 63

TESTER

SUPERVISOR

QUALITY ASSURANCE B. E. Bass

GEEIA. [signature]

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 6 Group 1

FUNDAMENTAL FREQUENCY

400 cps	1200 MV
1000 cps	1300 MV

HARMONICS

600 cps	10 MV
1200 cps	0 MV
1400 cps	[illegible] MV
1600 cps	32 MV
1800 Cps	56 MV
2000 cps	6 MV
2400 cps	33 MV
3000 cps	13 MV
cps	MV
cps	MV

% distortion - 4.35 %

DATE 7 Sept. 63

TESTER

SUPERVISOR

QUALITY ASSURANCE B. E. Dees

GE EIP.

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION

Channel 9 Group 1.0.

FUNDAMENTAL FREQUENCY

400 cps 1350 MV

1000 cps 1325 MV

HARMONICS

600 cps 17 MV

1200 cps 13 MV

1400 cps [illegible]12 MV

1600 cps 54 MV

1800 cps 26 MV

2000 cps 6 MV

2400 cps 22 MV

3000 cps 16 MV

3200 cps 25 MV

cps MV

% distortion. 3.98 %

DATE 7 Sept. 63

TESTER

SUPERVISOR

QUALITY ASSURANCE B. E. Rice

GEEIA. W R Robert

FEDERAL ELECTRIC CORPORATION

BIG MALLY II PROJECT

DATA SHEET

SYSTEM TEST

2. HARMONIC DISTORTION Channel 10 Group L.O.

FUNDAMENTAL FREQUENCY	1ST Time	2ND
400 cps	1460 MV	
1000 cps	1125 MV	
HARMONICS		
100 cps	22 MV	24
800 cps	25 MV	30
1200 cps	40 MV	42
1400 cps	11 MV	15
1600 cps	71 MV	66
1800 cps	80 MV	74
2000 cps	12 MV	14
2200 cps	18 MV	20
2400 cps	17 MV	44
2600 cps	12 MV	12
3000 cps	42 MV	23
3200 cps	17 MV	15

% distortion. 1ST 7.7% 2ND 6.94%

DATE 7 SEPT. 63

TESTER

SUPERVISOR

QUALITY ASSURANCE B.E. Bemp

GEEIA. BY R.F. Lant

NOTE! 2 TESTS WERE RUN ON THIS CHANNEL, BOTH TIMES IT EXCEEDED SPECIFICATIONS I.E. MAX 5%

HARMONIC DISTORTION

ID/GPA Channel #10 Low

Output level of both Oscillators

1000N REF 1125 Volts

400N REF 1200 Volts

Level of Harmonics

1	Frequency 1200	Milli Volts	14
	1400		8
	1600		40
	1800		21
	2000		17
	2400		25
	3000		10

% Distortion Less than 5%

Donald R Robert

FEDERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION Channel 11 Group 1A

FUNDAMENTAL FREQUENCY

_____ cps _____ MV

_____ cps _____ MV

HARMONICS

_____ cps _____ MV

_____ cps _____ MV

_____ cps [illegible] MV

_____ cps _____ MV

_____ cps _____ MV

_____ cps _____ MV

_____ cps _____ MV

_____ cps _____ MV

_____ cps _____ MV

_____ cps _____ MV

DATE _____

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE _____

D R. Robert

Note; Test not performed take channel alone to a test point at ED

1-40

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST

1. HARMONIC DISTORTION — Channel 12 Group 10

FUNDAMENTAL FREQUENCY		
	400 cps	1400 MV
	1000 cps	1200 MV
Harmonics	600 cps	16 MV
	800 cps	27 MV
	1200 cps	25 MV
	1400 cps	36 MV
	1600 cps	105 MV
	1800 cps	100 MV
	2000 cps	22 MV
	2200 cps	10 MV
	2400 cps	100 MV
	2800 cps	13 MV
% distortion 10+%	3000	34

DATE 7 Sept. 63

TESTER _____

SUPERVISOR _____

QUALITY ASSURANCE B. E. Boggs.

GEEIA. J R Fichet

Note: this channel exceeded test specifications

HARMONIC DISTORTION

ID/GPA Channel #12 Low

Output level of both Oscillators

1000N REF 1200 Volts

400N REF 1300 Volts

Level of Harmonics

1 Frequency	600	Milli Volts 10
	800	13
	1200	14
	1400	14
	1600	48
	1800	20
	2000	14
	2400	28
	3000	10

% Distortion less than 5%

Donald R Pickard

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FEDERAL ELECTRIC CORPORATION
BIG RALLY 11 PROJECT
DATA SHEET
SYSTEM TEST DATA

IDLE CHANNEL NOISE
ID/GPA

HIGH GROUP

	1	2	3	4	5	6	7	8	9	10	11	12
FIA, DBM uncorrected												
ID terminate GPA measure	-53	-53	54	54	53	53	54.5	54	53	56	55.5	54.5
GPA terminate ID measure	47.5	48	49.5	49.5	50	50	49.5	50	51	51	47.5	47.5
ID measure looped at GPA	45	47	47.5	48	46.5	48.5	47.5	47.5	49	49	45.5	45
FIA weighted, DBA0												
ID terminated GPA measure	25	25	24	24	25	25	23.5	24	25	22	22.5	23.5
GPA terminate ID measure	30.5	30	28.5	28.5	28	28	28.5	28	27	27	30.5	30.5
ID measure looped at GPA	33	31	30.5	30	31.5	29.5	30.5	30.5	29	29	32.5	33

LOW GROUP

	1	2	3	4	5	6	7	8	9	10	11	12
FIA, DBM uncorrected												
ID terminate GPA measure	48.5	48.5	47.5	47.5			44	46.5	45.5	45.5		
GPA terminate ID measure	53	52	53	52.5			46	46.5	49.5	51	BAD SITE AT I.D.	
ID measure looped at GPA	48	47	45	45.5	TERM. AT I.C.	TERM AT I.C.	42.5	43.5	44	43.5		TERM AT I.C.
FIA weighted DBA0												
ID terminate GPA measure	25	26	25	25.5			32	31.5	28.5	27		
GPA terminate ID measure	29.5	29.5	30.5	30.5			34	31.5	32.5	32.5		
ID measure looped at GPA	30	31	33	32.5			35.5	34.5	34	34.5		

TEST Equipment:
GPA, Daven 12B +7 DBM0 FIA weighted
ID " " " " " "

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FEDERAL ELECTRIC CORPORATION
BIG RALLY 11 PROJECT
DATA SHEET

SYSTEM TEST DATA
IDLE CHANNEL NOISE
ID/GEL

FIA, DBM uncorrected	LOW GROUP CHANNEL 7	HIGH GROUP CHANNEL 9
ID terminate GEL measure	-51	-57.5
GEL terminate ID measure	-46	-48.5
ID measure looped at GEL	-42	-43.5
ID looped measure at GEL	-51	-56

FIA weighted, DBOA		
ID terminate GEL measure	-33.0	-31.5
GEL measure ID looped	-38.0	-33.0
ID measure looped at GEL	-36.0	-34.5
GEL terminate ID measure	-32.0	-29.5

*Test equipment ID/GEL Daven 12 B

NOTE: Readings taken at 4W +7.0 DBM point at ID

Ex. reading -46.0 DBM
Correct factor +7.0 DBM
-53.0 DBM

DBAO conversion 85 DBOA
Corrected reading 32.0 DBAO

NOTE: Readings taken at 4W -4.0 DBM point at GEL

Ex. reading -46.0 DBM
Correct factor -4.0 DBM
-43.0 DBM

DBAO conversion 85 DBAO
Corrected reading 42 DBAO
3

DATE 17 Sept. 63

TESTER

SUPERVISOR

QUALITY ASSURANCE

GEEIA R Pelini

FEDERAL ELECTRIC CORPORATION
BIG RALLY LL PROJECT
DATA SHEET
SYSTEM TEST DATA
TALK THROUGH TEST

Talk through ID/GEL:

Channel # 7 Lo Group — GOOD

Channel # 9 Hi Group — GOOD

Talk through ID/GPA:

HIGH GROUP		LOW GROUP	
Channel # 1	Good	Channel #1	Good
Channel # 2	Good	Channel #2	Good
Channel #3	Good	Channel #3	Good
Channel #4	Good	Channel #4	Good
Channel #5	Good	Channel #5	Good
Channel #6	Good	Channel #6	Good
Channel #7	Good	Channel #7	Good
Channel #8	Good	Channel #8	Good
Channel #9	Good	Channel #9	Good
Channel #10	Good	Channel #10	Good
Channel #11	Good	Channel #11	BAD FILTER ED
Channel #12	Good	Channel #12	Good

REMARKS: CHANNEL11 Lo Group has bad FILTER

DATE 8 Sept. 63
TESTER
SUPERVISOR
Quality Assurance B. E. Boos
GEEIA

CHART RECORDINGS

1. LOOPED CHANNEL NOISE:

Using 3A NMS, and Daven 12B as measuring device
Writing speed 3"/sec.
Chart speed 100 div/hr.
Channel #1 high group
Total recorded time - 168 hrs.
1st 6 minutes of each hour the loop shall be broken and the channel terminated in 600Ω at GPA providing 6 minutes of one-way recordings.

2. LOOPED TEST TONE:

Writing speed 3"/sec.
Chart speed 100 div/~~sec.~~ hr
Channel 3 high group for 72 hours balance of test on channel 4 low group.
Total recorded time - 182 hrs.

3. ONE WAY CHANNEL NOISE GPA:

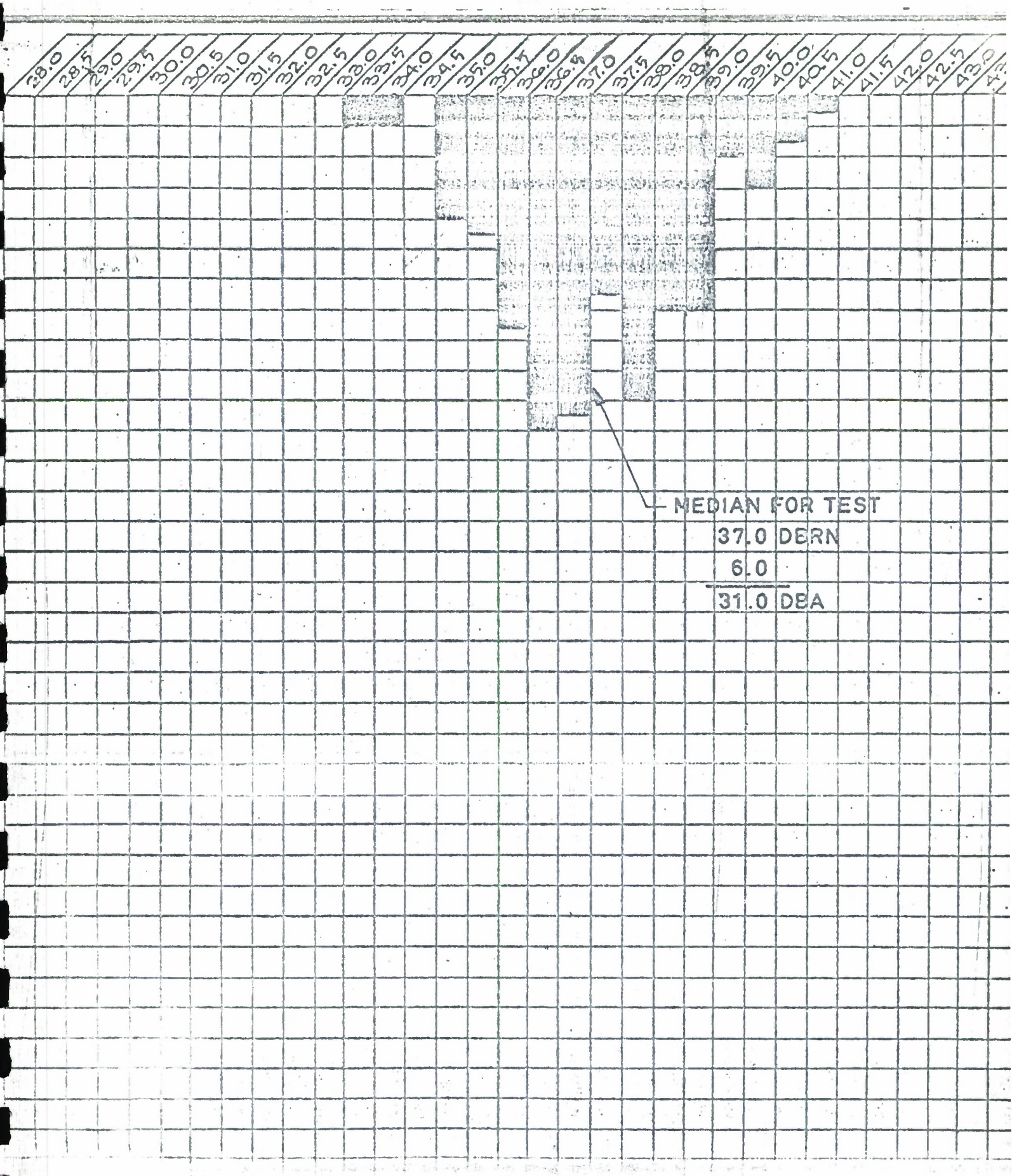
Using Daven 12B as measuring device
Writing speed 10"/sec.
Chart speed 100 div/hr.
Channel #7 at ID terminated in 600Ω at GPA (Low group)
Total recorded time - 182 hours.

Above are the recording tests and criteria.

Gerald R. Pelant

GERALD R. PELANT
Hq Eur GEEIA Region

Atchs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31.5
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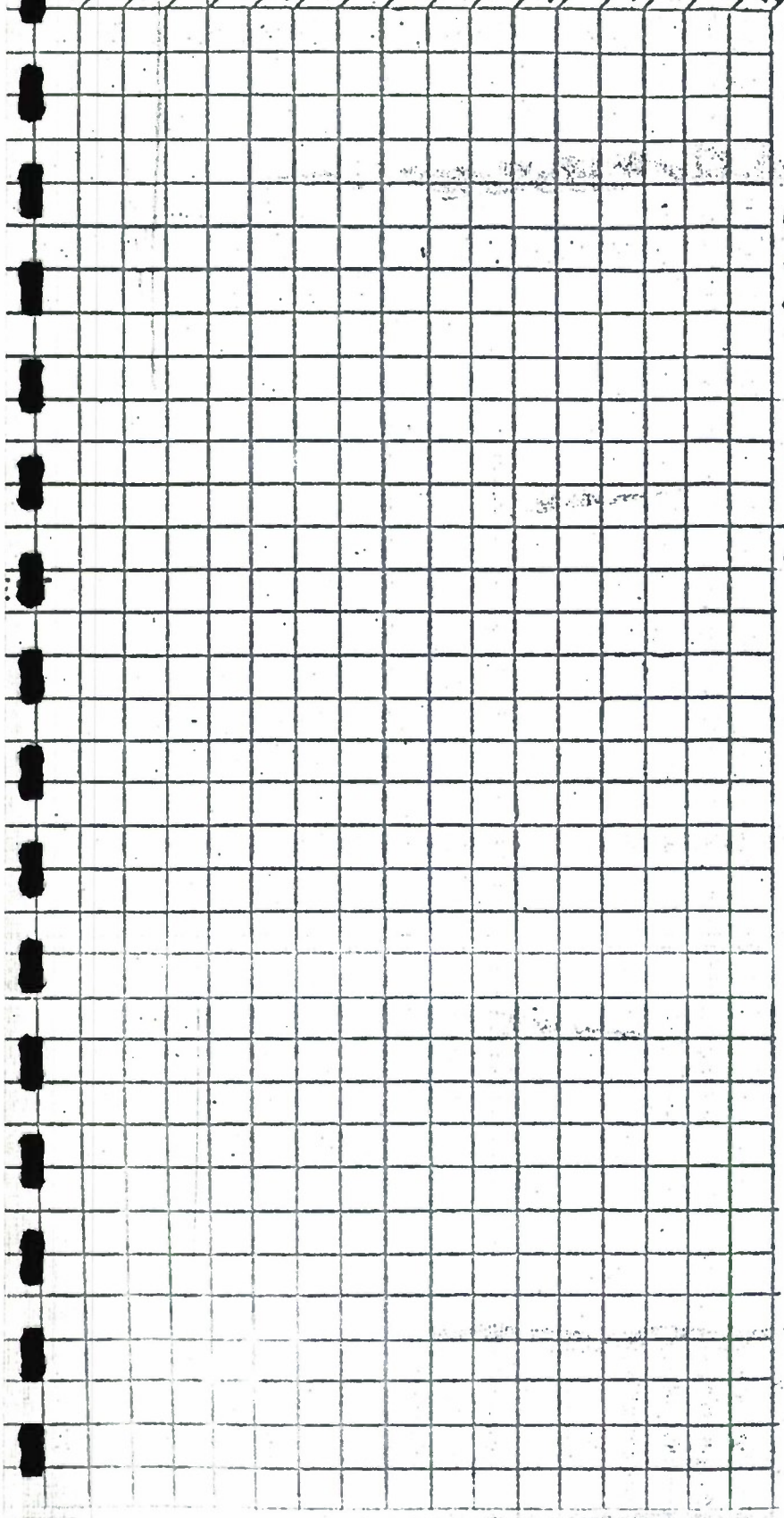
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5
40.0
40.5
41.0
41.5
42.0
42.5
43.0
MEDIAN FOR TEST
37.0 DERN
6.0
31.0 DEA

INTERVALS

:0 | 41.5 | 42.0 | 42.5 | 43.0 | 43.5 | 44.0 | 44.5 | 45.0 | 45.5 | 46.0 | 46.5 | 47.0 | 47.5 | 48.0 | 48.5 | 49.0 | 49.5 | 50.0



BR II

NOISE TESTS

CHANNEL NOISE
CORRECTED FOR ZERO
dbm LEVEL
"C" MESSAGE
WEIGHING dbrn.

DATE SEPT. 17, 1963
ROLL NO 12345678
CHANNEL 1 HIGH GROUP

TOTAL SAMPLES 155
THIS SHEET 155

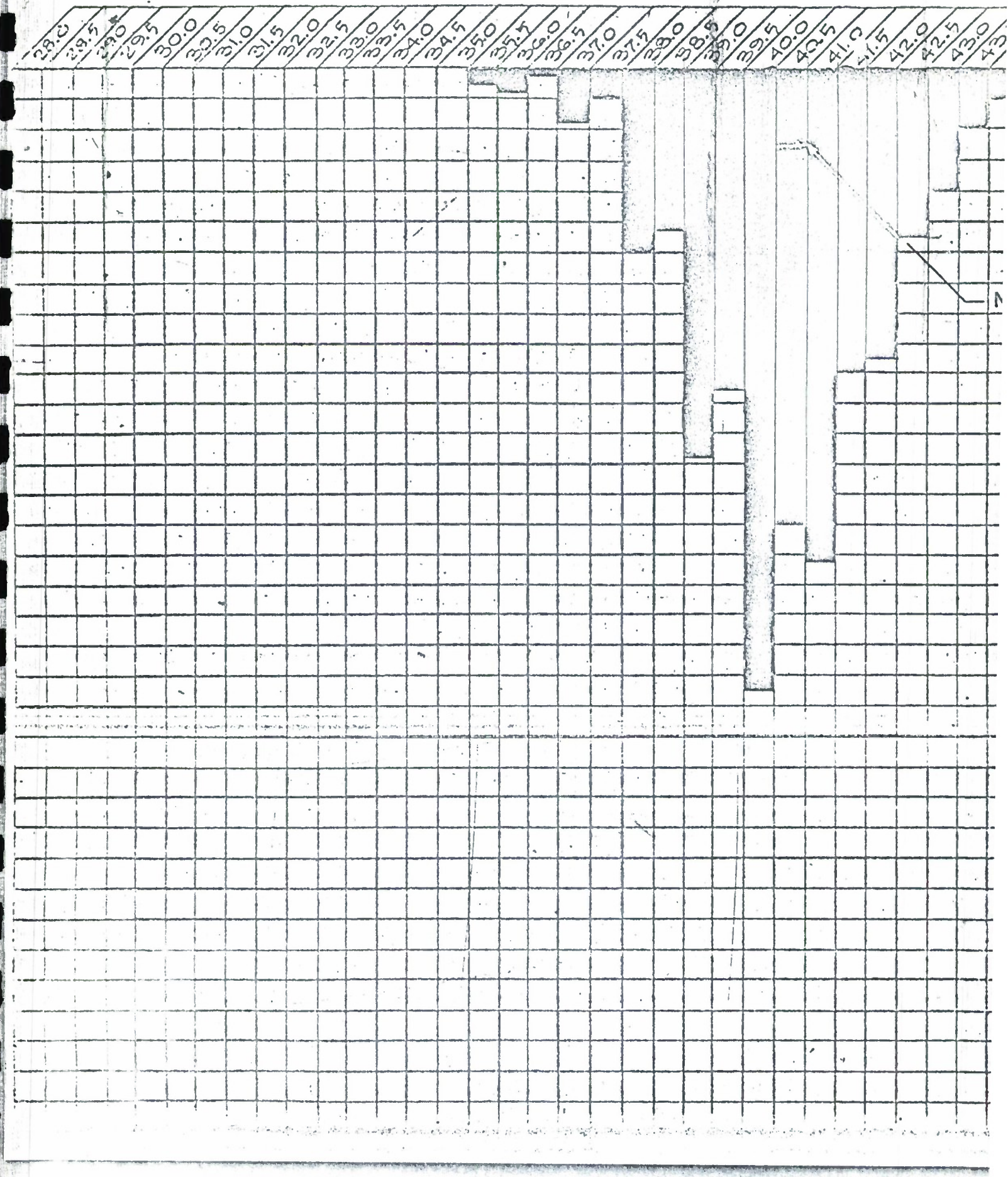
MEDIAN OF THIS
TEST 37 DBRN
-53 dbm

THIS RUN BEGAN
ON 1325 Z 9 SEPT.
ENDED 1400 Z 17 SEPT.

1 DIV. = 2 SAMPLES

GPA ⟶ ID

1-47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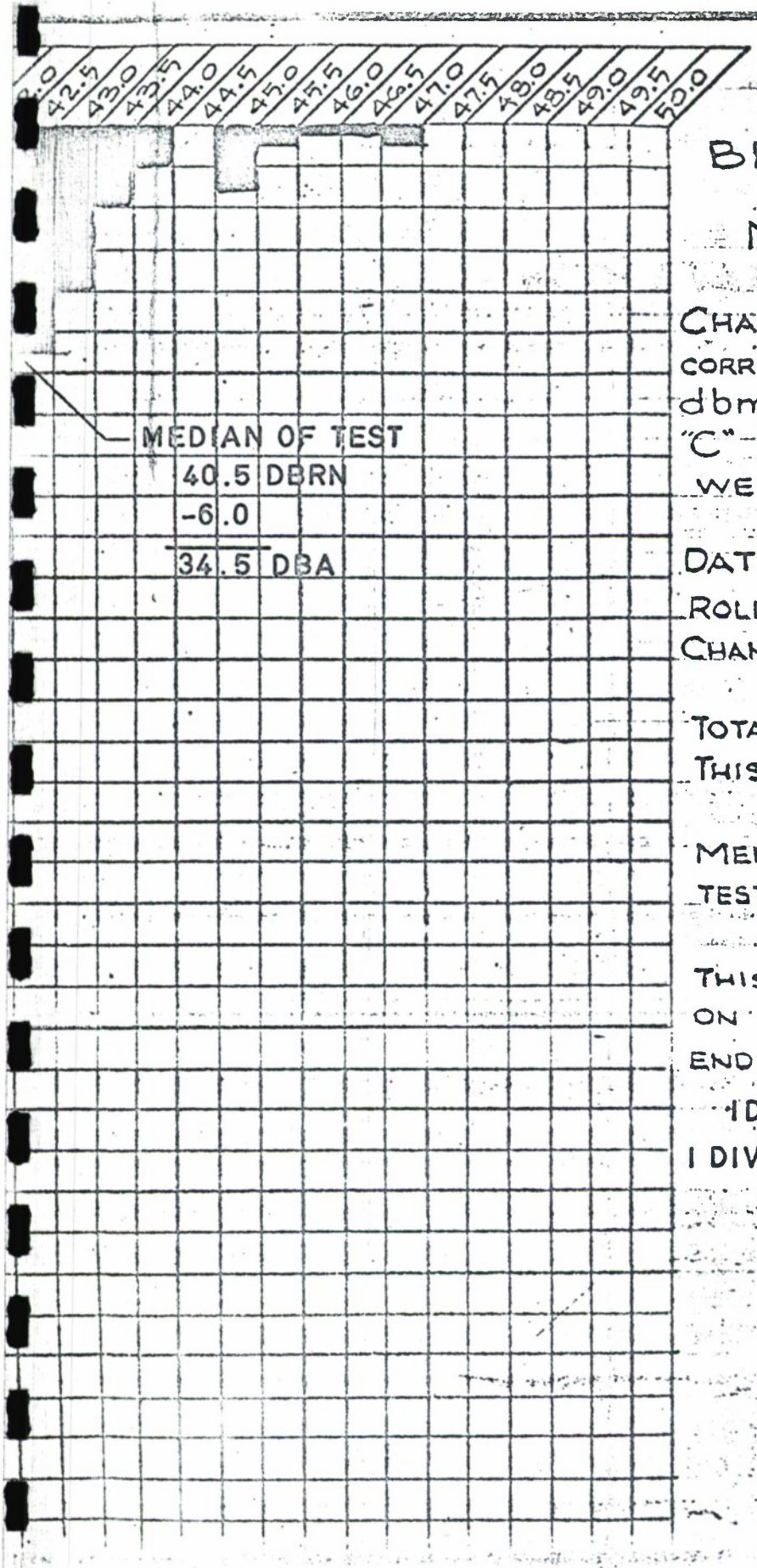

BR II

NOISE TESTS

CHANNEL NOISE
CORRECTED FOR ZERO
dbm LEVEL
"C" MESSAGE
WEIGHING dbrn

DATE SEPT. 17, 1963
ROLL NO 12345678
CHANNEL 1 HIGH GROUP
LOOP BACK

TOTAL SAMPLES 494
THIS SHEET 494

MEDIAN OF THIS
TEST 40.5 DBRN
+49.5 dbm

THIS TEST BEGAN
ON 1325 Z 9 SEPT
ENDED 1400 Z 17 SEPT

ID — GPA — ID
1 DIVISION = 4 SAMPLES

Assigned to DE 1D-GPA

NET LOSS VARIATION

17 September 1963

Hi Group - Channel 3

Variation in db	0	±0.5	± 1.0	± 1.5	± 2.0
Number of samples					
Run #1	27	60	46	15	1
Run #2	45	55	57	9	1
Run #3	22	30	31	14	6
Run #4	28	41	46	17	12
Total	122	186	180	55	20

% time ≤ 0 db variation - 21.3%
% time ≤ ± 0.5 db variation - 55.3%
% time ≤ ± 1.0 db variation - 87.3%
% time ≤ ± 1.5 db variation - 97 %
% time ≤ ± 2.0 db variation - 100 %

Low Group - Channel 4

Variation in db	0	± 0.5	± 1.0	± 1.5	± 2.0
Number of samples					
Run #5	17	41	45	46	22
Run #6	8	28	66	0	2
Run #7	21	38	37	29	19
Run #8	18	55	61	4	0
Total	64	162	209	79	43

% time ≤ 0 db variation - 11.5%
% time ≤ ± 0.5 db variation - 40.7%
% time ≤ ± 1.0 db variation - 80 %
% time ≤ ± 1.5 db variation - 93 %
% time ≤ ± 2.0 db variation - 100 %

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION I.D.

Transmission Path: From I.D. Station to I.C. Station

MC-50 Multiplex Rack No. 1 & 2.

		EXPECTED	Hi-Group	ACTUAL	Lo Group.
1.	MASTER OSCILLATOR LEVELS				
	TP1	(1.0v±0.1v)	1.1	____v	N/A
	TP3	(1.0v±0.1v)	4.8	____mv	N/A
2.	SLAVE OSCILLATOR SYNCHRONIZATIONAND OUTPUT LEVELS				
	Scope Pattern	(locked).		N/A Int	
	TP1	(1.0v ±0.1v)		N/A v	
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	26	____v	
4.	CHANNEL CARRIER SUPPLY				
	Channel 1 64 kc	(1.1v min)	1.2	____v.	
	Channel 2 68 kc	(1.1v min)	1.3	____v	
	Channel 3 72 kc	(1.1v min)	1.2	____v	
	Channel 4 76 kc	(1.1v min)	1.3	____v	
	Channel 5 80 kc	(1.1v min)	1.4	____v	
	Channel 6 84 kc	(1.1v min)	1.35	____v	
	Channel 7 88 kc	(1.1v min)	1.2	____v	
	Channel 8 92 kc	(1.1v min)	1.2	____v	N/A
	Channel 9 96 kc	(1.1v min)	1.2	____v	
	Channel 10 100 kc	(1.1v min)	1.28	____v	
	Channel 11 104 kc	(1.1v min)	1.1	____v	
	Channel 12 108 kc	(1.1v min)	1.2	____v	
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	1.2	____v	
	CHANNEL CARRIER LEAK				
	Channel 1 64 kc	(.13 mv max)	.075	____mv	.05
	Channel 2 68 kc	(.13 mv max)	.035	____mv	.04
	Channel 3 72 kc	(.13 mv max)	.07	____mv	.055
	Channel 4 76 kc	(.13 mv max)	.07	____mv	.04
	Channel 5 80 kc	(.13 mv max)	.01	____mv	.12
	Channel 6 84 kc	(.13 mv max)	.08	____mv	.105
	Channel 7 88 kc	(.13 mv max)	.115	____mv	.07
	Channel 8 92 kc	(.13 mv max)	.065	____mv	.07
	Channel 9 96 kc	(.13 mv max)	.06	____mv	.13
	Channel 10 100 kc	(.13 mv max)	.095	____mv	.02
	Channel 11 104 kc	(.13 mv max)	.085	____mv	.055
	Channel 12 108 kc	(.13 mv max)	.075	____mv	.103

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION I.D.

Transmission Path: From Station I.D. to Station I.C

Multiplex Rack No. 1 & 2.

			EXPECTED	Hi GROUP ACTUAL		Lo GROUP ACTUAL	
7.	GROUP CARRIER LEAK		(1mv max)	N/A.	____mv	.9	
8.	SIGNALLING SUPPLY LEVEL		(2v. ±0.2v)	2V	____mv	N/A.	
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)						
	Channel 1	63 kc	(7.8 mv ±0.8 mv)	7.8	____mv	7.8	
	Channel 2	67 kc	(7.8 mv±0.8 mv)	7.8	____mv	7.8	
	Channel 3	71 kc	(7.8 mv±0.8mv)	7.8	____mv	7.8	
	Channel 4	75 kc	(7.8 mv±0.8mv)	7.8	____mv	7.8	
	Channel 5	79 kc	(7.8 mv±0.8mv)	7.8	____mv	7.8	
	Channel 6	83 kc	(7.8 mv±0.8mv)	7.8	____mv	7.8	
	Channel 7	87 kc	(7.8 mv±0.8mv)	7.8	____mv	7.8	
	Channel 8	91 kc	(7.8 mv±0.8mv)	7.8	____mv	7.8	
	Channel 9	95 kc	(7.8 mv±0.8mv)	7.8	____mv	7.8	
	Channel 10	99 kc	(7.8mv ±0.8mv)	7.8	____mv	7.8	
	Channel 11	103 kc	(7.8 mv±0.8mv)	7.8	____mv	7.8	
	Channel 12	107 kc	(7.8mv ±0.8mv)	7.8	____mv	7.8	
10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps						
	Channel 1	60.175 kc	(.125 mv±0.02 mv)	.110	____mv	.123	
	Channel 2	64.175 kc	(.125 mv±0.02 mv)	.113	____mv	.115	
	Channel 3	68.175 kc	(.125 mv±0.02 mv)	.110	____mv	.127	
	Channel 4	72.175 kc	(.125 mv±0.02 mv)	.117	____mv	.108	
	Channel 5	76.175 kc	(.125 mv±0.02 mv)	.112	____mv	.130	
	Channel 6	80.175 kc	(.125 mv±0.02 mv)	.110	____mv	.115	
	Channel 7	84.175 kc	(.125 mv±0.02 mv)	.115	____mv	.118	
	Channel 8	88.175 kc	(.125 mv±0.02 mv)	.125	____mv	.108	
	Channel 9	92.175 kc	(.125 mv±0.02 mv)	.110	____mv	.132	
	Channel 10	96.175 kc	(.125 mv±0.02 mv)	.120	____mv	.120	
	Channel 11	100.175 kc	(.125 mv±0.02 mv)	.130	____mv	.120	
	Channel 12	104.175 kc	(.125 mv±0.02 mv)	.128	____mv	.130	

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION I.D.

Transmission Path: From Station I.D. TO Station I.C.

Multiplex Rack No. 1 & 2.

		EXPECTED	Hi GROUP ACTUAL		Lo GROUP.
11.	GROUP TRANSMIT LEVEL				
	MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv±0.7 mv)	13.5	mv	13.7
	MW503A LOS Stations	(4.9 mv ±0.2mv)			
	MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv±1.5 mv)	#1 27.4	N/A mv	#1 27.1
			#2 27.4	mv	#2 27.
	MRC-80 Transmitter Input Level	(-10 dbm ±0.5 dbm)		N/A dbm	
	MW503A Transmitter Input Level	(7.7 mv ± 0.3 mv)		N/A mv	
12.	GROUP RECEIVE LEVEL				
	GRP IN (TP7)				
	MRC-85, MRC-80 & FRC-39A(V)	(13.7mv ± 0.8 mv)	13	mv	14.2
	MW-503A LOS (except GPA)	(15.5 mv ± 0.9 mv)		N/A mv	
	MW-503A LOS (GPA only)	(7.7 mv ± 0.5 mv)		N/A mv	
	GRP OUT (TP4)	(18 mv ± 1 mv)	18.8	mv	18.
13.	CHANNEL RECEIVE LEVELS				
	VF REC Test Point				
	Channel 1	(-31 dbm ± 1 db m)	-31	dbm	-30.4
	Channel 2	(-31 dbm ± 1 dbm)	-31.3	dbm	-31.6
	Channel 3	(-31 dbm ± 1 dbm)	-31	dbm	-31.6
	Channel 4	(-31 dbm ± 1 dbm)	-31.7	dbm	-31.7
	Channel 5	(-31 dbm ± 1 dbm)	-31.6	dbm	-31.6
	Channel 6	(-31 dbm ± 1 dbm)	-31.2	dbm	-31.8
	Channel 7	(-31 dbm ± 1 dbm)	-31.2	dbm	-31.8
	Channel 8	(-31 dbm ± 1 dbm)	-31.6	dbm	-31.7
	Channel 9	(-31 dbm ± 1 dbm)	-31.2	dbm	-31.8
	Channel 10	(-31 dbm ± 1 dbm)	-31.2	dbm	-31.4
	Channel 11	(-31 dbm ± 1 dbm)	-30.7	dbm	-31.7
	Channel 12	(-31 dbm ± 1 dbm)	-31.3	dbm	-31.6

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

BRII/41

STATION I.D.

Transmission Path: From Station I.D. to Station I.C.

Multiplex Rack No. 1 & 2

		EXPECTED	ACTUAL	
13.	CHANNEL RECEIVE LEVELS-continued	Hi-Group		Low Group
	Channel VF Out			
	Channel 1	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 2	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 3	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 4	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 5	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 6	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 7	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 8	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 9	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 10	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 11	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7
	Channel 12	(+7 dbm ± 0.5 db)	+7 ____ dbm	+7

DATE 15 June, 63.
TESTER K. Melaas
SUPERVISOR R. Gibbons
QUALITY ASSURANCE B. C. Bess.

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION 1C

Transmission Path: From 1C Station to 1D Station 1C

MC-50 Multiplex Rack No. 1

			EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		N/A AT 1C	
	TP1		(1.0v±0.1v)	____ v
	TP3		(1.0v±0.1v)	____ v
2.	SLAVE OSCILLATOR SYNCHRONIZATIONAND OUTPUT LEVELS			
	Scope Pattern		(locked)	____ Int
	TP1		(1.0v ±0.1v)	1 v
3.	HARMONIC GENERATOR LEVELS		(15v pp min)	26 v
4.	CHANNEL CARRIER SUPPLY			
	Channel 1	64 kc	(1.1v min)	1.2 v.
	Channel 2	68 kc	(1.1v min)	1.2 v
	Channel 3	72 kc	(1.1v min)	1.3 v
	Channel 4	76 kc	(1.1v min)	1.2 v
	Channel 5	80 kc	(1.1v min)	1.2 v
	Channel 6	84 kc	(1.1v min)	1.1 v
	Channel 7	88 kc	(1.1v min)	1.1 v
	Channel 8	92 kc	(1.1v min)	1.3 v
	Channel 9	96 kc	(1.1v min)	1.1 v
	Channel 10	100 kc	(1.1v min)	1.2 v
	Channel 11	104 kc	(1.1v min)	1.1 v
	Channel 12	108 kc	(1.1v min)	1.3 v
5.	GROUP CARRIER SUPPLY		(2v±0.2v)	2 v
6.	CHANNEL CARRIER LEAK			
	Channel 1	64 kc	(.13 mv max)	.04 mv
	Channel 2	68 kc	(.13 mv max)	.09 mv
	Channel 3	72 kc	(.13 mv max)	.08 mv
	Channel 4	76 kc	(.13 mv max)	.10 mv
	Channel 5	80 kc	(.13 mv max)	.11 mv
	Channel 6	84 kc	(.13 mv max)	.06 mv
	Channel 7	88 kc	(.13 mv max)	.11 mv
	Channel 8	92 kc	(.13 mv max)	.08 mv
	Channel 9	96 kc	(.13 mv max)	.03 mv
	Channel 10	100 kc	(.13 mv max)	.12 mv
	Channel 11	104 kc	(.13 mv max)	.06 mv
	Channel 12	108 kc	(.13 mv max)	.09 mv

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION 1C

Transmission Path: From Station 1C to Station 1D

Multiplex Rack No. 1

			EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK		(1mv max)	1 mv
8.	SIGNALLING SUPPLY LEVEL		(2v. ±0.2v) N/A AT 1C	____ mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm):			
	Channel 1	63 kc	(7.8 mv ±0.8 mv)	2.8 mv
	Channel 2	67 kc	(7.8 mv±0.8 mv)	2.8 mv
	Channel 3	71 kc	(7.8 mv±0.8mv)	2.8 mv
	Channel 4	75 kc	(7.8 mv±0.8mv)	2.8 mv
	Channel 5	79 kc	(7.8 mv±0.8mv)	2.8 mv
	Channel 6	83 kc	(7.8 mv±0.8mv)	2.8 mv
	Channel 7	87 kc	(7.8 mv±0.8mv)	2.8 mv
	Channel 8	91 kc	(7.8 mv±0.8mv)	2.8 mv
	Channel 9	95 kc	(7.8 mv±0.8mv)	2.8 mv
	Channel 10	99 kc	(7.8mv ±0.8mv)	2.8 mv
	Channel 11	103 kc	(7.8 mv±0.8mv)	2.8 mv
	Channel 12	107 kc	(7.8mv ±0.8mv)	2.8 mv
10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps N/A AT 1C			
	Channel 1	60.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 2	64.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 3	68.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 4	72.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 5	76.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 6	80.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 7	84.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 8	88.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 9	92.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 10	96.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 11	100.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 12	104.175 kc	(.125 mv±0.02 mv)	____ mv

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION 1C

Transmission Path: From Station 1C ~~1D~~ TO Station 1D ~~1C~~

Multiplex Rack No. _____

		EXPECTED	ACTUAL
II.	GROUP TRANSMIT LEVEL		
	MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv±0.7 mv)	13.7 mv
	MW503A LOS Stations	(4.9 mv ±0.2mv)	N/A mv
	MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv±1.5 mv)	-20 DBM ~~mv~~ 75 OHMS
	MRC-80 Transmitter Input Level	(-10 dbm ±0.5 dbm)	N/A dbm
	MW503A Transmitter Input Level	(7.7 mv ± 0.3 mv)	N/A mv
12.	GROUP RECEIVE LEVEL		
	GRP IN (TP7)		
	MRC-85, MRC-80 & FRC-39A(V)	(13.7mv ± 0.8 mv)	13.5 mv
	MW-503A LOS (except GPA)	(15.5 mv ± 0.9 mv)	N/A mv
	MW-503A LOS (GPA only)	(7.7 mv ± 0.5 mv)	N/A mv
	GRP OUT (TP4)	(18 mv ± 1 mv)	60 mv
		18mv @ 50Ω = 6mv @ 600Ω	
13.	CHANNEL RECEIVE LEVELS		
	VF REC Test Point		
	Channel 1	(-31 dbm ± 1 db m)	31 dbm
	Channel 2	(-31 dbm ± 1 dbm)	31 dbm
	Channel 3	(-31 dbm ± 1 dbm)	31 dbm
	Channel 4	(-31 dbm ± 1 dbm)	31 dbm
	Channel 5	(-31 dbm ± 1 dbm)	31 dbm
	Channel 6	(-31 dbm ± 1 dbm)	31 dbm
	Channel 7	(-31 dbm ± 1 dbm)	31 dbm
	Channel 8	(-31 dbm ± 1 dbm)	31 dbm
	Channel 9	(-31 dbm ± 1 dbm)	31 dbm
	Channel 10	(-31 dbm ± 1 dbm)	31 dbm
	Channel 11	(-31 dbm ± 1 dbm)	31 dbm
	Channel 12	(-31 dbm ± 1 dbm)	31 dbm

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

BRII/41

STATION 1C

Transmission Path: From Station ~~1D~~ 1C to Station ~~1C~~ 1D

Multiplex Rack No. 1

	EXPECTED	ACTUAL
13. CHANNEL RECEIVE LEVELS-continued		
Channel VF Out		
Channel 1	(+7 dbm ± 0.5 db)	7 dbm
Channel 2	(+7 dbm ± 0.5 db)	7 dbm
Channel 3	(+7 dbm ± 0.5 db)	7 dbm
Channel 4	(+7 dbm ± 0.5 db)	7 dbm
Channel 5	(+7 dbm ± 0.5 db)	7 dbm
Channel 6	(+7 dbm ± 0.5 db)	7 dbm
Channel 7	(+7 dbm ± 0.5 db)	7 dbm
Channel 8	(+7 dbm ± 0.5 db)	7 dbm
Channel 9	(+7 dbm ± 0.5 db)	7 dbm
Channel 10	(+7 dbm ± 0.5 db)	7 dbm
Channel 11	(+7 dbm ± 0.5 db)	7 dbm
Channel 12	(+7 dbm ± 0.5 db)	7 dbm

DATE 17 JUNE 63
TESTER J Rockett
SUPERVISOR J H Hayarlo
QUALITY ASSURANCE William R. Hall
GEEIA Robert D Layter

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION IC

Transmission Path: From IC Station to GA Station

MC-50 Multiplex Rack No. 2

			EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS			
	TP1		(1.0v±0.1v)	N/A v
	TP3		(1.0v±0.1v)	N/A v
2.	SLAVE OSCILLATOR SYNCHRONIZATIONAND OUTPUT LEVELS			
	Scope Pattern		(locked)	N/A Int
	TP1		(1.0v ±0.1v)	N/A v
3.	HARMONIC GENERATOR LEVELS		(15v pp min)	N/A v
4.	CHANNEL CARRIER SUPPLY			
	Channel 1	64 kc	(1.1v min)	1.3 v.
	Channel 2	68 kc	(1.1v min)	1.1 v
	Channel 3	72 kc	(1.1v min)	1.15 v
	Channel 4	76 kc	(1.1v min)	1.1 v
	Channel 5	80 kc	(1.1v min)	1.3 v
	Channel 6	84 kc	(1.1v min)	1.15 v
	Channel 7	88 kc	(1.1v min)	1.1 v
	Channel 8	92 kc	(1.1v min)	1.25 v
	Channel 9	96 kc	(1.1v min)	1.2 v
	Channel 10	100 kc	(1.1v min)	1.3 v
	Channel 11	104 kc	(1.1v min)	1.2 v
	Channel 12	108 kc	(1.1v min)	1.2 v
5.	GROUP CARRIER SUPPLY		(2v±0.2v)	2 v
6.	CHANNEL CARRIER LEAK			
	Channel 1	64 kc	(.13 mv max)	.12 mv
	Channel 2	68 kc	(.13 mv max)	.03 mv
	Channel 3	72 kc	(.13 mv max)	.11 mv
	Channel 4	76 kc	(.13 mv max)	.07 mv
	Channel 5	80 kc	(.13 mv max)	.11 mv
	Channel 6	84 kc	(.13 mv max)	.05 mv
	Channel 7	88 kc	(.13 mv max)	.04 mv
	Channel 8	92 kc	(.13 mv max)	.06 mv
	Channel 9	96 kc	(.13 mv max)	.09 mv
	Channel 10	100 kc	(.13 mv max)	.09 mv
	Channel 11	104 kc	(.13 mv max)	.125 mv
	Channel 12	108 kc	(.13 mv max)	.05 mv

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION IC

Transmission Path: From Station IC to Station GH

Multiplex Rack No. 2

			EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK		(1mv max)	.4 mv
8.	SIGNALLING SUPPLY LEVEL		(2v. ±0.2v)	N/A mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm):			
	Channel 1	63 kc	(7.8 mv ±0.8 mv)	7.8 mv
	Channel 2	67 kc	(7.8 mv±0.8 mv)	7.8 mv
	Channel 3	71 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 4	75 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 5	79 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 6	83 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 7	87 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 8	91 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 9	95 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 10	99 kc	(7.8mv ±0.8mv)	7.8 mv
	Channel 11	103 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 12	107 kc	(7.8mv ±0.8mv)	7.8 mv
10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps N/A at Site IC			
	Channel 1	60.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 2	64.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 3	68.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 4	72.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 5	76.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 6	80.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 7	84.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 8	88.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 9	92.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 10	96.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 11	100.175 kc	(.125 mv±0.02 mv)	____ mv
	Channel 12	104.175 kc	(.125 mv±0.02 mv)	____ mv

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION IC

Transmission Path: From Station IC TO Station GH GK

Multiplex Rack No. 2

		EXPECTED	ACTUAL
11.	GROUP TRANSMIT LEVEL		
		Measured at GRP. OUT	
	MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv±0.7 mv)	13.7 mv
	MW503A LOS Stations	(4.9 mv ±0.2mv)	N/A mv
	MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv±1.5 mv)	N/A mv
	MRC-80 Transmitter Input Level	(-10 dbm ±0.5 dbm)	N/A dbm
	MW503A Transmitter Input Level	(7.7 mv ± 0.3 mv)	N/A mv
12.	GROUP RECEIVE LEVEL		
		From EXC. # 2	
	GRP IN (TP7)		
	MRC-85, MRC-80 & FRC-39A(V)	(13.7mv ± 0.8 mv)	13.7 mv
	MW-503A LOS (except GPA)	(15.5 mv ± 0.9 mv)	N/A mv
	MW-503A LOS (GPA only)	(7.7 mv ± 0.5 mv)	N/A mv
	GRP OUT (TP4)	(18 mv ± 1 mv)	60 mv
		60 mv @ 600Ω = 18mv at 50Ω	
13.	CHANNEL RECEIVE LEVELS		
	VF REC Test Point		
	Channel 1	(-31 dbm ± 1 db m)	-31 dbm
	Channel 2	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 3	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 4	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 5	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 6	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 7	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 8	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 9	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 10	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 11	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 12	(-31 dbm ± 1 dbm)	-31 dbm

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

BRII/41

STATION IC

Transmission Path: From Station IC to Station GA

Multiplex Rack No. 2

	EXPECTED	ACTUAL
13. CHANNEL RECEIVE LEVELS-continued		
Channel VF Out		
Channel 1	(+7 dbm ± 0.5 db)	+7 dbm
Channel 2	(+7 dbm ± 0.5 db)	+7 dbm
Channel 3	(+7 dbm ± 0.5 db)	+7 dbm
Channel 4	(+7 dbm ± 0.5 db)	+7 dbm
Channel 5	(+7 dbm ± 0.5 db)	+7 dbm
Channel 6	(+7 dbm ± 0.5 db)	+7 dbm
Channel 7	(+7 dbm ± 0.5 db)	+7 dbm
Channel 8	(+7 dbm ± 0.5 db)	+7 dbm
Channel 9	(+7 dbm ± 0.5 db)	+7 dbm
Channel 10	(+7 dbm ± 0.5 db)	+7 dbm
Channel 11	(+7 dbm ± 0.5 db)	+7 dbm
Channel 12	(+7 dbm ± 0.5 db)	+7 dbm

DATE 25 June 63
TESTER J E Deaton
SUPERVISOR J A Hayward
QUALITY ASSURANCE William R. Mott
GEEIA Robert D Boyles

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION GPA

Transmission Path: From GPA Station to GA Station

MC-50 Multiplex Rack No. 3 & 4

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	N/A v
	TP3	(1.0v±0.1v)	N/A v
2.	SLAVE OSCILLATOR SYNCHRONIZATIONAND OUTPUT LEVELS		
	Scope Pattern	(locked)	Int
	TP1	(1.0v ±0.1v)	1.05 v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	15 v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 ~~64~~ kc 108	(1.1v min)	1.15 v.
	Channel 2 ~~68~~ kc 104	(1.1v min)	1.15 v
	Channel 3 ~~72~~ kc 100	(1.1v min)	1.15 v
	Channel 4 ~~76~~ kc 96	(1.1v min)	1.15 v
	Channel 5 ~~80~~ kc 92	(1.1v min)	1.15 v
	Channel 6 ~~84~~ kc 88	(1.1v min)	1.15 v
	Channel 7 ~~88~~ kc 84	(1.1v min)	1.15 v
	Channel 8 ~~92~~ kc 80	(1.1v min)	1.15 v
	Channel 9 ~~96~~ kc 76	(1.1v min)	1.15 v
	Channel 10 ~~100~~ kc 72	(1.1v min)	1.15 v
	Channel 11 ~~104~~ kc 68	(1.1v min)	1.15 v
	Channel 12 ~~108~~ kc 64	(1.1v min)	1.15 v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	2.15 v

			RACK #4	RACK #3
6.	CHANNEL CARRIER LEAK		Lo. Grp.	H. Grp.
	Channel 1 ~~64~~ kc 108	(.13 mv max)	.115 mv	.11
	Channel 2 ~~68~~ kc 104	(.13 mv max)	.02 mv	.11
	Channel 3 ~~72~~ kc 100	(.13 mv max)	.07 mv	.11
	Channel 4 ~~76~~ kc 96	(.13 mv max)	.13 mv	.09
	Channel 5 ~~80~~ kc 92	(.13 mv max)	.09 mv	.05
	Channel 6 ~~84~~ kc 88	(.13 mv max)	.085 mv	.03
	Channel 7 ~~88~~ kc 84	(.13 mv max)	.13 mv	.11
	Channel 8 ~~92~~ kc 80	(.13 mv max)	.125 mv	.11
	Channel 9 ~~96~~ kc 76	(.13 mv max)	.13 mv	.07
	Channel 10 ~~100~~ kc 72	(.13 mv max)	.09 mv	.15
	Channel 11 ~~104~~ kc 68	(.13 mv max)	.025 mv	.04
	Channel 12 ~~108~~ kc 64	(.13 mv max)	.06 mv	.08

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION GPA

Transmission Path: From Station GPA to Station GA

Multiplex Rack No. 3 & 4

		EXPECTED	ACTUAL	
7.	GROUP CARRIER LEAK	(1mv max)	.64 mv	
8.	SIGNALLING SUPPLY LEVEL	(2v. ±0. 2v)	2 mv	
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm):		Low Grp Rack 4	H.Grp Rack 3
	Channel 1 ~~63~~ kc 108	(7.8 mv ±0.8 mv)	7.8 mv	7.8
	Channel 2 ~~67~~ kc 104	(7.8 mv±0.8 mv)	7.8 mv	7.8
	Channel 3 ~~71~~ kc 100	(7.8 mv±0.8mv)	7.8 mv	7.8
	Channel 4 ~~75~~ kc 96	(7.8 mv±0.8mv)	7.8 mv	7.8
	Channel 5 ~~79~~ kc 92	(7.8 mv±0.8mv)	7.8 mv	7.8
	Channel 6 ~~83~~ kc 88	(7.8 mv±0.8mv)	7.8 mv	7.8
	Channel 7 ~~87~~ kc 84	(7.8 mv±0.8mv)	7.8 mv	7.8
	Channel 8 ~~91~~ kc 80	(7.8 mv±0.8mv)	7.8 mv	7.8
	Channel 9 ~~95~~ kc 76	(7.8 mv±0.8mv)	7.8 mv	7.8
	Channel 10 ~~99~~ kc 72	(7.8mv ±0.8mv)	7.8 mv	7.8
	Channel 11 ~~103~~ kc 68	(7.8 mv±0.8mv)	7.8 mv	7.8
	Channel 12 ~~107~~ kc 64	(7.8mv ±0.8mv)	7.8 mv	7,8
10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps			
	Channel 1 104~~60~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 2 100~~64~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 3 96~~68~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 4 92~~72~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 5 88~~76~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 6 84~~80~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 7 80~~84~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 8 76~~88~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 9 72~~92~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 10 68~~96~~.175 kc	(.125 mv±0.02 mv)	.125 mv	.125
	Channel 11 64~~00~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125
	Channel 12 60~~04~~.175 kc	(.125 mv±0.02 mv)	.125mv	.125

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION GPA

Transmission Path: From Station GPA TO Station GA

Multiplex Rack No. 3 # 4

		EXPECTED	ACTUAL Rack #4 Low Grp	Rack 3 H. Grp
II.	GROUP TRANSMIT LEVEL			
	MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv±0.7 mv)	N/A mv	N/A
	MW503A LOS Stations	(4.9 mv ±0.2mv)	4.9 mv	4.9
	MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv±1.5 mv)	N/A mv	N/A
	MRC-80 Transmitter Input Level	(-10 dbm ±0.5 dbm)	N/A dbm	N/A
	MW503A Transmitter Input Level	(7.7 mv ± 0.3 mv)	7.9 mv	7.7
12.	GROUP RECEIVE LEVEL			
	GRP IN (TP7)			
	MRC-85, MRC-80 & FRC-39A(V)	(13.7mv ± 0.8 mv)	N/A mv	N/A
	MW-503A LOS (except GPA)	(15.5 mv ± 0.9 mv)	N/A mv	N/A
	MW-503A LOS (GPA only)	~~(7.7 mv ± 0.5 mv)~~ 13.7 mv	14.1 mv	13.7
	GRP OUT (TP4) 60mv(600)	(18 mv ± 1 mv)	60 mv	60
13.	CHANNEL RECEIVE LEVELS			
	VF REC Test Point			
	Channel 1	(-31 dbm ± 1 db m)	-31 dbm	-31
	Channel 2	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 3	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 4	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 5	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 6	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 7	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 8	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 9	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 10	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 11	(-31 dbm ± 1 dbm)	-31 dbm	-31
	Channel 12	(-31 dbm ± 1 dbm)	-31 dbm	-31

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

BRII/41

STATION GPA

Transmission Path: From Station GPA to Station GA

Multiplex Rack No. 3 #4

	EXPECTED	ACTUAL Low Grp Rack #4	ACTUAL H. Grp. Rack #3
13. CHANNEL RECEIVE LEVELS-continued			
Channel VF Out			
Channel 1	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 2	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 3	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 4	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 5	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 6	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 7	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 8	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 9	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 10	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 11	(+7 dbm ± 0.5 db)	+7 dbm	+7
Channel 12	(+7 dbm ± 0.5 db)	+7 dbm	+7

DATE 4 July 63
TESTER W. L. Gray
SUPERVISOR J. Mingoia
QUALITY ASSURANCE [illegible]
GEEIA Robert D Tyler

2-16

DATA SHEET

IDLE NOISE MEASUREMENT

MC-50 MULTIPLEX TEST

STATION: GPA

Transmission Path: From GPA Station to GA Station

HIGH GROUP

Channel	Meter Reading	Odbmo Reading	dba
1	-64.5	-71.5	13.5
2	-64.5	-71.5	13.5
3	-62	-69	16
4	-64	-71	14
5	-61	-68	17
6	-64	-71	14
7	-64	-71	14
8	-64	-71	14
9	-63.5	-70.5	14.5
10	-63.5	-70.5	14.5
11	-62	-69	16
12	-63	-70	15

LOW GROUP

Channel	Meter Reading	Odbmo Reading	dba
1	-58	-65	20
2	-59	-66	19
3	-59	-66	19
4	-60	-67	18
5	-60	-67	18
6	-60	-67	18
7	-59.5	-66.5	18.5
8	-59.5	-66.5	18.5
9	-60	-67	18
10	-59.5	-66.5	18.5
11	-59	-66	19
12	-58.5	-65.5	19.5

NOTE: The measurement was performed with multiplex looped back-to-back with radio isolation amplifier, equalizer network and baseband amplifiers in the loop-back circuit. The multiplex was aligned according to the T/A level values.

DATA SHEET

IDLE NOISE MEASUREMENT

MC-50 MULTIPLEX TEST

STATION: GPA

Transmission Path: From GPA Station to GA Station

Back-to-Back Connection

HIGH GROUP

Channel	Meter Reading	Odbmo Reading	dba
1	-65.5	-72.5	12.5
2	-65.5	-72.5	12.5
3	-66	-73	12
4	-66	-73	12
5	-64.5	-71.5	13.5
6	-65.5	-72.5	12.5
7	-65	-72	13
8	-65.5	-72.5	12.5
9	-63.5	-70.5	14.5
10	-65	-72	13
11	-65	-72	13
12	-65	-72	13

LOW GROUP

Channel	Meter Reading	Odbmo Reading	dba
1	-57	-64	21
2	-58	-65	20
3	-58	-65	20
4	-58.5	-65.5	19.5
5	-58.5	-65.5	19.5
6	-59	-66	19
7	-58	-65	20
8	-59	-66	19
9	-58.5	-65.5	19.5
10	-58.5	-65.5	19.5
11	-58	-65	20
12	-57.5	-64.5	20.5

DATA SHEET

IDLE NOISE MEASUREMENT

MC-50 MULTIPLEX TEST

STATION: GPA

Transmission Path: From GPA Station to GA Station

Back-to-Back Connection

HIGH GROUP

Channel	Reading Without Tone	Reading with Inserted Tone	
		Upper Ch.	Lower Ch.
1			
2	-65.5	-64.5	-64.5
3	-65.5	-65.5	-65.5
4	-65.5	-65.5	-65.5
5	-65.5	-60	-65.5
6	-66	-66	-63
7	-66	-66	-66
8	-65.5	-65.5	-65.5
9	-64.5	-64.5	-64.5
10	-65	-64	-65
11	-65	-64.5	-65
12	-65	-	-65

LOW GROUP

Channel	Reading Without Tone	Reading with Inserted Tone	
		Upper Ch.	Lower Ch.
1	-57.5	-55	-
2	-58	-55.5	-55.5
3	-58.5	-55.5	-55.5
4	-58.5	-57	-56
5	-59	-57	-56.5
6	-59.5	-57.5	-57
7	-58.5	-49	-56.5
8	-59	-57	-56.5
9	-59	-56.5	-56.5
10	-59.5	-56	-56
11	-58.5	-55.5	-55
12	-58	-	-56.5

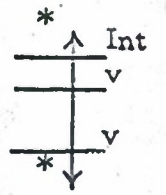
FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION GPA

Transmission Path: From GPA Station to GAB Station

MC-50 Multiplex Rack No. 1

			EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS			
		TP1	(1.0v±0.1v)	N/A v
		TP3	(1.0v±0.1v)	N/A v
2.	SLAVE OSCILLATOR SYNCHRONIZATIONAND OUTPUT LEVELS			
	* See GA Station Test Data Sheets			
	Scope Pattern		(locked)	
	TP1		(1.0v ±0.1v)	
3.	HARMONIC GENERATOR LEVELS		(15v pp min)	
4.	CHANNEL CARRIER SUPPLY			
	* See Test Data GPA/GA Station Tests performed 4 July 1963			
	Channel 1	64 kc	(1.1v min)	
	Channel 2	68 kc	(1.1v min)	
	Channel 3	72 kc	(1.1v min)	
	Channel 4	76 kc	(1.1v min)	
	Channel 5	80 kc	(1.1v min)	
	Channel 6	84 kc	(1.1v min)	
	Channel 7	88 kc	(1.1v min)	
	Channel 8	92 kc	(1.1v min)	
	Channel 9	96 kc	(1.1v min)	
	Channel 10	100 kc	(1.1v min)	
	Channel 11	104 kc	(1.1v min)	
	Channel 12	108 kc	(1.1v min)	
5.	GROUP CARRIER SUPPLY		(2v±0.2v)	
6.	CHANNEL CARRIER LEAK			
	Channel 1	64 kc	(.13 mv max)	N/A mv
	Channel 2	68 kc	(.13 mv max)	N/A mv
	Channel 3	72 kc	(.13 mv max)	N/A mv
	Channel 4	76 kc	(.13 mv max)	N/A mv
	Channel 5	92XX kc	(.13 mv max)	.05 mv
	Channel 6	88XX kc	(.13 mv max)	.11 mv
	Channel 7	84XX kc	(.13 mv max)	.03 mv
	Channel 8	80XX kc	(.13 mv max)	.11 mv
	Channel 9	96 kc	(.13 mv max)	N/A mv
	Channel 10	100 kc	(.13 mv max)	N/A mv
	Channel 11	104 kc	(.13 mv max)	N/A mv
	Channel 12	108 kc	(.13 mv max)	N/A mv



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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION GPA

Transmission Path: From Station GPA to Station GAB

Multiplex Rack No. 1

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	N/A mv
8. ✓	SIGNALLING SUPPLY LEVEL	(2v. ±0.2v)	N/A mv
9. ✓	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 63 kc	(7.8 mv ±0.8 mv)	N/A mv
	Channel 2 67 kc	(7.8 mv±0.8 mv)	N/A mv
	Channel 3 71 kc	(7.8 mv±0.8mv)	N/A mv
	Channel 4 75 kc	(7.8 mv±0.8mv)	N/A mv
	Channel 5 91 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 6 87 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 7 83 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 8 79 kc	(7.8 mv±0.8mv)	7.8 mv
	Channel 9 95 kc	(7.8 mv±0.8mv)	N/A mv
	Channel 10 99 kc	(7.8mv ±0.8mv)	N/A mv
	Channel 11 103 kc	(7.8 mv±0.8mv)	N/A mv
	Channel 12 107 kc	(7.8mv ±0.8mv)	N/A mv
10. ✓	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps		
	Channel 1 60.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 2 64.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 3 68.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 4 72.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 5 88 kc .175 kc	(.125 mv±0.02 mv)	.4 mv
	Channel 6 84 kc .175 kc	(.125 mv±0.02 mv)	.4 mv
	Channel 7 80 kc .175 kc	(.125 mv±0.02 mv)	.4 mv
	Channel 8 76 kc .175 kc	(.125 mv±0.02 mv)	.4 mv
	Channel 9 92.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 10 96.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 11 100.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 12 104.175 kc	(.125 mv±0.02 mv)	N/A mv

* Has been changed to .4 mv. to conform with Motorola specifications. per Mr. H. Detweiler. FEC.

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION GPA

Transmission Path: From Station GPA TO Station GAB

Multiplex Rack No. 1

		EXPECTED	ACTUAL
11.	GROUP TRANSMIT LEVEL		
	MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv±0.7 mv)	N/A mv
	MW503A LOS Stations	(4.9 mv ±0.2mv)	4.9 mv
	MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv±1.5 mv)	N/A mv
	MRC-80 Transmitter Input Level	(-10 dbm ±0.5 dbm)	N/A dbm
	MW503A Transmitter Input Level	(7.7 mv ± 0.3 mv)	#A-7.7, #B-7.7 mv
12.	GROUP RECEIVE LEVEL		
	GRP IN (TP7)		
	MRC-85, MRC-80 & FRC-39A(V)	(13.7mv ± 0.8 mv)	N/A mv
	MW-503A LOS (~~except GPA~~) from GA	(15.5 mv ± 0.9 mv)	15.5 mv
	MW-503A LOS (GPA only)	(7.7 mv ± 0.5 mv)	N/A mv
	GRP OUT (TP4)	(18 mv ± 1 mv)	18 mv
13.	CHANNEL RECEIVE LEVELS		
	VF REC Test Point		
	Channel 1	(-31 dbm ± 1 db m)	N/A dbm
	Channel 2	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 3	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 4	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 5	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 6	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 7	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 8	(-31 dbm ± 1 dbm)	-31 dbm
	Channel 9	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 10	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 11	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 12	(-31 dbm ± 1 dbm)	N/A dbm

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

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STATION GPA

Transmission Path: From Station GPA to Station GAB

Multiplex Rack No. 1

	EXPECTED	ACTUAL
13. CHANNEL RECEIVE LEVELS-continued		
Channel VF Out		
Channel 1	(+7 dbm ± 0.5 db)	N/A dbm
Channel 2	(+7 dbm ± 0.5 db)	N/A dbm
Channel 3	(+7 dbm ± 0.5 db)	N/A dbm
Channel 4	(+7 dbm ± 0.5 db)	N/A dbm
Channel 5	(+7 dbm ± 0.5 db)	+7 dbm
Channel 6	(+7 dbm ± 0.5 db)	+7 dbm
Channel 7	(+7 dbm ± 0.5 db)	+7 dbm
Channel 8	(+7 dbm ± 0.5 db)	+7 dbm
Channel 9	(+7 dbm ± 0.5 db)	N/A dbm
Channel 10	(+7 dbm ± 0.5 db)	N/A dbm
Channel 11	(+7 dbm ± 0.5 db)	N/A dbm
Channel 12	(+7 dbm ± 0.5 db)	N/A dbm

DATE 15 July 63

TESTER W. D. Isaacs

SUPERVISOR J. Weisgerber

QUALITY ASSURANCE Wm. Carlo Cnty

GEEIA J. Pelant

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION GAB

Transmission Path: From GAB Station to GPA Station

MC-50 Multiplex Rack No. 1

			EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS			
	TP1		(1.0v±0.1v)	N/A v
	TP3		(1.0v±0.1v)	N/A v
2.	SLAVE OSCILLATOR SYNCHRONIZATIONAND OUTPUT LEVELS			
	Scope Pattern		(locked)	WSS Int
	TP1		(1.0v ±0.1v)	1.0 v
3.	HARMONIC GENERATOR LEVELS		(15v pp min)	16.0 v
4.	CHANNEL CARRIER SUPPLY			
	Channel 1	64 kc	(1.1v min)	N/A v
	Channel 2	68 kc	(1.1v min)	N/A v
	Channel 3	72 kc	(1.1v min)	N/A v
	Channel 4	76 kc	(1.1v min)	N/A v
	Channel 5	~~80~~ kc 92 KC	(1.1v min)	1.36 v
	Channel 6	~~84~~ kc 88 KC	(1.1v min)	1.35 v
	Channel 7	~~88~~ kc 84 KC	(1.1v min)	1.30 v
	Channel 8	~~92~~ kc 80 KC	(1.1v min)	1.40 v
	Channel 9	96 kc	(1.1v min)	N/A v
	Channel 10	100 kc	(1.1v min)	N/A v
	Channel 11	104 kc	(1.1v min)	N/A v
	Channel 12	108 kc	(1.1v min)	N/A v
5.	GROUP CARRIER SUPPLY		(2v±0.2v)	N/A v
6.	CHANNEL CARRIER LEAK			
	Channel 1	64 kc	(.13 mv max)	N/A mv
	Channel 2	68 kc	(.13 mv max)	N/A mv
	Channel 3	72 kc	(.13 mv max)	N/A mv
	Channel 4	76 kc	(.13 mv max)	N/A mv
	Channel 5	~~80~~ kc 92 KC	(.13 mv max)	.28 mv
	Channel 6	~~84~~ kc 88 KC	(.13 mv max)	.09 mv
	Channel 7	~~88~~ kc 84 KC	(.13 mv max)	.25 mv
	Channel 8	~~92~~ kc 80 KC	(.13 mv max)	.21 mv
	Channel 9	96 kc	(.13 mv max)	N/A mv
	Channel 10	100 kc	(.13 mv max)	N/A mv
	Channel 11	104 kc	(.13 mv max)	N/A mv
	Channel 12	108 kc	(.13 mv max)	N/A mv

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION GAB

Transmission Path: From Station GAB to Station GPA

Multiplex Rack No. 1

			EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK		(1mv max)	N/A mv
8.	SIGNALLING SUPPLY LEVEL		(2v. ±0.2v)	2.05 ~~mv~~
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm):			
	Channel 1	63 kc	(7.8 mv ±0.8 mv)	N/A mv
	Channel 2	67 kc	(7.8 mv±0.8 mv)	N/A mv
	Channel 3	71 kc	(7.8 mv±0.8mv)	N/A mv
	Channel 4	75 kc	(7.8 mv±0.8mv)	N/A mv
	Channel 5	~~79~~ kc 91 KC	(7.8 mv±0.8mv)	7.8 mv
	Channel 6	~~83~~ kc 89 KC	(7.8 mv±0.8mv)	7.8 mv
	Channel 7	~~87~~ kc 83 KC	(7.8 mv±0.8mv)	7.8 mv
	Channel 8	~~91~~ kc 79 KC	(7.8 mv±0.8mv)	7.8 mv
	Channel 9	95 kc	(7.8 mv±0.8mv)	N/A mv
	Channel 10	99 kc	(7.8mv ±0.8mv)	N/A mv
	Channel 11	103 kc	(7.8 mv±0.8mv)	N/A mv
	Channel 12	107 kc	(7.8mv ±0.8mv)	N/A mv
10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps			
	Channel 1	60.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 2	64.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 3	68.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 4	72.175 kc	(.125 mv±0.02 mv)	N/A mv
88.175 KC	Channel 5	~~76.175 kc~~	(.125 mv±0.02 mv)	.13 mv
84.175 KC	Channel 6	~~80.175 kc~~	(.125 mv±0.02 mv)	.144 mv
80.175 KC	Channel 7	~~84.175 kc~~	(.125 mv±0.02 mv)	.145 mv
76.175 KC	Channel 8	~~88.175 kc~~	(.125 mv±0.02 mv)	.115 mv
	Channel 9	92.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 10	96.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 11	100.175 kc	(.125 mv±0.02 mv)	N/A mv
	Channel 12	104.175 kc	(.125 mv±0.02 mv)	N/A mv

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

STATION GAB

Transmission Path: From Station GAB TO Station GPA

Multiplex Rack No. 1

		EXPECTED	ACTUAL
11.	GROUP TRANSMIT LEVEL		
	MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv±0.7 mv)	N/A mv
	MW503A LOS Stations	(4.9 mv ±0.2mv)	4.9 mv
	MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv±1.5 mv)	N/A mv
	MRC-80 Transmitter Input Level	(-10 dbm ±0.5 dbm)	N/A dbm
	MW503A Transmitter Input Level	(7.7 mv ± 0.3 mv)	7.7 mv
12.	GROUP RECEIVE LEVEL		
	GRP IN (TP7)		
	MRC-85, MRC-80 & FRC-39A(V)	(13.7mv ± 0.8 mv)	N/A mv
	MW-503A LOS (except GPA)	(15.5 mv ± 0.9 mv)	15.2 mv
	MW-503A LOS (GPA only)	(7.7 mv ± 0.5 mv)	N/A mv
	GRP OUT (TP4)	(18 mv ± 1 mv)	18.0 mv
13.	CHANNEL RECEIVE LEVELS		
	VF REC Test Point		
	Channel 1	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 2	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 3	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 4	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 5	(-31 dbm ± 1 dbm)	-31.0 dbm
	Channel 6	(-31 dbm ± 1 dbm)	-31.0 dbm
	Channel 7	(-31 dbm ± 1 dbm)	-31.0 dbm
	Channel 8	(-31 dbm ± 1 dbm)	-31.0 dbm
	Channel 9	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 10	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 11	(-31 dbm ± 1 dbm)	N/A dbm
	Channel 12	(-31 dbm ± 1 dbm)	N/A dbm

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX TEST

BRII/41

STATION GAB

Transmission Path: From Station GAB to Station GPA

Multiplex Rack No. 1

	EXPECTED	ACTUAL
13. CHANNEL RECEIVE LEVELS-continued		
Channel VF Out		
Channel 1	(+7 dbm ± 0.5 db)	N/A dbm
Channel 2	(+7 dbm ± 0.5 db)	N/A dbm
Channel 3	(+7 dbm ± 0.5 db)	N/A dbm
Channel 4	(+7 dbm ± 0.5 db)	N/A dbm
Channel 5	(+7 dbm ± 0.5 db)	+7.0 dbm
Channel 6	(+7 dbm ± 0.5 db)	+7.0 dbm
Channel 7	(+7 dbm ± 0.5 db)	+7.0 dbm
Channel 8	(+7 dbm ± 0.5 db)	+7.0 dbm
Channel 9	(+7 dbm ± 0.5 db)	N/A dbm
Channel 10	(+7 dbm ± 0.5 db)	N/A dbm
Channel 11	(+7 dbm ± 0.5 db)	N/A dbm
Channel 12	(+7 dbm ± 0.5 db)	N/A dbm

DATE 18 JULY 1963
TESTER W. J. Schroeder
SUPERVISOR Frank P. Stopinski
QUALITY ASSURANCE Don Randall
GEEIA Robert S Ziglar

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION I.D.

Transmission Path: From ~~I.D.~~ 1C Station to ~~I.C~~ I.D Station

Multiplex Group No. 1 & 2

		EXPECTED	ACTUAL Hi Group	Lo Group
1. GROUP INPUT LEVEL				
Channel 1	63 kc	(7.8 mv ± 0.8 mv)	8.4 mv	7.6
Channel 2	67 kc	(7.8 mv ± 0.8 mv)	8.0 mv	8.0
Channel 3	71 kc	(7.8 mv ± 0.8 mv)	8.0 mv	8.0
Channel 4	75 kc	(7.8 mv ± 0.8 mv)	8.0 mv	7.9
Channel 5	79 kc	(7.8 mv ± 0.8 mv)	8.0 mv	8.0
Channel 6	83 kc	(7.8 mv ± 0.8 mv)	8.35 mv	8.1
Channel 7	87 kc	(7.8 mv ± 0.8 mv)	8.1 mv	8.1
Channel 8	91 kc	(7.8 mv ± 0.8 mv)	8.1 mv	8.1
Channel 9	95 kc	(7.8 mv ± 0.8 mv)	7.9 mv	8.0
Channel 10	99 kc	(7.8 mv ± 0.8 mv)	8.1 mv	8.0
Channel 11	103 kc	(7.8 mv ± 0.8 mv)	8.25 mv	8.2
Channel 12	107 kc	(7.8 mv ± 0.8 mv)	8.0 mv	8.4
CHANNEL SIGNALLING LEVEL AT GROUP INPUT				
Channel 1	60.125 kc	(.125 mv ±0.02 mv)	.115 mv	.128
Channel 2	64.125 kc	(.125 mv ±0.02 mv)	.115 mv	.128
Channel 3	68.125 kc	(.125 mv ±0.02 mv)	.120 mv	.120
Channel 4	72.125 kc	(.125 mv ±0.02 mv)	.120 mv	.125
Channel 5	76.125 kc	(.125 mv ±0.02 mv)	.120 mv	.110
Channel 6	80.125 kc	(.125 mv ±0.02 mv)	.120 mv	.128
Channel 7	84.125 kc	(.125 mv ±0.02 mv)	.112 mv	.112
Channel 8	88.125 kc	(.125 mv ±0.02 mv)	.124 mv	.140
Channel 9	92.125 kc	(.125 mv ±0.02 mv)	.116 mv	.127
Channel 10	96.125 kc	(.125 mv ±0.02 mv)	.123 mv	.135
Channel 11	100.125 kc	(.125 mv ±0.02 mv)	.140 mv	.127
Channel 12	104.125 kc	(.125 mv ±0.02 mv)	.130 mv	.139
3. GROUP TRANSMIT LEVEL				
MRC-85, MRC-80 & FRC-39 A(V) Stations		(13.7 mv ±0.7 mv)	N/A mv	13.8
MW503A LOS Stations		(4.9 mv ± 0.2 mv)	N/A mv	N/A

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

Transmission Path From Station 1C / I.D. STATION I.D. / I.D.
To Station I.C.

Multiplex Group No. - #2 - Low.

	EXPECTED	ACTUAL	
		Hi Group	Low Group.
GROUP RECEIVE LEVEL			
GRP IN (TP-7)			
MRC-85, MRC-80 & FRC-39A(V)	(13.7 mv ± 1.5 mv)	N/A mv	13.7
MW-503A LOS (except GPA)	(15.5 mv ± 1.8 mv)	N/A mv	N/A
MW-503A LOS (GPA only)	(7.7 mv ± 1.0 mv	N/A mv	N/A
GRP OUT (TP-4)	(18.0 mv ± 1.0 mv)	N/A mv	18.5
CHANNEL RECEIVE LEVELS			
Channel 1	(±7 dbm ±0.5 db)	____ dbm	7.
Channel 2	(±7 dbm ±0.5 db)	____ dbm	6.5
Channel 3	(±7 dbm ±0.5 db)	____ dbm	7.
Channel 4	(±7 dbm ±0.5 db)	____ dbm	7.2
Channel 5	(±7 dbm ±0.5 db)	____ dbm	7.4
Channel 6	(±7 dbm ±0.5 db)	____ dbm	7.5
Channel 7	(±7 dbm ±0.5 db)	____ dbm	7.
Channel 8	(±7 dbm ±0.5 db)	____ dbm	7.
Channel 9	(±7 dbm ±0.5 db)	____ dbm	7.2
Channel 10	(±7 dbm ±0.5 db)	____ dbm	7.3
Channel 11	(±7 dbm ±0.5 db)	____ dbm	7.1
Channel 12	(±7 dbm ±0.5 db)	____ dbm	7.

c. CHANNEL FREQUENCY RESPONSE Due to varying oscillator levels at site I.C., channels were spot checked at: 1000, 1250, 1500, 2250, 3000 & 3400 & Recorded.

Channels		EXPECTED / ACTUAL												
Frequency		1	2	3	4	5	6	7	8	9	10	11	12	
300		8	7	8.5	6	7.75	6.25	8	6.5	8.5	7.5	7	7	dbm
400	S	8	6.5	7.5	6	7	6.5	7.25	6.5	8	7.5	6.5	7	dbm
500	E	8	6.5	7.5	7.5	8	7.75	7.75	7	8	8	7	7	dbm
750	N	7.75	6.5	7	7.5	7.5	7.5	7.25	7.25	7.5	7.75	7.25	6.5	dbm
1000	D	8	7.25	7.5	8	8	8	7.5	8	7.75	8	8	7.5	dbm
1250	B	7.75	6.75	7.75	8.25	8	8	7.75	7.75	7.5	8	7.5	7.25	dbm
	W													

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BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION I.D.

Transmission Path: From Station I.C To Station I.D

Multiplex Group No. Low Group.

CHANNEL FREQUENCY RESPONSE (continued)

	EXPECTED					ACTUAL						
Channels	1	2	(3)	4	5	6	7	(8)	9	10	(11)	12
Frequency												
1500	7.5	7	8	8.4	8.5	8	8.25	8	7.75	8.25	7.25	7.25 dbm
1750	7.5	6.5	7.5	8	8	8	7	(6.5)	7.5	8	(6.5)	7 dbm
2000	7.5	6.5	8	8	8	8	8	8	7	7.75	(6)	7 dbm
2250	8.25	7	(9)	7.75	8	7.5	8	7.75	7.5	8	7	8 dbm
2400	8	6.75	8.25	7.5	7.75	7.25	7.75	7.5	7	7.25	6.5	7.5 dbm
2750	7.5	7	(9)	7.25	7.5	7.25	7.75	7	7.25	7.5	7	7 dbm
3000	7.25	7.25	(7.25)	7.25	7.75	7.5	8.5	7	7.5	7.75	7.5	7.75 dbm
3200	7.5	6	8	6.5	7.5	7	7.75	5.5	7.5	7	6.5	7 dbm
3300	7.5	5	7	6.5	7.5	6.75	7.75	(4.25)	7.25	7	6	6 dbm
3400	8	5.25	7	7.5	8.25	7.5	8	(4.5)	7.75	7.5	6.25	5.75 dbm

LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)
400-599 cps (+ 0.75 db, -1.5 db)
600-2400 cps (+0.75 db, -0.75 db)
2401-3000 cps (+0.75 db, -1.5 db)
3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.

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MC-50 MULTIPLEX LINK TEST

STATION 1D

Transmission Path; From 1C Station to 1D Station

Multiplex Group No. Low Group

S. GAIN CHANGE

OUTPUT LEVEL	EXPECTED	ACTUAL		
Input Level		-16 dbm ref.	-14 dbm	-2dbm
Channel 1	See Below	+7 dbm	+9 dbm	+13 dbm
Channel 2		~~dbm~~	~~dbm~~	~~dbm~~
Channel 3		+8 dbm	+10 dbm	+13 dbm
Channel 4		~~dbm~~	~~dbm~~	~~dbm~~
Channel 5		+8 dbm	+10 dbm	+13 dbm
Channel 6		~~dbm~~	~~dbm~~	~~dbm~~
Channel 7		+8 dbm	+10 dbm	+13 dbm
Channel 8		~~dbm~~	~~dbm~~	~~dbm~~
Channel 9		+8 dbm	+10 dbm	+13 dbm
Channel 10		~~dbm~~	~~dbm~~	~~dbm~~
Channel 11		+8 dbm	+10 dbm	+14 dbm
Channel 12		~~dbm~~	~~dbm~~	~~dbm~~

LIMITS

a. Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)

b. Channel output level should not increase more than 8 db with a 14 db increase in channel input leve (from -16 dbm input to -2 dbm input)

DATE 17-JUNE, 63

TESTER K. Nelson

SUPERVISOR R. Gibbons

QUALITY ASSURANCE BB Doo

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1C

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION 1C

Transmission Path: From 1D Station to 1C Station 1D

Multiplex Group No. 1

		EXPECTED	ACTUAL
1. GROUP INPUT LEVEL			
Channel 1	63 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 2	67 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 3	71 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 4	75 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 5	79 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 6	83 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 7	87 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 8	91 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 9	95 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 10	99 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 11	103 kc	(7.8 mv ± 0.8 mv)	2.8 mv
Channel 12	107 kc	(7.8 mv ± 0.8 mv)	2.8 mv
2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT N/A AT 1C			
Channel 1	60.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 2	64.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 3	68.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 4	72.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 5	76.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 6	80.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 7	84.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 8	88.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 9	92.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 10	96.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 11	100.125 kc	(.125 mv ±0.02 mv)	____ mv
Channel 12	104.125 kc	(.125 mv ±0.02 mv)	____ mv
3. GROUP TRANSMIT LEVEL			
MRC-85, MRC-80 & FRC-39 A(V) Stations		(13.7 mv ±0.7 mv)	13.2 mv
MW503A LOS Stations		(4.9 mv ± 0.2 mv)	N/A mv

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FEDERAL ELECTRIC CORPORATION
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MC-50 MULTIPLEX LINK TEST

STATION 1C

Transmission Path From Station 1D To Station 1C

Multiplex Group No. - 1

	EXPECTED	ACTUAL
4. GROUP RECEIVE LEVEL		
GRP IN (TP-7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7 mv ± 1.5 mv)	14 mv
MW-503A LOS (except GPA)	(15.5 mv ± 1.8 mv)	N/A mv
MW-503A LOS (GPA only)	(7.7 mv + 1.0 mv	N/A mv
GRP OUT (TP-4)	(18.0 mv ± 1.0 mv)	N/A mv
5. CHANNEL RECEIVE LEVELS		
Channel 1	(±7 dbm ±0.5 db)	±7 dbm
Channel 2	(±7 dbm ±0.5 db)	±7 dbm
Channel 3	(±7 dbm ±0.5 db)	±7 dbm
Channel 4	(±7 dbm ±0.5 db)	±7 dbm
Channel 5	(±7 dbm ±0.5 db)	±7 dbm
Channel 6	(±7 dbm ±0.5 db)	±7 dbm
Channel 7	(±7 dbm ±0.5 db)	±7 dbm
Channel 8	(±7 dbm ±0.5 db)	±7 dbm
Channel 9	(±7 dbm ±0.5 db)	±7 dbm
Channel 10	(±7 dbm ±0.5 db)	±7 dbm
Channel 11	(±7 dbm ±0.5 db)	±7 dbm
Channel 12	(±7 dbm ±0.5 db)	±7 dbm

6. CHANNEL FREQUENCY RESPONSE

EXPECTED ACTUAL

Channels	1	2	3	4	(5)	6	(7)	8	9	(10)	(11)	12	
Frequency													
300	+7.5	+8	+8	+5	(+9)	+6	(+8)	+7	+7	(+8.5)	(-4)	+7.5	dbm
400	+7	+7	+7	+6	+7.5	+7	+8	+7	+7	+7	-8	+7	dbm
600	+7	+7	+8	+7	+7.5	+7.5	+7.5	+7.5	+7	+7.5	-1	+7	dbm
750	+7	+7	+8	+7	+7.5	+7.5	+7	+7	+8	+7.5	-4	+7	dbm
1000	+7	+7.5	+7.5	+7	+7	+7.5	+7	+7	+7	+7	+7	+7	dbm
1250	+7	+7.5	+7.5	+7	+7	+7.5	+7	+7	+7.5	+7	(+8)	+7	dbm

Select low

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION 1C

Transmission Path: From Station 1D To Station 1C

Multiplex Group No. 1 (Low)

CHANNEL FREQUENCY RESPONSE (continued)

Channels / Frequency	EXPECTED 1	2	3	4	ACTUAL 5	6	7	8	9	10	11	12	
1500	+7	+7	+7	+7.5	+8	+7	+8	+7.5	+7.5	+8	+9	+7	dbm
1750	+7.5	+7	+7.5	+7.5	+7	+7	+8	+7	+8	+8	+9.5	+7	dbm
2000	+8	+7	+8	+7.5	+8	+7	+8	+7	+8	+8	+9	+6	dbm
2250	+8	+7	+7.5	+7	+8	+7	+7.5	+7	+7.5	+7.5	+10	+6.5	dbm
2400	+8	+7.5	+7.5	+7.5	+8	+7	+7.5	+7	+7.5	+7.5	+10	+6	dbm
2750	+7.5	+8	+8	+7	+8	+7	+7	+7	+7	+7.5	+10	+6	dbm
3000	+8	+7.5	+8	+6	+8	+6	+7	+7	+7.5	+7	+9.5	+6	dbm
3200	+8.5	+6	+7.5	+5	+8	+5	+7	+6.5	+7	+7	+9	+5.5	dbm
3300	+9	+5.5	+7	+5	+8	+5	+7	+6	+7.5	+7	+8.5	+5	dbm
3400	+7	+5	+7	+5	+8.5	+5	+7	+6.5	+5	+7.5	+8	+4	dbm

LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)
400-599 cps (+ 0.75 db, -1.5 db)
600-2400 cps (+0.75 db, -0.75 db)
2401-3000 cps (+0.75 db, -1.5 db)
3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION 1C

Transmission Path; From 1D Station to 1C Station

Multiplex Group No. 1

8. GAIN CHANGE

OUTPUT LEVEL	EXPECTED	ACTUAL		
Input Level		-16 dbm ref.	-14 dbm	-2dbm
Channel 1	See Below	8 dbm	10 dbm	+13.5 dbm
Channel 2		8 dbm	10 dbm	13.5 dbm
Channel 3		8.5 dbm	10.5 dbm	13.5 dbm
Channel 4		+8 dbm	+10 dbm	13.5 dbm
Channel 5		+8 dbm	+10 dbm	13.5 dbm
Channel 6		+8.5 dbm	+10 dbm	+13 dbm
Channel 7		8 dbm	10.5 dbm	12 dbm
Channel 8		7.5 dbm	+10 dbm	+13 dbm
Channel 9		8.5 dbm	+10.2 dbm	+14 dbm
Channel 10		8 dbm	10 dbm	12.5 dbm
Channel 11		7.5 dbm	9.5 dbm	12 dbm
Channel 12		8 dbm	(9) dbm	9.5 dbm

LIMITS

a. Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)

b. Channel output level should not increase more than 8 db with a 14 db increase in channel input leve (from -16 dbm input to -2 dbm input)

DATE 17 JUNE 63

TESTER J Decker

SUPERVISOR T H Symonds

QUALITY ASSURANCE William K Wolf

CEEIA Robert D Legler

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION GPA

Transmission Path: From GPA Station to GAB Station

Multiplex Group No. Rack # 1

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 63 kc	(7.8 mv ± 0.8 mv)	N/A mv
	Channel 2 67 kc	(7.8 mv ± 0.8 mv)	" mv
	Channel 3 71 kc	(7.8 mv ± 0.8 mv)	" mv
	Channel 4 75 kc	(7.8 mv ± 0.8 mv)	" mv
	Channel 5 91.8 kc	(7.8 mv ± 0.8 mv)	7.8 mv
	Channel 6 87.8 kc	(7.8 mv ± 0.8 mv)	7.8 mv
	Channel 7 83.8 kc	(7.8 mv ± 0.8 mv)	7.8 mv
	Channel 8 79.8 kc	(7.8 mv ± 0.8 mv)	7.8 mv
	Channel 9 95 kc	(7.8 mv ± 0.8 mv)	N/A mv
	Channel 10 99 kc	(7.8 mv ± 0.8 mv)	" mv
	Channel 11 103 kc	(7.8 mv ± 0.8 mv)	" mv
	Channel 12 107 kc	(7.8 mv ± 0.8 mv)	" mv
2.	CHANNEL SIGNALLING LEVEL AT GROUP INPUT		
	Channel 1 60.125 kc	See note (.125 mv ±0.02 mv)	N/A mv
	Channel 2 64.125 kc	(.125 mv ±0.02 mv)	" mv
	Channel 3 68.125 kc	(.125 mv ±0.02 mv)	" mv
	Channel 4 72.125 kc	(.125 mv ±0.02 mv)	" mv
	Channel 5 88.175 kc	(.125 mv ±0.02 mv)	.4 mv
	Channel 6 84.175 kc	(.125 mv ±0.02 mv)	.4 mv
	Channel 7 80.175 kc	(.125 mv ±0.02 mv)	.4 mv
	Channel 8 79.175 kc	(.125 mv ±0.02 mv)	.4 mv
	Channel 9 92.125 kc	(.125 mv ±0.02 mv)	N/A mv
	Channel 10 96.125 kc	(.125 mv ±0.02 mv)	" mv
	Channel 11 100.125 kc	(.125 mv ±0.02 mv)	" mv
	Channel 12 104.125 kc	(.125 mv ±0.02 mv)	" mv
3.	GROUP TRANSMIT LEVEL		
	MRC-85, MRC-80 & FRC-39 A(V) Stations	(13.7 mv ±0.7 mv)	N/A mv
	MW503A LOS Stations	(4.9 mv ± 0.2 mv)	4.9 mv

Note: It has been changed to .4 mv to conform with Motorola specs. per Mr. H. Detweiler, F.E.C. Engineer.

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DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION GPA

Transmission Path From Station GPA To Station GAB

Multiplex Group No. - Rack #1

	EXPECTED	ACTUAL
4. GROUP RECEIVE LEVEL		
GRP IN (TP-7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7 mv ± 1.5 mv)	N/A mv
MW-503A LOS ~~(except GPA)~~	(15.5 mv ± 1.8 mv)	15.5 mv
MW-503A LOS (GPA only) to GA..	(7.7 mv + 1.0 mv	N/A mv
GRP OUT (TP-4)	(18.0 mv ± 1.0 mv)	18 mv

5. CHANNEL RECEIVE LEVELS

Channel 1	(±7 dbm ±0.5 db)		N/A dbm
Channel 2	(±7 dbm ±0.5 db)		" dbm
Channel 3	(±7 dbm ±0.5 db)		" dbm
Channel 4	(±7 dbm ±0.5 db)		" dbm
Channel 5	(±7 dbm ±0.5 db)	see note	+7 dbm
Channel 6	(±7 dbm ±0.5 db)		+7 dbm
Channel 7	(±7 dbm ±0.5 db)		+7 dbm
Channel 8	(±7 dbm ±0.5 db)		+7 dbm
Channel 9	(±7 dbm ±0.5 db)		N/A dbm
Channel 10	(±7 dbm ±0.5 db)		" dbm
Channel 11	(±7 dbm ±0.5 db)		" dbm
Channel 12	(±7 dbm ±0.5 db)		" dbm

Note: Adjusted to +7.

6. CHANNEL FREQUENCY RESPONSE

EXPECTED

Channels	1	2	3	4	5	6	7	8	9	10	11	12	
Frequency													
300	N/A	N/A	N/A	N/A	6.6	6.6	7.7	6.6 (5.75)	N/A	N/A	N/A	N/A	dbm
400					7	6.8	7.4	6.8 (6.7)					dbm
600					7.5	7.4	7.5	7.5 (7.0)					dbm
750					7.5	7.4	7.3	7.4 (7.0)					dbm
1000					7	7	7	7.0					dbm
1250					7	6.5	7	6.8 (7.2)					dbm

Sent 1 0 w

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1/30/64

BR II/42
ADDENDUM
Ref; DD 250/5W

Station GAB
Test Results

TEST: Transmission Path GPA to station GAB
MULTIPLEX group No. 2

6. Channel Frequency Response

Channel Frequency	8
300	5.75
400	6.7
600	7.0
750	7.0
1000	7.0
1250	7.2
1500	7.0
1750	7.0
2000	6.8
2250	6.8
2400	7.2
2750	7.6
3000	7.3
3200	6.9
3300	6.0
3400	5.0

mc - QA

FEDERAL ELECTRIC CORPORATION
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DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION GPA

Transmission Path: From Station GPA To Station GAB

Multiplex Group No. Rack #1

CHANNEL FREQUENCY RESPONSE (continued)

Channels	EXPECTED				ACTUAL								
Frequency	1	2	3	4	5	6	7	8	9	10	11	12	
1500	N/A	N/A	N/A	N/A	7.5	6.7	7.5	~~7.2~~ 7.0	N/A	N/A	N/A	N/A	dbm
1750					7.5	7	7.7	7.5					dbm
2000					7.4	7	7.6	6.8 7.5					dbm
2250					7.2	7.1	7.5	6.8 7.5					dbm
2400					7.2	7.2	7.5	7.2 7.5					dbm
2750					7.3	7.3	7.5	7.6 7.85 see note					dbm
3000					6.6	6.9	7.3	7.3 7.7					dbm
3200					6.4	6.5	7.3	6.9 7.5					dbm
3300					6.6	6.5	7.3	6.0 7.2					dbm
3400					6.8	6.4	7.3	5.0 6.7					dbm

Note : 7.85 is out of specs.

LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)
400-599 cps (+ 0.75 db, -1.5 db)
600-2400 cps (+0.75 db, -0.75 db)
2401-3000 cps (+0.75 db, -1.5 db)
3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
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MC-50 MULTIPLEX LINK TEST

STATION GPA

Transmission Path; From GPA Station to GAB Station

Multiplex Group No. Rack #1

8. GAIN CHANGE

OUTPUT LEVEL	EXPECTED	ACTUAL		
Input Level		-16 dbm ref.	-14 dbm	-2dbm
Channel 1	See Below	N/A dbm	N/A dbm	N/A dbm
Channel 2		" dbm	" dbm	" dbm
Channel 3		" dbm	" dbm	" dbm
Channel 4		" dbm	" dbm	" dbm
Channel 5		+6.85 dbm	+8.7 dbm	+13.5 dbm
Channel 6		+6.85 dbm	+8.7 dbm	13.5 dbm
Channel 7		+6.85 dbm	+8.7 dbm	13.6 dbm
Channel 8		+6.85 dbm	+8.7 dbm	12 dbm
Channel 9		NA dbm	NA dbm	NA dbm
Channel 10		dbm	dbm	dbm
Channel 11		dbm	dbm	dbm
Channel 12		dbm	dbm	dbm

LIMITS

a. Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)

b. Channel output level should not increase more than 8 db with a 14 db increase in channel input leve (from -16 dbm input to -2 dbm input)

DATE 20 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION GAB

Transmission Path: From GAB Station to GPA Station

Multiplex Group No. 1

		EXPECTED	ACTUAL
1. GROUP INPUT LEVEL			
Channel 1	63 kc	(7.8 mv ± 0.8 mv)	N/A mv
Channel 2	67 kc	(7.8 mv ± 0.8 mv)	N/A mv
Channel 3	71 kc	(7.8 mv ± 0.8 mv)	N/A mv
Channel 4	75 kc	(7.8 mv ± 0.8 mv)	N/A mv
Channel 5	~~79~~ kc 91 KC	(7.8 mv ± 0.8 mv)	7.8 mv
Channel 6	~~83~~ kc 87 KC	(7.8 mv ± 0.8 mv)	7.8 mv
Channel 7	~~87~~ kc 83 KC	(7.8 mv ± 0.8 mv)	7.8 mv
Channel 8	~~91~~ kc 79 KC	(7.8 mv ± 0.8 mv)	7.8 mv
Channel 9	95 kc	(7.8 mv ± 0.8 mv)	N/A mv
Channel 10	99 kc	(7.8 mv ± 0.8 mv)	N/A mv
Channel 11	103 kc	(7.8 mv ± 0.8 mv)	N/A mv
Channel 12	107 kc	(7.8 mv ± 0.8 mv)	N/A mv
2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT			
Channel 1	60.125 kc	(.125 mv ±0.02 mv)	N/A mv
Channel 2	64.125 kc	(.125 mv ±0.02 mv)	N/A mv
Channel 3	68.125 kc	(.125 mv ±0.02 mv)	N/A mv
Channel 4	72.125 kc	(.125 mv ±0.02 mv)	N/A mv
88.175KC Channel 5	~~76.125 kc~~	(.125 mv ±0.02 mv)	.13 mv
84.175KC Channel 6	~~80.125 kc~~	(.125 mv ±0.02 mv)	.14 mv
80.175KC Channel 7	~~84.125 kc~~	(.125 mv ±0.02 mv)	.145 mv
76.175KC Channel 8	~~88.125 kc~~	(.125 mv ±0.02 mv)	.115 mv
Channel 9	92.125 kc	(.125 mv ±0.02 mv)	N/A mv
Channel 10	96.125 kc	(.125 mv ±0.02 mv)	N/A mv
Channel 11	100.125 kc	(.125 mv ±0.02 mv)	N/A mv
Channel 12	104.125 kc	(.125 mv ±0.02 mv)	N/A mv

This test could not be conducted according to the test procedures.

3. GROUP TRANSMIT LEVEL			
MRC-85, MRC-80 & FRC-39 A(V) Stations		(13.7 mv ±0.7 mv)	~~N/A~~ mv
MW503A LOS Stations		(4.9 mv ± 0.2 mv)	4.9 mv

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION GAB

Transmission Path From Station GAB To Station GPA

Multiplex Group No. - 1

	EXPECTED	ACTUAL
4. GROUP RECEIVE LEVEL		
GRP IN (TP-7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7 mv ± 1.5 mv)	N/A mv
MW-503A LOS (except GPA)	(15.5 mv ± 1.8 mv)	15.5 mv
MW-503A LOS (GPA only)	(7.7 mv ± 1.0 mv	N/A mv
GRP OUT (TP-4)	(18.0 mv ± 1.0 mv)	18.0 mv
5. CHANNEL RECEIVE LEVELS		
Channel 1	(±7 dbm ±0.5 db)	N/A dbm
Channel 2	(±7 dbm ±0.5 db)	N/A dbm
Channel 3	(±7 dbm ±0.5 db)	N/A dbm
Channel 4	(±7 dbm ±0.5 db)	N/A dbm
Channel 5	(±7 dbm ±0.5 db)	+7.0 dbm
Channel 6	(±7 dbm ±0.5 db)	+7.0 dbm
Channel 7	(±7 dbm ±0.5 db)	+7.0 dbm
Channel 8	(±7 dbm ±0.5 db)	+7.0 dbm
Channel 9	(±7 dbm ±0.5 db)	N/A dbm
Channel 10	(±7 dbm ±0.5 db)	N/A dbm
Channel 11	(±7 dbm ±0.5 db)	N/A dbm
Channel 12	(±7 dbm ±0.5 db)	N/A dbm

6. CHANNEL FREQUENCY RESPONSE

	EXPECTED	ACTUAL											
Channels		1	2	3	4	5	6	7	8	9	10	11	12	
Frequency														
300		N/A	N/A	N/A	N/A	7.1	7.3	7.6	6.7	N/A	N/A	N/A	N/A	dbm
400	Set	"	"	"	"	7.0	7.1	7.25	6.75	"	"	"	"	dbm
600		"	"	"	"	7.3	7.7	7.75	6.75	"	"	"	"	dbm
750	Below	"	"	"	"	7.2	7.3	7.4	6.9	"	"	"	"	dbm
1000		"	"	"	"	7.0	7.0	7.0	7.0	"	"	"	"	dbm
1250		"	"	"	"	7.1	7.1	6.9	6.95	"	"	"	"	dbm

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION GAB

Transmission Path: From Station GAB To Station GPA

Multiplex Group No. 1

CHANNEL FREQUENCY RESPONSE (continued)

Channels	EXPECTED				ACTUAL								
Frequency	1	2	3	4	5	6	7	8	9	10	11	12	
1500	N/A	N/A	N/A	N/A	7.6	7.3	7.0	7.0	N/A	N/A	N/A	N/A	dbm
1750	"	"	"	"	7.3	7.1	6.9	6.8	"	"	"	"	dbm
2000	"	"	"	"	7.2	6.9	6.9	6.8	"	"	"	"	dbm
2250	"	"	"	"	7.3	6.8	6.8	6.9	"	"	"	"	dbm
2400	"	"	"	"	7.7	6.9	7.0	7.1	"	"	"	"	dbm
2750	"	"	"	"	7.2	7.0	7.1	7.6	"	"	"	"	dbm
3000	"	"	"	"	6.8	6.2	6.8	7.0	"	"	"	"	dbm
3200	"	"	"	"	7.0	6.0	6.1	5.8	"	"	"	"	dbm
3300	"	"	"	"	6.9	5.5	5.5	4.5	"	"	"	"	dbm
3400	"	"	"	"	5.5	5.1	4.8	3.8	"	"	"	"	dbm

LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)
400-599 cps (+ 0.75 db, -1.5 db)
600-2400 cps (+0.75 db, -0.75 db)
2401-3000 cps (+0.75 db, -1.5 db)
3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
MC-50 MULTIPLEX LINK TEST

STATION GAB

Transmission Path; From GAB Station to GPA Station

Multiplex Group No. 1

8. GAIN CHANGE

OUTPUT LEVEL	EXPECTED	ACTUAL		
Input Level		-16 dbm ref.	-14 dbm	-2dbm
Channel 1	See Below	N/A dbm	N/A dbm	N/A dbm
Channel 2		" dbm	" dbm	" dbm
Channel 3		" dbm	" dbm	" dbm
Channel 4		" dbm	" dbm	" dbm
Channel 5		~~7~~7.0 dbm	~~9~~9.0 dbm	~~13.2~~13.2 dbm
Channel 6		~~7~~7.0 dbm	~~9~~9.0 dbm	~~12.0~~12.0 dbm
Channel 7		~~7~~7.0 dbm	~~9~~9.0 dbm	~~12.2~~12.2 dbm
Channel 8		~~7~~7.0 dbm	~~9~~9.0 dbm	~~14.3~~14.3 dbm
Channel 9		N/a dbm	N/A dbm	N/A dbm
Channel 10		" dbm	" dbm	" dbm
Channel 11		" dbm	" dbm	" dbm
Channel 12		" dbm	" dbm	" dbm

LIMITS

a. Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)

b. Channel output level should not increase more than 8 db with a 14 db increase in channel input leve (from -16 dbm input to -2 dbm input)

DATE 20 JULY 1963

TESTER Jack N. Third

SUPERVISOR Donald Stopinski

QUALITY ASSURANCE Don Lovell

GEEIA Robert D Lyle

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FEDERAL ELECTRIC CORPORATION BRII/61

BIG RALLY II PROJECT
DATA SHEET
AN/TCC-3 MULTIPLEX STATION TEST

STATION GAB

Transmission Path: From Station GAB to STATION GEL

TM 1-004 - FEC Installed _____
TM 1-004 - FEC NOT Installed XXXX

AN/TCC-3 MULTIPLEX

		EXPECTED	ACTUAL
1.	Carrier Supply Output Level		
	8 kc (TB 901; Terminals 1.2)	.89 ± 0.15v	.84 v.
	12 kc (TB 901; Terminals 4,5)	.89 ± 0.15v	.98 v.
	16 Kc (TB 901; Terminals 6,7)	.89 ± 0.15v	.84 v.
	20 Kc (TB 901; Terminals 9,10)	.89 ± 0.15v	.90 v.

		Unmodified	Modified	
2.	Channel Levels			
	Channel 1	1 ±0.5 dbm	7 ± 0.5 dbm	1 dbm
	Channel 2	1 ±0.5 dbm	7 ± 0.5dbm	1 dbm
	Channel 3	1 ±0.5dbm	7 ± 0.5dbm	1 dbm
	Channel 4	1 ±0.5dbm	7 ± 0.5dbm	1 dbm

3.	Channel Noise Measurement			
	Channel 1	14dba	20 dba *	_____ dba
	Channel 2	14dba	20 dba	_____ dba
	Channel 3	14dba	20 dba	_____ dba
	Channel 4	14dba	20 dba	_____ dba

* Reading better than 14 DBA. Unable to measure lower than 14 DBA with the TS559 NOISE MEASURING SET

DATE 23 JULY 1963

TESTER Wayne Schumacher

SUPERVISOR Frank D Stopinski

QUALITY ASSURANCE [illegible]

GEEIA Robert D Taylor

Sheet 1 of 1

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FEDERAL ELECTRIC CORPORATION BRII/61

BIG RALLY II PROJECT
DATA SHEET
AN/TCC-3 MULTIPLEX STATION TEST

STATION GEL

Transmission Path: From Station GEL to STATION GAB

TM 1-004 - FEC Installed ____
TM 1-004 - FEC NOT Installed X

AN/TCC-3 MULTIPLEX

		EXPECTED	ACTUAL
1.	Carrier Supply Output Level		
	8 kc (TB 901; Terminals 1.2)	.89 ± 0.15v	.76 v.
	12 kc (TB 901; Terminals 4,5)	.89 ± 0.15v	.75 v.
	16 Kc (TB 901; Terminals 6,7)	.89 ± 0.15v	.77 v.
	20 Kc (TB 901; Terminals 9,10)	.89 ± 0.15v	777 v.

		Unmodified	Modified	
2.	Channel Levels			
	Channel 1	1 ±0.5 dbm	7 ± 0.5 dbm	1 dbm
	Channel 2	1 ±0.5 dbm	7 ± 0.5dbm	1 dbm
	Channel 3	1 ±0.5dbm	7 ± 0.5dbm	1 dbm
	Channel 4	1 ±0.5dbm	7 ± 0.5dbm	1 dbm

3.	Channel Noise Measurement		
	Channel 1	14dba	20 dba Below meter scale dba
	Channel 2	14dba	20 dba " " dba
	Channel 3	14dba	20 dba " " dba
	Channel 4	14dba	20 dba " " dba

DATE 21 July 1963

TESTER George B Barnett

SUPERVISOR Andrew J. Yarmouth

QUALITY ASSURANCE [illegible]

GEEIA [illegible]

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FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
AN/TCC-3 MULTIPLEX LINK TEST

BR 11/62

STATION GAB

Transmission Path: From Station ~~GAB~~ GEB to Station ~~GAB~~ GEL

CHANNEL GAIN AND FREQUENCY RESPONSE

Frequency	Expected Level	Channels 1	2	3	4	
1000 cps reference	+ 7±0.5 dbm or + 1±0.5 dbm	____	+1	+1	+1	dbm
	Expected Level with respect to 1 KC reference					
300	+ 1.5 - 1.5 db	____	-0.5	+0.5	+0.9	dbm
400	+ 1.5 - 0.4 db	____	+1.1	+1.3	+1.4	dbm
600	+ 1.5 - 0.25 db	____	+1.2	+1.0	+1.0	dbm
2400	+ 1.5 - 0.7 db	____	+1.1	+1.2	+1.0	dbm
3000	+ 1.5 - 0.7 db	____	+1.3	+0.8	+0.3	dbm
3400	+ 1.5 - 1.25 db	____	+0.5	+0.8	+0.7	dbm

DATE 1-30-64

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA Sheet 1 of 1 Cummings, Upland

FEDERAL ELECTRIC CORPORATION
BIG RALLY II PROJECT
DATA SHEET
AN/TCC-3 MULTIPLEX LINK TEST

BR 11/62

STATION GEL

Transmission Path: From Station GEL to Station GAB

CHANNEL GAIN AND FREQUENCY RESPONSE

Frequency	Expected Level	Channels 1	2	3	4	
1000 cps reference	+ 7±0.5 dbm or + 1±0.5 dbm	1	1	1	1	dbm
	Expected Level with respect to 1 KC reference					
300	+1.5 – 1.5 db	-.5	0	-.5	1	dbm
400	+ 1.5 – 0.4 db	.8	1.2	1	.95	dbm
600	+ 1.5 – 0.25 db	1.6	1.1	1	.85	dbm
2400	+ 1.5 – 0.7 db	1	.95	1	1.3	dbm
3000	+ 1.5 – 0.7 db	.85	1.2	.5	.25	dbm
3400	+ 1.5 – 1.25db	.45	0	.7	0	dbm

NOTE. ABOVE ARE ACTUAL METER READINGS

DATE 22 JULY 1963

TESTER George B Bennett

SUPERVISOR Andrew J Horvath

QUALITY ASSURANCE I Bouchard

GEEIA O M K Patton

Sheet 1 of 1

FEC BIG RALLY II PROJECT
DATA SHEET
MC-50

Station ID

Date 16 June 63

Back to back special tests

Test # 1

Place a terminating resister plug into the CHAN IN jack of channel # 1 and read the noise on the CHAN OUT jack of channel # 1. Repeat for the remaining 23 channels. * + 7db added for connecting factor, MIN. REQUIREMENTS 18dbrn

High Group channels # 1-70.5 X
2-70.5
3-70.5
4-69.5
5-69.5
6-69.5
7-69.5
8-68.5
9-69.5
10-69
11-64.5
12-59

Low Group channels # 1-68 X
2-69.5
3-68
4-68.5
5-67.5
6-69.5
7-69
8-68
9-66
10-67
11-67.5
12-64

Test # 2

Place a -16db test tone into the CHAN IN jack of the channel indicated. Place a terminating resistor into the adjacent CHAN IN jacks. Read the cross talk on the CHAN OUT jacks as listed .
+7db MUST be added to THESE FIGURES

Tone on channel 1 Measure on channels --- 2-61 X
4 3-62 5-62
7 6-62.5 8-61.5
10 9-62.5 11-61.5
1 12-61 2-56
4 3-58.5 5-57
7 6-57 8-58.5
10 9-61.5 11-59
12 12-56 ---

Band channel Filter

Date 16 June 63
Tester [illegible]
Supervisor [illegible]
Quality assurance [illegible]

VRP

NOISE TEST

GK -TO-IC MUX RACK #2 EXCITER 2 & 4 RX BLOCKED

CHANNEL #	SIGNAL	NOISE	SIGNAL TO NOISE
1	+7	-53	-60
2	+7	-55	-62
3	+7	-35	-42
4	+7	-53	-60
5	+7	-52	-59
6	+7	-50	-57
7	+7	-53	-60
8	+7	-40	-47
9	+7	-36	-43
10	+7	-41	-48
11	+7	-46	-53
12	+7	-46	-53

BACK TO BACK

1	+8.5	-58	-66.5
2	+8	-58	-66
3	+7.5	-58	-65.5
4	+7.5	-59	-66.5
5	+7	-60	-67
6	+7	-53	-60
7	+7	-59	-66
8	+7	-59	-66
9	+7.5	-59	-65
10	+7.5	-58	-66.5
11	+7	-59	-63.5
12	+7	-56	-63

*Subtract signal to noise reading from 85 to get dba
Worst channel is channel 6 at 25dba all others are between 22 and 18 DBA

Robert D Leyler

2-49

BACK TO BACK SINGLE TONE (1000 CPS) CROSS TALK TEST

FORMAT: CHANNEL # WITH TONE LEVEL TAKEN ONE CHANNEL HIGH
LEVEL TAKEN ONE CHANNEL LOW

CHANNEL	/Channel/ Higher	/Channel/ Lower
1	3dbm	No Channel low
2	2dbm	2dbm
3	4	4
4	2	2
5	0	6
6	3	1
7	13	1
8	1	2
9	3	4
10	3	2
11	9	2
12	No Channel High	5.5

FEC BIG RALLY II PROJECT
DATA SHEET
MC-50

Station GPA-GAB

Back to back id~~e~~r noise

Place a terminating resister into the chann IN jack of each channel and read the resulting noise on the chan OUT jack of each channel. (4 r DBM correction F-1A weighting)

Chan #5 11DBA Ø
6 11
7 11
8 11

TEST # 2

Place a -16db test tone into the chan IN jack of the channel indicated. Read the cross talk on the Chan OUT jacks indicated. Terminate the adjacent channels.

NOTONE CHANNEL NOISE	TONE LWR	TONE UPPER
5 11 DBA Ø	N/A	12
6 11	11	12
7 11	11	12
8 11	11	N/A

Date 15 JULY 63
Tester Vincent Quinn
Supervisor J. Manager
Quality Assurance Willard Ostrom
GEEIA [illegible]

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION 1D

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION	TOLERANCE	ACTUAL
1. Circuit A TX (J27)	± 1/2 db	-13.0 dbm
2. Circuit B TX (J29)	± 1 db	-13.0 dbm
3. Circuit D TX (~~J34~~ J36)	± 1/2 db	N/A dbm
4. Circuit F TX (~~J38~~ J40)	± 1 db	-13.5 dbm
5. Circuit B TX (J29)	± 1/2 db	-13.0 dbm
6. Circuit C TX (~~J32~~ J37)	± 1/2 db	-5.0 dbm
7. Circuit C TX (~~J32~~ J34)	± 1/2 db	-5.0 dbm
8. Circuit C TX (~~J32~~ J34)	± 1/2 db	N/A dbm
9. 3,400 cps Tone Level Circuit A TX (J 27)	13 db ± 1/2 db Below Test Tone	-13 dbm

LRP

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION 1D

	TOLERANCE	ACTUAL
MASTER TERMINAL CONTROL STATION (GPA ONLY)		
1. OUT Jack of Drop Amp 6-8, A	± 1/2 db	_____ db m
2. OUT Jack of Drop Amp 6-8, B	± 1/2 db	_____ dbm
3. 3,400 cps Tone Level Radio West TX (J2 EQUIP)	13 db ± 1/2 db Below Test Tone	_____ dbm

DATE 8 JUNE 63

TESTER P. Madsen

SUPERVISOR W. Gillespie

QUALITY ASSURANCE B. E. Knox

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION 1R

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION	TOLERANCE	ACTUAL
1. Circuit A TX (J27)	± 1/2 db	-13 dbm
2. Circuit B TX (J29)	± 1 db	-13 dbm
3. Circuit D TX (J~~34~~ 36)	± 1/2 db	-5 dbm
4. Circuit F TX (J38)	± 1 db	X dbm
5. Circuit B TX (J29)	± 1/2 db	-13 dbm
6. Circuit C TX (J~~32~~ 34)	± 1/2 db	-5 dbm
7. Circuit C TX (J~~32~~ 34)	± 1/2 db	-5 dbm
8. Circuit C TX (J~~32~~ 34)	± 1/2 db	-5 dbm
9. 3,400 cps Tone Level Circuit A TX (J 27)	13 db ± 1/2 db Below Test Tone	-26 dbm

LRP

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION _____

	TOLERANCE	ACTUAL
MASTER TERMINAL CONTROL STATION (GPA ONLY)		
1. OUT Jack of Drop Amp 6-8, A	± 1/2 db	NA db m
2. OUT Jack of Drop Amp 6-8, B	± 1/2 db	NA dbm
3. 3,400 cps Tone Level Radio West TX (J2 EQUIP)	13 db ± 1/2 db Below Test Tone	NA dbm

DATE 12 JUNE, 1963

TESTER M. Leyhead

SUPERVISOR R. Wieting

QUALITY ASSURANCE R.B. Spear

YAP

IC-W

BRII/131

FEDERAL ELECTRIC CORPORATION

B IG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION IC WEST

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION		TOLERANCE		ACTUAL
1.	Circuit A TX (J27)	-13	± 1/2 db	-13 dbm
2.	Circuit B TX (J29)	-13	± 1 db	-14 dbm
3.	Circuit D TX (J~~34~~ 36)	0	± 1/2 db	0 dbm
4.	Circuit F TX (J38)	-13.5	± 1 db	-14 dbm
5.	Circuit B TX (J29)	-13	± 1/2 db	-13 dbm
6.	Circuit C TX (J~~32~~ 34)	0	± 1/2 db	0 dbm
7.	Circuit C TX (J~~32~~ 34)	0	± 1/2 db	0 dbm
8.	Circuit C TX (J~~32~~ 34)	0	± 1/2 db	0 dbm
9.	3,400 cps Tone Level Circuit A TX (J 27)		13 db ± 1/2 db Below Test Tone	-26 dbm

3-5

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION IC WEST

	TOLERANCE	ACTUAL
MASTER TERMINAL CONTROL STATION (GPA ONLY)		
1. OUT Jack of Drop Amp 6-8, A	± 1/2 db	_____ db m
2. OUT Jack of Drop Amp 6-8, B	± 1/2 db	_____ dbm
3. 3,400 cps Tone Level Radio West TX (J2 EQUIP)	13 db ± 1/2 db Below Test Tone	_____ dbm

DATE 16 JUNE 63

TESTER T Dukes

SUPERVISOR F A Gonzales

QUALITY ASSURANCE William R. Hutchison

GEEIA Robert D Legler

IC-F

BRII/131

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION IC EAST

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION	TOLERANCE	ACTUAL
1. Circuit A TX (J27)	-13 ± 1/2 db	-13 dbm
2. Circuit B TX (J29)	-13 ± 1 db	-14 dbm
3. Circuit D TX (J36)	0 ± 1/2 db	0 dbm
4. Circuit F TX (J38)	-13.5 ± 1 db	-14 dbm
5. Circuit B TX (J29)	-13 ± 1/2 db	-13 dbm
6. Circuit C TX (J34)	0 ± 1/2 db	0 dbm
7. Circuit C TX (J34)	0 ± 1/2 db	0 dbm
8. Circuit C TX (J34)	0 ± 1/2 db	0 dbm
9. 3,400 cps Tone Level Circuit A TX (J 27)	13 db ± 1/2 db Below Test Tone	-26 dbm

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION IC EAST

	TOLERANCE	ACTUAL
MASTER TERMINAL CONTROL STATION (GPA ONLY)		
1. OUT Jack of Drop Amp 6-8, A	± 1/2 db	X db m
2. OUT Jack of Drop Amp 6-8, B	± 1/2 db	X dbm
3. 3,400 cps Tone Level Radio West TX (J2 EQUIP)	13 db + 1/2 db Below Test Tone	X dbm

DATE 23 JUNE 63

TESTER J E Draber

SUPERVISOR H A Lafaudo

QUALITY ASSURANCE William R Hoff

GEMIA Robert W Lyle

GE-W

FEDERAL ELECTRIC CORPORATION

B IG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION GK-I.P.

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION	TOLERANCE	ACTUAL
1. Circuit A TX (J27)	± 1/2 db	N/D - IC dbm
2. Circuit B TX (J29)	± 1 db	_____ dbm
3. Circuit D TX (~~J34~~ J-36)	± 1/2 db	_____ dbm
4. Circuit F TX (J38)	± 1 db	_____ dbm
5. Circuit B TX (J29)	± 1/2 db	_____ dbm
6. Circuit C TX (~~J32~~ J-34)	± 1/2 db	_____ dbm
7. Circuit C TX (~~J32~~ J-34)	± 1/2 db	_____ dbm
8. Circuit C TX (~~J32~~ J-34)	± 1/2 db	_____ dbm
9. 3,400 cps Tone Level Circuit A TX (J 27)	13 db + 1/2 db Below Test Tone	_____ dbm

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION GK-1.0

	TOLERANCE	ACTUAL
MASTER TERMINAL CONTROL STATION (GPA ONLY)		
1. OUT Jack of Drop Amp 6-8, A	± 1/2 db	_____ db m
2. OUT Jack of Drop Amp 6-8, B	± 1/2 db	_____ dbm
3. 3,400 cps Tone Level Radio West TX (J2 EQUIP)	13 db ± 1/2 db Below Test Tone	_____ dbm

DATE 27 June 63

TESTER K E Carter

SUPERVISOR Kenneth E Carter

QUALITY ASSURANCE W E Brown

Spear

BRII/131

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION GM-GA

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION	TOLERANCE	ACTUAL
1. Circuit A TX (J27)	± 1/2 db	-13.1 dbm
2. Circuit B TX (J29)	± 1 db	-13.1 dbm
3. Circuit D TX (J-34 ~~J34~~)	± 1/2 db	-5 dbm
4. Circuit F TX (J38)	± 1 db	X dbm
5. Circuit B TX (J29)	± 1/2 db	-13 dbm
6. Circuit C TX (J-34 ~~J32~~)	± 1/2 db	-5 dbm
7. Circuit C TX (J-34 ~~J32~~)	± 1/2 db	-4.8 dbm
8. Circuit C TX (J-34 ~~J32~~)	± 1/2 db	-4.9 dbm
9. 3,400 cps Tone Level Circuit A TX (J 27)	13 db + 1/2 db Below Test Tone	-26 dbm

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DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION G.K. G.A.

	TOLERANCE	ACTUAL
MASTER TERMINAL CONTROL STATION (GPA ONLY)		
1. OUT Jack of Drop Amp 6-8, A	± 1/2 db	_____ db m
2. OUT Jack of Drop Amp 6-8, B	± 1/2 db	_____ dbm
3. 3,400 cps Tone Level Radio West TX (J2 EQUIP)	13 db ± 1/2 db Below Test Tone	_____ dbm

DATE 4 July 63

TESTER [illegible]

SUPERVISOR Russell E Cates

QUALITY ASSURANCE K. G. Bird
ARE

3-12

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION GA

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION	TOLERANCE	ACTUAL
1. Circuit A TX (J27)	± 1/2 db	-13 dbm
2. Circuit B TX (J29)	± 1 db	-13 dbm
3. Circuit D TX (J-36)	± 1/2 db	-5 dbm
4. Circuit F TX (J38)	± 1 db	XXX dbm
5. Circuit B TX (J29)	± 1/2 db	-13 dbm
6. Circuit C TX (J-34)	± 1/2 db	-5 dbm
7. Circuit C TX (J-34)	± 1/2 db	-5 dbm
8. Circuit C TX (J-34)	± 1/2 db	-5 dbm
9. 3,400 cps Tone Level Circuit A TX (J 27)	13 db + 1/2 db Below Test Tone	-26 dbm

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DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION GA

	TOLERANCE	ACTUAL
MASTER TERMINAL CONTROL STATION (GPA ONLY)		
1. OUT Jack of Drop Amp 6-8, A	± 1/2 db	XXXXX db m
2. OUT Jack of Drop Amp 6-8, B	± 1/2 db	XXXXXX dbm
3. 3,400 cps Tone Level Radio West TX (J2 EQUIP)	13 db + 1/2 db Below Test Tone	XXXXXXX dbm

DATE 10 July 1963

TESTER Judy. Thrift

SUPERVISOR Paul M Davenport

QUALITY ASSURANCE Stanlandeck

GEEIA Robert O Leglar

FEDERAL ELECTRIC CORPORATION

B IG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION G-PA

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION	TOLERANCE	ACTUAL
1. Circuit A TX (J27)	± 1/2 db	N/A dbm
2. Circuit B TX (J29)	± 1 db	dbm
3. Circuit D TX (J-36 ~~J32~~)	± 1/2 db	dbm
4. Circuit F TX (J38)	± 1 db	dbm
5. Circuit B TX (J29)	± 1/2 db	dbm
6. Circuit C TX (J-34 ~~J32~~)	± 1/2 db	dbm
7. Circuit C TX (J-34 ~~J32~~)	± 1/2 db	dbm
8. Circuit C TX (J-34 ~~J32~~)	± 1/2 db	dbm
9. 3,400 cps Tone Level Circuit A TX (J 27)	13 db ± 1/2 db Below Test Tone	dbm

BRII/131

DATA SHEET

MAIN LINE ORDER WIRE STATION TEST

STATION GPA

	TOLERANCE	ACTUAL
MASTER TERMINAL CONTROL STATION (GPA ONLY)		
1. OUT Jack of Drop Amp 6-8, A	± 1/2 db	4.5 db m
2. OUT Jack of Drop Amp 6-8, B	± 1/2 db	13.5 dbm
3. 3,400 cps Tone Level Radio West TX (J2 EQUIP)	13 db ± 1/2 db Below Test Tone	-33 . dbm

DATE 4 July 63

TESTER Wm D Gray

SUPERVISOR J. Wentwood

QUALITY ASSURANCE M. Cain

GEEIA Robert A Taylor

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FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE LINK TEST

STATION I.D.

NOTES:
1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

	TOLERANCE	ACTUAL
LINK CIRCUIT LEVELS		
1. Radio East RX	± 1 db	-10 dbm
2. Radio West RX	± 1 db	N/A. dbm
3. EXOW	± 1 db	N/A dbm

OVER-RIDE OPERATION

1. Transmit Circuit — ERRATIC & INTERMITTENT OPERATION. Initial if Okay _____
2. Receive Circuit _____
3. Transmit Circuit (Master Term. Cont.- GPA) _____
4. Receive Circuit ((Master Term. Cont. - GPA) _____

DATE 17 JUNE 1963

TESTER K. Holmes

SUPERVISOR K. Gilmore

QUALITY ASSURANCE B Edwards

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BRII/132

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE LINK TEST

STATION 1R-E / 1R-W

NOTES:
1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

	TOLERANCE	ACTUAL
LINK CIRCUIT LEVELS		
1. Radio East RX	± 1 db	± 0 dbm
2. Radio West RX	± 1 db	± 0 dbm
3. EXOW	± 1 db	X dbm
OVER-RIDE OPERATION		
1. Transmit Circuit	Initial if Okay	RBS
2. Receive Circuit		RBS
3. Transmit Circuit (Master Term. Cont.- GPA)		X
4. Receive Circuit ((Master Term. Cont. - GPA)		X

NOTE: MEASUREMENT MADE AT RX KEY TEL SET JACK.

DATE 16 JUNE, 1963

TESTER Martin Urquhart

SUPERVISOR R. Wooding

QUALITY ASSURANCE RB Spear
LRP

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BRII/132

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE LINK TEST

STATION IC

NOTES:
1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

	TOLERANCE	ACTUAL
LINK CIRCUIT LEVELS		
1. Radio East RX	-10 dbm ± 1 db	-9 dbm
2. Radio West RX	-10 dbm ± 1 db	-9.5 dbm
3. EXOW	± 1 db	dbm

OVER-RIDE OPERATION

1. Transmit Circuit — Unsatisfactory RDS / RDS — Initial if Okay _____
2. Receive Circuit — Unsatisfactory _____
3. Transmit Circuit (Master Term. Cont.- GPA) _____
4. Receive Circuit ((Master Term. Cont. - GPA) _____

DATE 27 June 67

TESTER R. Shady

SUPERVISOR T. A. Gonzales

QUALITY ASSURANCE Will. R. Nutt

GEEIA Robert D Leyba

SHEET 1 OF 1

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FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE LINK TEST

STATION GK. I. P

NOTES:
1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

	TOLERANCE	ACTUAL
LINK CIRCUIT LEVELS		
1. Radio East RX	± 1 db	N/A dbm
2. Radio West RX	± 1 db	-9.8 dbm
3. EXOW	± 1 db	N/A dbm

OVER-RIDE OPERATION

1. Transmit Circuit	Initial if Okay B.E.B.
2. Receive Circuit	
3. Transmit Circuit (Master Term. Cont.- GPA)	
4. Receive Circuit ((Master Term. Cont. - GPA)	

DATE 27 June 63

TESTER R E Coates

SUPERVISOR R E Coates

QUALITY ASSURANCE B. E. Brown

SHEET 1 OF 1

GKE

BRII/132

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE LINK TEST

STATION GK-GA

NOTES:
1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

	TOLERANCE	ACTUAL
LINK CIRCUIT LEVELS		
1. Radio East RX	± 1 db	10.2 dbm
2. Radio West RX	± 1 db	X dbm
3. EXOW	±1 db	X dbm
OVER-RIDE OPERATION		
1. Transmit Circuit	Initial if Okay	UNSAT.
2. Receive Circuit		UNSAT
3. Transmit Circuit (Master Term. Cont.- GPA)		N/A
4. Receive Circuit ((Master Term. Cont. - GPA)		N/A.

DATE 11 July 63

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]
GEEIA

SHEET 1 OF 1

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BRII/132

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE LINK TEST

STATION GA

NOTES:
1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

	TOLERANCE	ACTUAL
LINK CIRCUIT LEVELS		
1. Radio East RX	± 1 db	-13.2 dbm
2. Radio West RX	± 1 db Rx 1 -10.3 Rx2 -9.0	Rx3 -10.3 Rx4 -11 dbm
3. EXOW	± 1 db	N/A dbm
OVER-RIDE OPERATION		
1. Transmit Circuit	Initial if Okay	INTERMITTENT
2. Receive Circuit		INTERMITTENT
3. Transmit Circuit (Master Term. Cont.- GPA)		XXXXX
4. Receive Circuit ((Master Term. Cont. - GPA)		XXXXX

DATE 14 July 1963

TESTER Joel H. Third

SUPERVISOR Paul J. Davenport

QUALITY ASSURANCE Herb Kendall

GEEIA Robert D Leyler

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BRII/132

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

MAIN LINE ORDER WIRE LINK TEST

STATION GPA

NOTES:
1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

	TOLERANCE	ACTUAL
LINK CIRCUIT LEVELS		
1. Radio East RX	± 1 db	-20 dbm
2. Radio West RX	± 1 db	x dbm
3. EXOW	± 1 db	x dbm
OVER-RIDE OPERATION		
1. Transmit Circuit	Initial if Okay	See note
2. Receive Circuit		x
3. Transmit Circuit (Master Term. Cont.- GPA)		See note
4. Receive Circuit ((Master Term. Cont. - GPA)		x

Note: Intermittent and unstable

DATE 14 July 63

TESTER Vincent Quinn

SUPERVISOR J. Wenzel

QUALITY ASSURANCE W. Gris

GEEIA J. Pabst

SHEET 1 OF 1

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FEDERAL ELECTRIC CORPORATION BRII/156

BIG RALLY II PROJECT

DATA SHEET

STATION GPA ~~(GA)~~ GAB

STATION TESTS	EXPECTED	ACTUAL
1. Signal Transmit Level, Jack Pos.24	(-15 ± 0.5 dbm)	~~see note~~ -15 ~~-14~~ dbm
2. Signal Transmit Level, Jack Pos.26	(-15 ± 0.5 dbm)	-15 ~~-14~~ dbm
3. Pad Loss, GAB	(-20 ± 0.5 dbm)	-21 dbm
4. Pad Loss, GTA	(-20 ± 0.5 dbm)	N/A dbm
5. Pad Loss, GIM	(-20 ± 0.5 dbm)	N/A dbm
6. Amplifier A Gain Adjust, Pos. 12-6	(-5 ± 0.5 dbm)	-5 dbm
7. Amplifier B Gain Adjust, Pos. 12-6	(-5 ± 0.5 dbm)	-5 dbm
8. Amplifier A Gain Adjust, Pos. 12-7	(-5 ± 0.5 dbm)	-5 dbm
9. Order Wire Receive, GAB	(Lamp 1 ON & Buzzer)	ok-MC Int
10. Order Wire Receive, GTA	(Lamp 2 ON & Buzzer)	N/A Int
11. Order Wire Receive, GIM	(Lamp 3 ON & Buzzer)	N/A Int
12. Order Wire Receive, GPA(GHO)	(Lamp 4 ON & Buzzer)	N/A Int

LINK TESTS	EXPECTED	ACTUAL
1. Receive Level		
GPA to GAB	(-5 ± 1 dbm)	-4.1 dbm
GPA to GTA	(-5 ± 1 dbm)	N/A dbm
GPA to GIM	(-5 ± 1 dbm)	N/A dbm
GPA to GHO	(-5 ± 1 dbm)	N/A dbm

Note: ~~not within specifications.~~ OK & Pelant 6EEIA

Sheet

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LINK TESTS	EXPECTED	ACTUAL
2. Signalling		
GPA to GAB	(Lamp ON & Buzzer at GAB)	ok-MC Int
GPA to GTA	(Lamp ON & Buzzer at GTA)	N/A Int
GPA to GIM	(Lamp ON & Buzzer at GIM)	N/A Int
GPA to GHO	(Lamp ON & Buzzer, GHO Shelter)	N/A Int
	(Buzzer, GHO LOS Bldg.)	N/A Int

DATE 20 July 63

TESTER Wm L Gray

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

FEDERAL ELECTRIC CORPORATION BRII/155

BIG RALLY II PROJECT

DATA SHEET

STATION GAB (GPA AND GEL) ORDER WIRE

STATION TESTS	EXPECTED	ACTUAL
1. Signal Transmit Level	(-15 ± 0.5 dbm)	-35.0 dbm
2. Bridge Transmit Loss, W Mod	(-20 ± 0.5 dbm)	-20.0 dbm
3. Amplifier A Gain Adjust, Pos. 9-3	(-16 ± 0.5 dbm)	-4.0 dbm
TCC-3 Not modified to accept -16 dbm input level		
4. Pad Loss	(0 ± 0.5 dbm)	N/A dbm
5. Bridge Receive Loss, Spur Mod	(-20 ± 0.5 dbm)	-20.0 dbm
6. Amplifier A Gain Adjust, Pos. 9-4	(-5 ± 0.5 dbm)	-5.0 dbm
7. Bridge Transmit Loss, E Mod	(-20 ± 0.5 dbm)	-20.0 dbm
8. Amplifier B Gain Adjust, Pos.9-3	(0 ± 0.5 dbm)	0 dbm
9. Order Wire Receive	(Lamp ON & Buzzer)	WJS Int

LINK TESTS	EXPECTED	ACTUAL
1. Receive Level		
GAB to GEL	(-5 ± 1 dbm)	-3.2 dbm
GAB to GPA	(-5 ± 1 dbm)	-5.0 XXXX dbm
2. Signalling		
GAB to GEL	(Lamp ON & Buzzer at GEL)	WJS Int
GAB to GPA	(Lamp 1 on & Buzzer at GPA)	WJS

DATE 19 JULY 1963

TESTER W. J. Schneider

SUPERVISOR Frank J. Stazinski

QUALITY ASSURANCE Don Kendall

GEEIA Robert D Leyba 3-26

FEDERAL ELECTRIC CORPORATION BRII/151

BIG RALLY II PROJECT

DATA SHEET

STATIONS ICC(IC), GEL(GAB), TCO(TKG) AND TES(TKG)

STATION TESTS	EXPECTED	ACTUAL
1. Signal Transmit Level	(-30 ± 0.5 dbm)	-30 dbm
2. Bridge Transmit Loss, W Mod	(-16 ± 0.5 dbm)	-16 dbm
3. Amplifier A Gain Adjust, Pos.9-3	(~~-6~~ -4 ± 0.5 dbm)	-4 dbm
4. Bridge Receive Loss, Spur Mod.	(-16 ± 0.5 dbm)	-16 dbm
5. Amplifier A Gain Adjust, Pos.9-4	(-5 ± 0.5 dbm)	-5 dbm
6. Bridge Transmit Loss, E Mod	(-16 ± 0.5 dbm)	-16 dbm
7. Amplifier B Gain Adjust, Pos.9-3	(-5 ± 0.5 dbm)	-5 dbm
8. Order Wire Receive	(Lamp ON & Buzzer)	MC Int

LINK TESTS	EXPECTED	ACTUAL
1. Receive Level		
TCO to TKG	(-5 ± 1 dbm)	_____ dbm
TES to TKG	(-5 ± 1 dbm)	_____ dbm
ICC to IC Shelter	(-5 ± 1 dbm)	_____ dbm
ICC to IC Van	(-5 ± 1 dbm)	_____ dbm
GEL to GAB	(-5 ± 1 dbm)	* -3.2 dbm

L R Pelosi
GEEIA

* out of spec

3-27

LINK TESTS	EXPECTED	ACTUAL
2. Signalling		
TCO to TKG	(Lamp 1 ON & Buzzer at TKG)	_____ Int
TES to TKG	(Lamp 4 ON & Buzzer at TKG)	_____ Int
IGC to IC Shelter	(Lamp ON & Buzzer, IC Shelter	_____ Int
IGC to IC Van	(Lamp ON & Buzzer, IC Van)	_____ Int
GEL to GAB	(Lamp ON & Buzzer at GAB)	OK SRP Int

DATE 21 June 63

TESTER George B Barrett

SUPERVISOR Andrew J Horvath

QUALITY ASSURANCE M. Cini

S R Pelbert

BRII/141

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

TECHNICAL CONTROL EQUIPMENT

STATION (Check one) ID ✓, IC _____, GPA-1 _____.

			Expected	Actual
1.	Bridge Loss	(Step E)	-8 ± 1 dbm	-7.9 dbm
		(Step G)	-8 ± 1 dbm	-7.3 dbm
		(Step J)	-8 ± 1 dbm	-7.4 dbm
		(Step O)	-8 ± 1 dbm	-7.7 dbm
2.	Terminating Set Insertion Loss		-5 ± 0.5 dbm	-4.8 dbm
3.	Pad Loss	(Step E)	-16 dbm ±0.5 dbm	-16 dbm
		(Step K)	-16 dbm±0.5 dbm	-16 dbm
4.	Amplifier Gain	(Step E)	-3 dbm ± 0.5 dbm	-3 dbm
		(Step H)	+7dbm ±0.5 dbm	+7 dbm
		(Step M)	+7 dbm±0.5 dbm	+7 dbm
		(Step R)	+7dbm± 0.5 dbm	+7 Dbm
5.	Transmit Signal Level		0 ± 0.5 dbm	-0.3 dbm
6.	Tone Oscillator Level		-12 dbm ±0.5dbm	-26 READ AT MUX CHANNEL 12 AT Equipment O/T. dbm
7.	Dialing Test			K.N. Initials

DATE 8 June 63

TESTER K Nelson

SUPERVISOR R E Hollis

QUALITY ASSURANCE L E Kelly

L R P 3-29

BRII/141

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

TECHNICAL CONTROL EQUIPMENT

STATION (Check one) ID_____, IC_____, GPA-1 X .

			Expected	Actual
1.	Bridge Loss	(Step E)	-8 ± 1 dbm	-7.5 dbm
		(Step G)	-8 ± 1 dbm	-7.5 dbm
		(Step J)	-8 ± 1 dbm	-7.5 dbm
		(Step O)	-8 ± 1 dbm	-7.5 dbm
2.	Terminating Set Insertion Loss		-5 ± 0.5 dbm	-5 dbm
3.	Pad Loss	(Step E)	-20 ~~-16~~ dbm ±0.5 dbm See note	-20 dbm
		(Step K)	-16 dbm ±0.5 dbm	-16 dbm
4.	Amplifier Gain	(Step E)	-3 dbm ± 0.5 dbm	-3 dbm
		(Step H)	~~+7~~dbm ±0.5 dbm	+7 db m
		(Step M)	~~+7~~ dbm ±0.5 dbm	+7 dbm
		(Step R)	~~+7~~dbm ± 0.5 dbm	+7 Dbm
5.	Transmit Signal Level		0 ± 0.5 dbm	~~-1~~ -0 dbm JB
6.	Tone Oscillator Level	See note	-18 ~~-12~~ dbm ±0.5dbm	-18 dbm
7.	Dialing Test			MC Initials

DATE 17 JULY 63

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

Note: Changes made per instructions of Mr. W. Shoemaker, I.S.E.I. Engineer

GEEIA [signature]

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FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATASHEET

TECHNICAL CONTROL EQUIPMENT

STATION GPA-2 only.

			Expected	Actual
1.	Bridge Loss	(Step F)	-8 ± 1 dbm	-8 dbm
		(Step J)	-8 ± 1 dbm	-8 dbm
		(Step N)	-8 ± 1 dbm	-8 dbm
		(Step R)	-8 ± 1 dbm	-8 dbm
2.	Pad Loss	(Step D)	- 16 dbm ± 0.5 dbm	-16 dbm
		(Step F)	-16db m ± 0.5 dbm	-16 dbm
		(Step H)	-16dbm ±0.5 dbm	-16 dbm
		(Step K)	-16 dbm± 0.5 dbm	-16 dbm

DATE 17 July 63

TESTER Wm S Gray

SUPERVISOR J. Wemyss

QUALITY ASSURANCE M. Cr'l

GEEIA A Pelant

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

TECHNICAL CONTROL EQUIPMENT

STATION (Check one) TIC _____, GAB-1 XXXXX .

			Expected	Actual
1.	Bridge Loss	(Step E)	-8 ± 1 dbm	-8.0 dbm
		(Step H)	-8 ± 1 dbm	-8.0 dbm
2.	~~Pad Loss~~ E MOD LOSS		-16 ± 0.5 dbm	-16.0 dbm
3.	Amplifier Gain	(Step E)	+7 ±0.5 dbm	+7.0 dbm
		(Step G)	-3 ± 0.5 dbm	-3.0 dbm
		(Step K)	~~-8~~ +7 ± 0.5 dbm	+7.0 dbm
		(Step M)	-3 ± 0.5 dbm	-3.0 dbm
4.	Tone Oscillator Level	(Step D)	~~-18~~ -26 ± 0.5 dbm	-26.0 dbm
		(Step G)	~~XXX~~ -26 ± 0.5 dbm	-26.0 dbm
5.	Dialing Operation			WJS Initials

DATE 16 JULY 1963

TESTER W. J. Schneider

SUPERVISOR Frank J. Skopinski

QUALITY ASSURANCE [illegible]

GEEIA [illegible]

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

TECHNICAL CONTROL EQUIPMENT

STATION (Check one) IGC_____, GEL X, TI_____, GTA_____,

GIM_____, GPE_____, GAG_____.

			Expected	Actual
1.	Pad Loss	See note -5	-~~10~~ ± 0.5 dbm	-5 dbm
2.	Receive Level		-16 ± 0.5 dbm	N/A dbm
3.	Transmit Signal Level	-4	-~~14~~ ± 0.5 dbm	-4 dbm
4.	Tone Oscillator Level	-16	-~~26~~ ± 0.5 dbm	-16 dbm
5.	Dialing Operation			N/A Initials

Note: Test performed in accordance with changes in test procedure made by Mr. Detweiler, F.E.C. T.&A Eng.

DATE 21 July 1963

TESTER George D Bennett

SUPERVISOR Andrew J Howard

QUALITY ASSURANCE W. Cain

GEEIA C R Pellett

BRII/147

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

TECHNICAL CONTROL LINK TEST

1. Circuit (Check one) A_____, B XXXX, C_____, D_____.

2. Transmit Station (Check one): IAV_____, ID_____, IC_____,
IGC_____, GAB XXXX, GAG_____, GEL_____,
GHO_____, GIM_____, GPA_____, GPE_____,
GTA_____, TID_____, TIC_____.

3. Receive Stations (Initial for stations contacted)

Circuit: A		B		C		D	
Code:	Station 52		Station 52		Station 52		Station 52
IAV	_____, ____	GEL	WJS, _____	GAB	____, ____	TIC	_____, _____
ID	_____, ____	GAB	____, _____	GPA	____, ____	TID	____, _____
IC	_____, ____	GPA	WJS, _____	GTA	____, ____		
IGC	____, ____			GIM	____, ____		
				GHO	____, ____		
				GPE	____, ____		
				GAG	____, ____		

SIGNALLING NOT OPERATING CORRECTLY ON ALL DIALING CODES.

DATE 29 July 1963

TESTER W. J. Schroeder

SUPERVISOR Frank J. Stopinski

QUALITY ASSURANCE Stan Pondelik 3-34

GEEIA Robert D. Ziegler

BRII/147

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

TECHNICAL CONTROL LINK TEST

1. Circuit (Check one) A_____, B XXXX, C_____, D_____.

2. Transmit Station (Check one): IAV_____, ID_____, IC_____,
IGC_____, GAB_____, GAG_____, GEL XXXX,
GHO_____, GIM_____, GPA_____, GPE_____,
GTA_____, TID_____, TIC_____.

3. Receive Stations (Initial for stations contacted)

Circuit: A		B		C		D	
Code:	Station 52		Station 52		Station 52		Station 52
IAV	____, ____	GEL	____, ____	GAB	____, ____	TIC	____, ____
ID	____, ____	GAB GB*	____, ____	GPA	____, ____	TID	____, ____
IC	____, ____	GPA GB	____, ____	GTA	____, ____		
IGC	____, ____			GIM	____, ____		
				GHO	____, ____		
				GPE	____, ____		
				GAG	____, ____		

NOTE. ~~COULD NOT REACH GAB ON 550 AND ALL STATIONS ON 52~~
Telephone signalling function is not complete.

* Teal control utterance only

DATE 22 July 1963

TESTER George B Barnett

SUPERVISOR Andrew J Horvath

QUALITY ASSURANCE L Boucher

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FEDERAL ELECTRIC CORPORATION BR 11/81

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TEST

STATION GA LOS

Transmission Path: From Station GA to STATION GPA

		EXPECTED	ACTUAL
1.	TRANSMITTER "A"		
	A. TX Klystron Beam Current	35-85MA (1.5-3.6)	2.7 MA
	B. Power Output	Minimum +28 dbm	+28 dbm
	C. Transmitter RF Frequency		
	1) Assigned Operating Freq.		8.155 GC
	2) Measured Freq. (AFC ON)	±0.005% of Assigned Freq.	8.154 GC
	3) ACF PULL-IN, MI Reading (Detune Repeller-Fine Control 5 Div CW)	Minimum 9 35 SECONDS TIME	10
	4) AFC PULL-IN, MI Reading (Detune Repeller-Fine Control 5 DIV CCW)	Minimum 9 32 SECONDS TIME	10
2.	TRANSMITTER "B"		
	A. TX Klystron Beam Current	35-85MA (1.5-3.6)	3.0 MA
	B. Power Output	Minimum +28 dbm	+28.5 dbm

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FEDERAL ELECTRIC CORPORATION BR 11/81

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TEST

	EXPECTED	ACTUAL
C. Transmitter RF Frequency		
1) Assigned Operating Freq.		8.155 GC
2) Measured Freq. (AFC ON)	±0.005% of Assigned Freq.	8.15376 GC
3) AFC PULL IN, MI Reading (Detune Repeller-Fine Control 5 DIV CW)	Minimum 9	INOPERATIVE
4) AFC PULL-IN, MI Reading (Detune Repeller-Fine Control 5 DIV. CCW)	Minimum 9	INOPERATIVE

TRANSMITTER STABLIZES APPROXIMATELY 5 MCS OFF ASSIGNED FREQUENCY

DATE 6 July 1963

TESTER Jack N. Thiel

SUPERVISOR Paul J. Davenport

QUALITY ASSURANCE Stan Randell

GEETA Roberto Leger

4-2

FEDERAL ELECTRIC CORPORATION BR 11/81

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TEST

STATION GPA

Transmission Path: From Station GPA to STATION GA

		EXPECTED	ACTUAL
1.	TRANSMITTER "A"		
	A. TX Klystron Beam Current	35-85MA (1.5-3.6)	2.4 MA
	B. Power Output	Minimum +28 dbm	29.6 dbm
	C. Transmitter RF Frequency		
	1) Assigned Operating Freq.		8345 GC
	2) Measured Freq. (AFC ON)	±0.005% of Assigned Freq.	8344.200 GC
	3) ACF PULL-IN, MI Reading (Detune ~~Repeller-Fine-Control~~ 5 Div CW) Mechanical klystron freq. adjust.	Minimum 9	1:45 secs. 10
	4) AFC PULL-IN, MI Reading (Detune ~~Repeller-Fine-Control~~ 5 DIV CCW) Mechanical klystron freq. adjust.	Minimum 9	:45 secs. 10
2.	TRANSMITTER "B"		
	A. TX Klystron Beam Current	35-85MA (1.5-3.6)	3.0 MA
	B. Power Output	Minimum +28 dbm	+28.9 dbm

FEDERAL ELECTRIC CORPORATION BR 11/81

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TEST

	EXPECTED	ACTUAL
C. Transmitter RF Frequency		
1) Assigned Operating Freq.		8345 GC
2) Measured Freq. (AFC ON)	±0.005% of Assigned Freq.	8346.000 GC
3) AFC PULL IN, MI Reading (Detune ~~Repeller-Fine Control~~ 5 DIV CW) Mechanical klystron freq. adjust.	Minimum 9 :57 secs.	10
4) AFC PULL-IN, MI Reading (Detune ~~Repeller-Fine Control~~ 5 DIV. CCW) Mechanical klystron freq. adjust.	Minimum 9 :27 secs.	10

DATE 3 July 1963

TESTER Vincent Quinn

SUPERVISOR J. Remington

QUALITY ASSURANCE [illegible]

GEEIA Robert D. Legler

FEDERAL ELECTRIC CORPORATION BR 11/81

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TEST

STATION GPA

Transmission Path: From Station GPA to STATION GAB

		EXPECTED	ACTUAL
1.	TRANSMITTER "A"		
	A. TX Klystron Beam Current	35-85MA (1.5-3.6)	2.7 MA 29.7
	B. Power Output	Minimum +28 dbm	dbm
	C. Transmitter RF Frequency		
	1) Assigned Operating Freq.		8265 GC
	2) Measured Freq. (AFC ON)	±0.005% of Assigned Freq. see note	8266.84 GC
	3) ACF PULL-IN, MI Reading (Detune Repeller-Fine Control 5 Div CW)	Minimum 9 see note	9 in 27 secs
	4) AFC PULL-IN, MI Reading (Detune Repeller-Fine Control 5 DIV CCW)	Minimum 9 see note	9 in 70 secs
2.	TRANSMITTER "B"		
	A. TX Klystron Beam Current	35-85MA (1.5-3.6)	2.5 MA
	B. Power Output	Minimum +28 dbm	29.6 dbm

Notes: do not meet specs.

FEDERAL ELECTRIC CORPORATION BR 11/81

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TEST

	EXPECTED	ACTUAL
C. Transmitter RF Frequency		
1) Assigned Operating Freq.		8265 GC
2) Measured Freq. (AFC ON)	±0.005% of Assigned Freq.	8265.28 GC
3) AFC PULL IN, MI Reading (Detune Repeller-Fine Control 5 DIV CW)	Minimum 9	9 ~~in 9 secs.~~
4) AFC PULL-IN, MI Reading (Detune Repeller-Fine Control 5 DIV. CCW)	Minimum 9	see note ~~9 in 55 secs~~

note: do not meet specs.

DATE ~~28~~ July 63

TESTER Vincent T Quinn

SUPERVISOR J. Weingard

QUALITY ASSURANCE M. Crisp

GEEIA A Pelant

FEDERAL ELECTRIC CORPORATION BR 11/81

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TEST

STATION GAB

Transmission Path: From Station GAB to STATION GPA

		EXPECTED	ACTUAL
1.	TRANSMITTER "A"		
	A. TX Klystron Beam Current	35-85MA (1.5-3.6)	2.7 ~~XXX~~
	B. Power Output	Minimum +28 dbm	≠ 28 dbm
	C. Transmitter RF Frequency		
	1) Assigned Operating Freq.		8.075 GC
	2) Measured Freq. (AFC ON)	±0.005% of Assigned Freq.	~~8.0762~~ 8.0751 GC see revised sheet.
	3) ACF PULL-IN, MI Reading (Detune Repeller-Fine Control 5 Div CW) 28 seconds time required	Minimum 9	9
	4) AFC PULL-IN, MI Reading (Detune Repeller-Fine Control 5 DIV CCW) 32 seconds time required	Minimum 9	9
2.	TRANSMITTER "B"		
	A. TX Klystron Beam Current	35-85MA (1.5-3.6)	2.9 MA
	B. Power Output	Minimum +28 dbm	≠ 29.4 dbm

BR/81
REVISED DATA
REF.: DD/250, item 1W

STATION GAB

TRANSMISSION PATH FROM STATION GAB TO STATION GPA

C. TRANSMITTER R.F. FREQUENCY.

1) ASSIGNED FREQUENCY 8.075GC

2) MEASURED FREQ.(AFC ON). 8.07512GC

NOTE: REFERENCE CAVITY AT THIS STATION WAS TUNED PRIOR TO PERFORMING THIS TEST.

Date 30 January 1964

Q.A./ I.S.E.I. [signature]

AFCS Site Chief [signature]

4-7A

FEDERAL ELECTRIC CORPORATION BR 11/81

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TEST

	EXPECTED	ACTUAL
C. Transmitter RF Frequency		
1) Assigned Operating Freq.		8.075 GC
2) Measured Freq. (AFC ON)	±0.005% of Assigned Freq.	8.07528 GC
3) AFC PULL IN, MI Reading (Detune Repeller-Fine Control 5 DIV CW) 12 seconds time required	Minimum 9	9
4) AFC PULL-IN, MI Reading (Detune Repeller-Fine Control 5 DIV. CCW) 29 seconds time required	Minimum 9	9

DATE 17 JULY 1963

TESTER Wm J Schumaker

SUPERVISOR Grant J Skorjinski

QUALITY ASSURANCE Don Cordell

GEEIA Robert D Zeglen

4-8

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT BR II/82

DATA SHEET

MW-503A LOS STATION TEST

STATION GA LOS

Transmitter Path: From Station GA to Station GPA

	EXPECTED	ACTUAL
1. RECEIVER A		
A. RX Klystron Beam Current	15-32 MA	26 MA
B. IF Limiter Current (Meter M201 Reading)	(-19 will not meet requirement) MAX -20	-50 (Pegged)
C. IF AMP Noise Level	-17 ± 3 db	-17.5 db
D. Receiver 3 db Quieting Sensitivity	MAX -85 dbm	-86.6 dbm
E. IF AMP Deviation Sensitivity	+3 to -3 db	-1.6 db
2. RECEIVER B		
A. RX Klystron Beam Current	15-32 MA	24 MA
B. IF Limiter current (Meter M201 Reading)	(-19 will not meet requirement) MAX -20	-50 (Pegged)
C. IF AMP Noise Level	-17 ± 3 db	-15.5 db
D. Receiver 3 db Quieting Sensitivity	MAX -85 dbm	-88.6 dbm
E. IF AMP Deviation Sensitivity	+3 to -3 db	-1.6 db

DATE 7 July 1963

TESTER Jul H. Thiel

SUPERVISOR Paul A. Davenport

QUALITY ASSURANCE Stan Ferrell 4-9

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT BR II '82

DATA SHEET

MW-503A LOS STATION TEST

STATION GPA

Transmitter Path: From Station GPA to Station GA

	EXPECTED	ACTUAL
1. RECEIVER A		
A. RX Klystron Beam Current	15-32 MA	32 MA
B. IF Limiter Current (Meter M201 Reading)	(-19 will not meet requirement) MAX -20	Pegged
C. IF AMP Noise Level	-17 ± 3 db	18.5 db
D. Receiver 3 db Quieting Sensitivity	MAX -85 dbm	86.5 dbm
E. IF AMP Deviation Sensitivity	+3 to -3 db	2.8 db
2. RECEIVER B		
A. RX Klystron Beam Current	15-32 MA	22 MA
B. IF Limiter current (Meter M201 Reading)	(-19 will not meet requirement) MAX -20	Pegged
C. IF AMP Noise Level	-17 ± 3 db	18 db
D. Receiver 3 db Quieting Sensitivity	MAX -85 dbm	85 dbm
E. IF AMP Deviation Sensitivity	+3 to -3 db	2.6 db

DATE 3 July 63

TESTER Vincent Quinn

SUPERVISOR J. Weingard

QUALITY ASSURANCE Mario Cruz

GEEIA Robert A. Taylor

4-10

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT BR II/82

DATA SHEET

MW-503A LOS STATION TEST

STATION GPA

Transmitter Path: From Station GPA to Station GAB

		EXPECTED	ACTUAL
1.	RECEIVER A		
	A. RX Klystron Beam Current	15-32 MA	21.5 MA
	B. IF Limiter Current (Meter M201 Reading)	(-19 will not meet requirement) MAX -20	Off scale
	C. IF AMP Noise Level	-17 ± 3 db	-17.5 db
	D. Receiver 3 db Quieting Sensitivity	MAX -85 dbm	-85 dbm
	E. IF AMP Deviation Sensitivity	+3 to -3 db	-2.6 db
2.	RECEIVER B		
	A. RX Klystron Beam Current	15-32 MA	26 MA
	B. IF Limiter current (Meter M201 Reading)	(-19 will not meet requirement) MAX -20	-40
	C. IF AMP Noise Level	-17 ± 3 db	-18.2 db
	D. Receiver 3 db Quieting Sensitivity	MAX -85 dbm	-85 dbm
	E. IF AMP Deviation Sensitivity	+3 to -3 db	-2.4 db

DATE 18 July 63

TESTER Vincent Quinn

SUPERVISOR J. Wemmer

QUALITY ASSURANCE M. Crist

GEEIA L. Peterson

4-11

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT BR II/82

DATA SHEET

MW-503A LOS STATION TEST

STATION GAB

Transmitter Path: From Station GAB to Station GPA

		EXPECTED	ACTUAL
1.	RECEIVER A		
	A. RX Klystron Beam Current	15-32 MA	29.0 MA
	B. IF Limiter Current (Meter M201 Reading)	(-19 will not meet requirement) MAX -20	-50 (Pegged)
	C. IF AMP Noise Level	-17 ± 3 db	-20.0 db
	D. Receiver 3 db Quieting Sensitivity	MAX -85 dbm	-88.5 dbm
	E. IF AMP Deviation Sensitivity	+3 to -3 db	-2.3 db
2.	RECEIVER B		
	A. RX Klystron Beam Current	15-32 MA	23.0 MA
	B. IF Limiter current (Meter M201 Reading)	(-19 will not meet requirement) MAX -20	-50 (Pegged)
	C. IF AMP Noise Level	-17 ± 3 db	-19.8 db
	D. Receiver 3 db Quieting Sensitivity	MAX -85 dbm	-85.2 dbm
	E. IF AMP Deviation Sensitivity	+3 to -3 db	-2.8 db

DATE 16 JULY 1963

TESTER Wm. J. Schneider

SUPERVISOR Frank J. Skorpinski

QUALITY ASSURANCE Don Randell

GEEIA Robert D. Taylor

4-12

FEDERAL ELECTRIC CORPORATION BR 11/83

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GA LOS

Transmission Patch: From Station GA to STATION GPA

	EXPECTED	ACTUAL
1. HOT STANDBY CONFIGURATION		
A. VSWR Measurement at TX Frequency	1.4:1	_____ :1
B. VSWR Measurement at RX Frequency	1.4:1	_____ :1
2. FREQUENCY DIVERSITY CONFIGURATION		
A. VSWR Measurement at TX-A Frequency	1.4:1	_____ :1
B. VSWR Measurement at TX-B Frequency	1.4:1	_____ :1
C. VSWR Measurement at RX-A Frequency	1.4:1	_____ :1
D. VSWR Measurement at RX-B Frequency	1.4:1	_____ :1
3. SPACE DIVERSITY CONFIGURATION		
A. Waveguide Run #1		
1) VSWR Measurement at TX Frequency	1.4:1	1.14 :1
2) VSWR Measurement at RX Frequency	1.4:1	1.187 :1
B. Waveguide Run #2		
1) VSWR Measurement at TX Frequency	1.4:1	1.18 :1
2) VSWR Measurement at RX Frequency	1.4:1	1.14 :1

SEE ATTACHED SHEET FOR VSWR MEASUREMENTS AT ADDITIONAL FREQUENCIES.

DATE 7 July 1963

TESTER Jack N. Thirsk

SUPERVISOR Paul J. Davenport

QUALITY ASSURANCE Stan Sandell

Robert D. Lefler

Sheet 1 of 1 GEEIA

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FEDERAL ELECTRIC CORPORATION BR II/83 (Revised)

BIG RALLEY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GA

Transmission path: From Station GA to Station GPA

	EXPECTED	ACTUAL
1. SPACE DIVERSITY CONFIGURATION		
A. Waveguide Run # 1 "A"		
1) VSWR Measurement at TX Frequency, plus & minus 500 KCS and plus & minus 1 MC		
a) 8156 MCS	1.4:1	1.07:1
b) 8155.5 MCS	1.4:1	1.11:1
c) 8155MCS	1.4:1	1.14:1
d) 8154.5 MCS	1.4:1	1.09:1
e) 8154 MCS	1.4:1	1.09:1
2) VSWR Measurement at RX Frequency, plus & minus 500 KCS and plus & minus 1 MC		
a) 8346 MCS	1.4:1	1.19:1
b) 8345.5 MCS	1.4:1	1.14:1
c) 8345 MCS	1.4:1	1.17:1
d) 8344.5 MCS	1.4:1	1.12:1
e) 8344 MCS	1.4:1	1.11:1
B. Waveguide Run #2 "B"		
1) VSWR Measurement at TX Frequency plus & minus 500 KCS and plus & minus 1 MC		
a) 8156 MCS	1.4:1	1.15:1
b) 8155.5 MCS	1.4:1	1.15:1
c) 8155 MCS	1.4:1	1.18:1
d) 8154.5 MCS	1.4:1	1.17:1
e) 8154 MCS	1.4:1	1.16:1
2) VSWR Measurement at RX Frequency plus & minus 500 KCS and plus & minus 1 MC		
a) 8346 MCS	1.4:1	1.15:1
b) 8345.5 MCS	1.4:1	1.14:1
c) 8345 MCS	1.4:1	1.14:1
d) 8344.5 MCS	1.4:1	1.14:1
e) 8344 MCS	1.4:1	1.14:1

DATE 9 July 1963

TESTER Jack H. Third

SUPERVISOR Stanley Stancyzk

QUALITY ASSURANCE Mary Pendell

GEEIA Herbert D. Taylor

4-14

FEDERAL ELECTRIC CORPORATION BR 11/83

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GPA

Transmission Patch: From Station GPA to STATION GA

	EXPECTED	ACTUAL
1. HOT STANDBY CONFIGURATION		
A. VSWR Measurement at TX Frequency	1.4:1	N/A :1
B. VSWR Measurement at RX Frequency	1.4:1	N/A :1
2. FREQUENCY DIVERSITY CONFIGURATION		
A. VSWR Measurement at TX-A Frequency	1.4:1	N/A :1
B. VSWR Measurement at TX-B Frequency	1.4:1	N/A :1
C. VSWR Measurement at RX-A Frequency	1.4:1	N/A :1
D. VSWR Measurement at RX-B Frequency	1.4:1	N/A :1
3. SPACE DIVERSITY CONFIGURATION		
A. Waveguide Run #1		
1) VSWR Measurement at TX Frequency	1.4:1	1.12 :1
2) VSWR Measurement at RX Frequency	1.4:1	1.05 :1
B. Waveguide Run #2		
1) VSWR Measurement at TX Frequency	1.4:1	1.08 :1
2) VSWR Measurement at RX Frequency	1.4:1	1.17 :1

DATE 4 July 63

TESTER J.W. Tidd

SUPERVISOR J. Menzimer

QUALITY ASSURANCE [illegible]

See sheet 2 for VSWR measurements at TX & RX for different frequencies

GEEIA Robert D Leyden

4-15

DATA SHEET

MW-503A LOS STATION TESTS

STATION: GPA

Transmission Path: From GPA Station to GA Station

RECEIVER FREQUENCY - 8155 Mc

Frequency	"A"		"B"	
	%	VSWR	%	VSWR
8156 Mc	4.9	1.10	5.9	1.12
8155.5 Mc	2.4	1.05	7.3	1.16
8155 Mc	2.2	1.05	7.7	1.17
8154.5 Mc	2.7	1.06	8.0	1.18
8154 Mc	1.8	1.04	8.6	1.19
8153.5	-	-	8.9	1.20

TRANSMITTER FREQUENCY - 8345 Mc

Frequency	"A"		"B"	
	%	VSWR	%	VSWR
8346 Mc	1.9	1.04	1.7	1.04
8345.5 Mc	3.5	1.08	8.5	1.19
8345 Mc	5.9	1.12	3.4	1.08
8344.5 Mc	6.5	1.14	3.4	1.08
8344 Mc	4.5	1.10	1.8	1.04

DATE 4 July 63

TESTER Vincent Quinn

SITE SUPER. [illegible]

QA [illegible]

GEEIA Robert D Leyler

FEDERAL ELECTRIC CORPORATION BR 11/83

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GPA

Transmission Patch: From Station GPA to STATION GAB

	EXPECTED	ACTUAL
1. HOT STANDBY CONFIGURATION		
A. VSWR Measurement at TX Frequency	1.4:1	N/A :1
B. VSWR Measurement at RX Frequency	1.4:1	N/A :1
2. FREQUENCY DIVERSITY CONFIGURATION		
A. VSWR Measurement at TX-A Frequency	1.4:1	N/A :1
B. VSWR Measurement at TX-B Frequency	1.4:1	N/A :1
C. VSWR Measurement at RX-A Frequency	1.4:1	N/A :1
D. VSWR Measurement at RX-B Frequency	1.4:1	N/A :1
3. SPACE DIVERSITY CONFIGURATION		
A. Waveguide Run #1		
1) VSWR Measurement at TX Frequency	1.4:1	1.08 :1
2) VSWR Measurement at RX Frequency	1.4:1	1.10 :1
B. Waveguide Run #2		
1) VSWR Measurement at TX Frequency	1.4:1	1.13 :1
2) VSWR Measurement at RX Frequency	1.4:1	1.20 :1

DATE 5 July 63

TESTER Vincent Quinn

SUPERVISOR J. Wezniak

QUALITY ASSURANCE [illegible]

GEEIA Robert A Lagler

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DATA SHEET Addendum to BR II/83
MW-503A LOS STATION TESTS Sheet 1 of 2

STATION: GPA

Transmission Path: From GPA Station to GAB Station

RECEIVER FREQUENCY

8075 Mc	Rx %	A VSWR	Rx %	B VSWR
8074 Mc (201.850 Mc)	2.6	1.05	6.0	1.13
8074.5 Mc (201.863 Mc)	4.2	1.09	7.2	1.16
8075 Mc (201.875 Mc)	4.4	1.10	9.2	1.20
8075.5 Mc (201.888 Mc)	3	1.06	3.2	1.07
8076 (201.9 Mc)	4.3	1.10	9.3	1.20

TRANSMITTER FREQUENCY

8265 Mc	Tx %	A VSWR	Tx %	B VSWR
8264 Mc (206.600 Mc)	2.4	1.05	3.7	1.08
8264.5 Mc (206.612 Mc)	1.5	1.03	3.2	1.07
8265 Mc (206.625 Mc)	3.8	1.08	6.0	1.13
8265.5 Mc (206.638 Mc)	3.4	1.08	5.8	1.12
8266 Mc (206.650 Mc)	4.2	1.09	7.2	1.16

DATE 4 July 63

TESTER Vincent Bruno

SITE SUPER. [illegible]

QA Mark Cross

GEEIA Robert D Logler

4-18

FEDERAL ELECTRIC CORPORATION BR 11/83

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GAB

Transmission Patch: From Station GAB to STATION GPA

	EXPECTED	ACTUAL
1. HOT STANDBY CONFIGURATION		
A. VSWR Measurement at TX Frequency	1.4:1	_____ :1
B. VSWR Measurement at RX Frequency	1.4:1	_____ :1
2. FREQUENCY DIVERSITY CONFIGURATION		
A. VSWR Measurement at TX-A Frequency	1.4:1	_____ :1
B. VSWR Measurement at TX-B Frequency	1.4:1	_____ :1
C. VSWR Measurement at RX-A Frequency	1.4:1	_____ :1
D. VSWR Measurement at RX-B Frequency	1.4:1	_____ :1
3. SPACE DIVERSITY CONFIGURATION		
A. Waveguide Run #1		
1) VSWR Measurement at TX Frequency	1.4:1	1.14 :1
2) VSWR Measurement at RX Frequency	1.4:1	1.13 :1
B. Waveguide Run #2		
1) VSWR Measurement at TX Frequency	1.4:1	1.07 :1
2) VSWR Measurement at RX Frequency	1.4:1	1.15 :1

DATE 16 JULY 1963

TESTER W. B. Schneider

SUPERVISOR Frank J. Stopinski

QUALITY ASSURANCE Don Randall

GEEIA Robert D. Lagler

4-19

FEDERAL ELECTRIC CORPORATION BRII/83 (Supplement)

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GAB

Transmission Path: From Station GAB to Station GPA

	EXPECTED	ACTUAL
L. SPACE DIVERSITY CONFIGURATION		
A. Waveguide Run #1 "A"		
1) VSWR Measurement at TX Frequency, Plus & Minus 500 KCS and Plus & Minus 1 MC		
a) 8076 MCS	1.4;1	1.11;1
b) 8075.5 MCS	1.4:1	1.14:1
c) 8075 MCS	1.4:1	1.14:1
d) 8074.5 MCS	1.4:1	1.15:1
e) 8074 MCS	1.4:1	1.11:1
2) VSWR Measure at RX Frequency, Plus & Minus 500 KCS and Plus & Minus 1 MC		
a) 8266 MCS	1.4:1	1.07:1
b) 8265.5 MCS	1.4:1	1.09:1
c) 8265 MCS	1.4:1	1.13:1
d) 8264.5 MCS	1.4:1	1.05:1
e) 8264 MCS	1.4:1	1.13:1
B. Waveguide Run # 2 "B"		
1) VSWR Measurement at TX Frequency Plus & Minus 500 KCS and Plus & Minus 1 MC		
a) 8076 MCS	1.4:1	1.07:1
b) 8075.5 MCS	1.4:1	1.09:1
c) 8075 MCS	1.4:1	1.07:1
d) 8074.5 MCS	1.4:1	1.07:1
e) 8074 MCS	1.4:1	1.09:1
2) VSWR Measurement at RX Frequency Plus & Minus 500 KCS and Plus & Minus 1 MC		
a) 8266	1.4:1	1.11:1
b) 8265.5 MCS	1.4:1	1.11:1
c) 8265 MCS	1.4:1	1.15:1
d) 8264.5 MCS	1.4:1	1.15:1
e) 8264 MCS	1.4:1	1.09:1

DATE 16 Oct 1963

QUALITY ASSURANCE [signature] TESTER [signature]

GEEIA [signature] SUPERVISOR [signature]

4-20

FEDERAL ELECTRIC CORPORATION BR 11/84

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GA LOS

Transmission Path: From Station GA to STATION GPA

REQUIREMENT	INITIAL IF OK "P" Rack (See Note 1 on Sheet 3 of this data sheet.)	"N" Rack
1. "A" POWER FAILURE		
A. Patch Panel Equip Alarm Lights	JHT	
B. External Alarms Energized	JHT	
C. "A" Diversity Path Alarm Light	JHT	
D. "A" Power Supply Alarm Lamp Lights (where applicable)	JHT	
E. Audible Alarm	JHT	
F. Hot-Standby & Space Diversity The "A" Fault and "B" inservice lamps on the SW/O Control Units Lit	JHT	
2. "B" POWER FAILURE		
A. Patch Panel Equip Alarm Lights	JHT	
B. External Alarms Energized	JHT	
C. "B" Diversity Alarms Energized	JHT	
D. "B" Power Supply Alarm Lamp Lights (where applicable)	JHT	

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E. Audible Alarm	JHT	
F. Hot-Standby & Space Diversity. The "B" Fault & "A" In-Service Lamps on the SW/O Control Unit Lit	JHT	

3. "A" MODULATION ALARM

A. "A" AFC Pilot Sensor Alarm	JHT	
B. Patch Panel Equip Alm Lights	JHT	
C. External Alarms Energized	JHT	
D. Audible Alarm	JHT	
E. Hot-Standby & Space Diversity. The "A" Fault & "B" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	JHT	

4. "B" MODULATION ALARM

A. "B" AFC Pilot Sensor Alarm Lamp Lights	JHT	
B. Patch Panel Equip Alm Lights	JHT	
C. External Alarms Energized	JHT	
D. Audible Alarm	JHT	
E. Hot-Standby & Space Diversity. The "B" Fault and "A" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	JHT	

5. "A" POWER ALARM

A. "A" AFC Meter Pulses	JHT	
B. Patch Panel Equip Alm Lights	JHT	
C. External Alarms Energized	JHT	

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

D. Audible Alarm	JHT	
E. Hot-Standby & Space Diversity. The "A" Fault & "B" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	JHT	

6. "B" POWER ALARM

A. "B" AFC Meter Pulses	JHT	
B. Patch Panel Equip Alm Lights	JHT	
C. External Alarms Energized	JHT	
D. Audible Alarm	JHT	
E. Hot-Standby & Space Diversity. The "B" Fault & "A" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	JHT	

NOTES

1. Enter NA in the "Check IF OK" Column when the test is not applicable.
2. The "External Alarms Energized" Requirements applies to systems containing Fault Alarm Equipment.
3. A Faulure Simulation Test should light only the rack alarm in the rack containing the equipment being tested.
4. "P" Rack is a powered rack, while a "N" Rack is a non-powered rack, receiving its power from the "P" rack.

DATE 5 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

 GEEIA [signature] 4-23

FEDERAL ELECTRIC CORPORATION BR 11/84

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GPA

Transmission Path: From Station GPA to STATION GA

REQUIREMENT	INITIAL IF OK "P" Rack (See Note 1 on Sheet 3 of this data sheet.)	"N" Rack
1. "A" POWER FAILURE		
A. Patch Panel Equip Alarm Lights	V.Q.	N/A
B. External Alarms Energized	V.Q.	N/A
C. "A" Diversity Path Alarm Light	V.Q.	N/A
D. "A" Power Supply Alarm Lamp Lights (where applicable)	V.Q.	N/A
E. Audible Alarm	V.Q.	N/A
F. Hot-Standby & Space Diversity The "A" Fault and "B" inservice lamps on the SW/O Control Units Lit	V.Q.	N/A
2. "B" POWER FAILURE		
A. Patch Panel Equip Alarm Lights	V.Q.	N/A
B. External Alarms Energized	V.Q.	N/A
C. "B" Diversity Alarms Energized	V.Q.	N/A
D. "B" Power Supply Alarm Lamp Lights (where applicable)	V.Q.	N/A

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E. Audible Alarm	V.Q. Y/G	N/A
F. Hot-Standby & Space Diversity. The "B" Fault & "A" In-Service Lamps on the SW/O Control Unit Lit	V.Q. Y/G	N/A
3. "A" MODULATION ALARM		
A. "A" AFC Pilot Sensor Alarm	V.Q. Y/G	N/A
B. Patch Panel Equip Alm Lights	V.Q. Y/G	N/A
C. External Alarms Energized	V.Q. Y/G	N/A
D. Audible Alarm	V.Q. Y/G	N/A
E. Hot-Standby & Space Diversity. The "A" Fault & "B" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	V.Q. Y/G	N/A
4. "B" MODULATION ALARM		
A. "B" AFC Pilot Sensor Alarm Lamp Lights	V.Q. Y/G	N/A
B. Patch Panel Equip Alm Lights	V.Q. Y/G	N/A
C. External Alarms Energized	V.Q. Y/G	N/A
D. Audible Alarm	V.Q. Y/G	N/A
E. Hot-Standby & Space Diversity. The "B" Fault and "A" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	V.Q. Y/G	N/A
5. "A" POWER ALARM		
A. "A" AFC Meter Pulses	V.Q. Y/G	N/A
B. Patch Panel Equip Alm Lights	V.Q. Y/G	N/A
C. External Alarms Energized	V.Q. Y/G	N/A

FEDERAL ELECTRIC CORPORATION BR-11/84

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

D. Audible Alarm	V.Q. S/G	N/A
E. Hot-Standby & Space Diversity. The "A" Fault & "B" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	V.Q. S/G	N/A

6. "B" POWER ALARM

A. "B" AFC Meter Pulses	V.Q. S/G	N/A
B. Patch Panel Equip Alm Lights	V.Q. S/G	N/A
C. External Alarms Energized	V.Q. S/G	N/A
D. Audible Alarm	V.Q. S/G	N/A
E. Hot-Standby & Space Diversity. The "B" Fault & "A" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	V.Q. S/G	N/A

NOTES

1. Enter NA in the "Check IF OK" Column when the test is not applicable.
2. The "External Alarms Energized" Requirements applies to systems containing Fault Alarm Equipment.
3. A Faulure Simulation Test should light only the rack alarm in the rack containing the equipment being tested.
4. "P" Rack is a powered rack, while a "N" Rack is a non-powered rack, receiving its power from the "P" rack.

DATE 3 July 63

TESTER Vincent Quinn

SUPERVISOR J. Kingsley

QUALITY ASSURANCE Mario Conf

GEEIA Robert O Leglet

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FEDERAL ELECTRIC CORPORATION BR 11/84

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GPA

Transmission Path: From Station GPA to STATION GAB

REQUIREMENT	INITIAL IF OK "P" Rack (See Note 1 on Sheet 3 of this data sheet.)	"N" Rack
1. "A" POWER FAILURE		
A. Patch Panel Equip Alarm Lights	MC WC	N/A
B. External Alarms Energized	MC WC	"
C. "A" Diversity Path Alarm Light	MC WC	"
D. "A" Power Supply Alarm Lamp Lights (where applicable)	MC WC	"
		"
E. Audible Alarm	MC WC	
F. Hot-Standby & Space Diversity The "A" Fault and "B" inservice lamps on the SW/O Control Units Lit	MC WC	"
2. "B" POWER FAILURE		
A. Patch Panel Equip Alarm Lights	MC WC	N/A
B. External Alarms Energized	MC WC	"
C. "B" Diversity Alarms Energized	MC WC	"
D. "B" Power Supply Alarm Lamp Lights (where applicable)	MC WC	88

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E. Audible Alarm	MC we	N/A
F. Hot-Standby & Space Diversity. The "B" Fault & "A" In-Service Lamps on the SW/O Control Unit Lit	MC we	"
3. "A" MODULATION ALARM		
A. "A" AFC Pilot Sensor Alarm	MC we	N/A
B. Patch Panel Equip Alm Lights	MC we	
C. External Alarms Energized	MC we	
D. Audible Alarm	MC we	
E. Hot-Standby & Space Diversity. The "A" Fault & "B" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	MC we	
4. "B" MODULATION ALARM		
A. "B" AFC Pilot Sensor Alarm Lamp Lights	MC we	
B. Patch Panel Equip Alm Lights	MC we	
C. External Alarms Energized	MC we	
D. Audible Alarm	MC we	
E. Hot-Standby & Space Diversity. The "B" Fault and "A" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	MC we	
5. "A" POWER ALARM		
A. "A" AFC Meter Pulses	MC we	
B. Patch Panel Equip Alm Lights	MC we	
C. External Alarms Energized	MC we	

FEDERAL ELECTRIC CORPORATION BR 11/84

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

D. Audible Alarm	MC ine	N/A
E. Hot-Standby & Space Diversity. The "A" Fault & "B" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	MC ine	

6. "B" POWER ALARM

A. "B" AFC Meter Pulses	MC ine	
B. Patch Panel Equip Alm Lights	MC ine	
C. External Alarms Energized	MC ine	
D. Audible Alarm	MC ine	
E. Hot-Standby & Space Diversity. The "B" Fault & "A" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	MC ine	

NOTES

1. Enter NA in the "Check IF OK" Column when the test is not applicable.
2. The "External Alarms Energized" Requirements applies to systems containing Fault Alarm Equipment.
3. A Faulure Simulation Test should light only the rack alarm in the rack containing the equipment being tested.
4. "P" Rack is a powered rack, while a "N" Rack is a non-powered rack, receiving its power from the "P" rack.

DATE 17 July 63

TESTER Vincent Grimm

SUPERVISOR J. Wenzel

QUALITY ASSURANCE W. Crist

GEEIA W. Pelant

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FEDERAL ELECTRIC CORPORATION BR 11/84

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

STATION GAB

Transmission Path: From Station GAB to STATION GPA

REQUIREMENT	INITIAL IF OK "P" Rack (See Note 1 on Sheet 3 of this data sheet.)	"N" Rack
1. "A" POWER FAILURE		
A. Patch Panel Equip Alarm Lights	WJS	
B. External Alarms Energized	WJS	
C. "A" Diversity Path Alarm Light	WJS	
D. "A" Power Supply Alarm Lamp Lights (where applicable)	WJS	
E. Audible Alarm	WJS	
F. Hot-Standby & Space Diversity The "A" Fault and "B" inservice lamps on the SW/O Control Units Lit	WJS	
G. 308 KC PILOT OSC. ALARM LIGHT	WJS	
2. "B" POWER FAILURE		
A. Patch Panel Equip Alarm Lights	WJS	
B. External Alarms Energized	WJS	
C. "B" Diversity Alarms Energized	WJS	
D. "B" Power Supply Alarm Lamp Lights (where applicable)	WJS	

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E. Audible Alarm	WJS	
F. Hot-Standby & Space Diversity. The "B" Fault & "A" In-Service Lamps on the SW/O Control Unit Lit	WJS	
G. 308 KC PILOT OSC. ALARM LIGHT	WJS	
3. "A" MODULATION ALARM		
A. "A" AFC Pilot Sensor Alarm	WJS	
B. Patch Panel Equip Alm Lights	WJS	
C. External Alarms Energized	WJS	
D. Audible Alarm	WJS	
E. Hot-Standby & Space Diversity. The "A" Fault & "B" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	WJS	
4. "B" MODULATION ALARM		
A. "B" AFC Pilot Sensor Alarm Lamp Lights	WJS	
B. Patch Panel Equip Alm Lights	WJS	
C. External Alarms Energized	WJS	
D. Audible Alarm	WJS	
E. Hot-Standby & Space Diversity. The "B" Fault and "A" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	WJS	
5. "A" POWER ALARM		
A. "A" AFC Meter Pulses	WJS	
B. Patch Panel Equip Alm Lights	WJS	
C. External Alarms Energized	WJS	

FEDERAL ELECTRIC CORPORATION BR 11/84

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS STATION TESTS

D. Audible Alarm	WJS	
E. Hot-Standby & Space Diversity. The "A" Fault & "B" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	WJS	

6. "B" POWER ALARM

A. "B" AFC Meter Pulses	WJS	
B. Patch Panel Equip Alm Lights	WJS	
C. External Alarms Energized	WJS	
D. Audible Alarm	WJS	
E. Hot-Standby & Space Diversity. The "B" Fault & "A" In-Service Lamps on the SW/O Control Unit (J1-J2) Lit	WJS	

NOTES

1. Enter NA in the "Check IF OK" Column when the test is not applicable.
2. The "External Alarms Energized" Requirements applies to systems containing Fault Alarm Equipment.
3. A Faulure Simulation Test should light only the rack alarm in the rack containing the equipment being tested.
4. "P" Rack is a powered rack, while a "N" Rack is a non-powered rack, receiving its power from the "P" rack.

DATE 17 JULY 1963

TESTER Wm J Schwenker

SUPERVISOR Frank O Skorpinski

QUALITY ASSURANCE Stan Lauder

GEEIA Robert D Legler

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FEDERAL ELECTRIC CORPORATION BR II/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GA

Transmission Path: From Station GA to STATION GPA

	EXPECTED	ACTUAL
1. DIVERSITY TESTS (ALL CONFIGURATIONS)		
A. Pilot Level at A IN terminals of Control Panel	-47 to -53 db	-51.8 db
B. Pilot Level at B IN terminals of Control Panel	-47 to -53 db	-51.5 db
C. Pilot Level at SIG OUT terminals of Control Panel with SERVICE SWITCH in A-DISABLE position.	-50 ±0.25db	-49.8 db
D. Pilot Level at SIG OUT terminals of Control Panel with SERVICE SWITCH In B-DISABLE position.	-50 ±0.25 db	-50.0 db
E. Pilot Level variation at SIG OUT terminals of control panel with "A" power off.	± 1.0 db	-.7 db
F. Pilot Level variation at SIG OUT terminals of Control Panel with "B" power off.	±1.0 db	-.7 db
2. BASEBAND (Use Data Sheet BRII/86 for GA-GPA Link)		
A. Level, 100 Kc RX	-34 ± 0.5 db	XXX db
B. Frequency Response		
60 Kc		XXX db
100 Kc		XXX db
200 Kc	+ 0.5 db From 100Kc Reference Level	XXX db
350 KC		XXX db
400 Kc		XXX db
500 Kc.		XXX db

FEDERAL ELECTRIC CORPORATION BR II/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GA

Transmission Path: From Station GA to STATION GPA

	EXPECTED	ACTUAL
3. ORDER WIRE		
A. Level, 1 Kc RX	-20 ± 1 dbm	-20 dbm
B. Frequency Response		
0.5 Kc		-20.4 dbm
1 Kc	-2 db, + 1 db From 1 Kc Reference Level	-20.0 dbm
4 Kc		-20.1 dbm
10 Kc		-20.1 dbm
12 Kc		-20.5 dbm
4. INTERMODULATION DISTORTION		
A. One MW-503A Link RCVR "A" 48 db RCVR "B" 45.5 db	Maximum 45 db	48.0 db
5. RECEIVED SIGNAL POWER		
A. Receiver A		-38.1 dbm
B. Receiver B		-36.8 dbm

FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GA

Transmission Path: From Station GA to Station GPA

	EXPECTED	ACTUAL
6. NET PATH LOSS		
A. NPL, Path A	(Refer to following list for expected results.)	67.7 db
B. NPL, Path B		66.4 db

C. Expected Results

Test Link	Maximum NPL
GA-GPA	68.8 db
GPA-GBA	74.2
GPA-GIM	60.0
GPA-GTA	64.5
GHO-GPE	63.2
GHO-GAG	62.2
TID-TIC	66.3
TKG-TKH-TKA	79.5
TKA-TKR	65.5
TKR-TIZ	65.9
TAL-TKG	73.8
TDY-TDI	64.5

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FEDERAL ELECTRIC CORPORATION BR II/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GA

Transmission Path: From Station GA to STATION GPA

		EXPECTED	ACTUAL
7. SIGNAL-TO-NOISE RATIO			
A. Receiver A	(Refer to FIG.9 of this procedure for the expected results.)	75 80 db	
B. Receiver B			75.5 db
C. Combined			80 db

DATE 14 July 1963

TESTER Jack H. Thrd

SUPERVISOR Paul J. Davenport

QUALITY ASSURANCE Stan Randell

GEEIA Robert D Legler

FEDERAL ELECTRIC CORPORATION BR II/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GPA

Transmission Path: From Station GA to STATION GPA

	EXPECTED	ACTUAL
1. DIVERSITY TESTS (ALL CONFIGURATIONS)		
A. Pilot Level at A IN terminals of Control Panel	-47 to -53 db	52.8 db
B. Pilot Level at B IN terminals of Control Panel	-47 to -53 db	52.7 db
C. Pilot Level at SIG OUT terminals of Control Panel with SERVICE SWITCH in A-DISABLE position.	-50 ±0.25db	50 db
D. Pilot Level at SIG OUT terminals of Control Panel with SERVICE SWITCH In B-DISABLE position.	-50 ±0.25 db	50 db
E. Pilot Level variation at SIG OUT terminals of control panel with "A" power off.	± 1.0 db	50 db
F. Pilot Level variation at SIG OUT terminals of Control Panel with "B" power off.	±1.0 db	50 db
2. BASEBAND (Use Data Sheet BRII/86 for GA-GPA Link)		
A. Level, 100 Kc RX	-34 ± 0.5 db	N/A db
B. Frequency Response		
60 Kc		N/A db
100 Kc		N/A db
200 Kc	+ 0.5 db From 100Kc Reference Level	N/A db
~~300~~ 350KC		N/A db
400 Kc		N/A db
500 Kc.		N/A/ db

FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GPA

Transmission Path: From Station GA to STATION GPA

	EXPECTED	ACTUAL
3. ORDER WIRE		
A. Level, 1 Kc RX	-20 ± 1 dbm	-20 dbm
B. Frequency Response		
0.5 Kc		-20.4 dbm
1 Kc		20 dbm
	-2 db, + 1 db From 1 Kc Reference Level	
4 Kc		-19.7 dbm
10 Kc		19.2 dbm
12 Kc		19.8 dbm
4. INTERMODULATION DISTORTION		
A. One MW-503A Link	Idle Noise RX A 56 db, RX B 54 db, Combined 57 db; Maximum 45 db	RX A 52 db, RX B 49 db, Combined 52 db
5. RECEIVED SIGNAL POWER		
A. Receiver A		34.4 dbm
B. Receiver B		33.9 dbm

FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GPA

Transmission Path: From Station GA to Station GPA

	EXPECTED	ACTUAL
6. NET PATH LOSS	MAX. 68.8 db	
A. NPL, Path A	(Refer to following list for expected results.)	62.2 db
B. NPL, Path B		61.7 db

C. Expected Results

Test Link	Maximum NPL
GA-GPA	68.8 db
GPA-GBA	74.2
GPA-GIM	60.0
GPA-GTA	64.5
GHO-GPE	63.2
GHO-GAG	62.2
TID-TIC	66.3
TKG-TKH-TKA	79.5
TKA-TKR	65.5
TKR-TIZ	65.9
TAL-TKG	73.8
TDY-TDI	64.5

FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GPA

Transmission Path: From Station GA to STATION GPA

		EXPECTED	ACTUAL
7. SIGNAL-TO-NOISE RATIO		Min. 75 db	
A. Receiver A	(Refer to FIG.9 of this procedure for the expected results.)		~~76~~ 76 db
B. Receiver B			~~75~~ db

DATE 14 July 1963

TESTER Vincent Quinn

SUPERVISOR J. Wennerstrom

QUALITY ASSURANCE [illegible]

GEEIA [illegible]

FEDERAL ELECTRIC CORPORATION BR II/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GPx8 GPA

Transmission Path: From Station GAB to STATION GPA

	EXPECTED	ACTUAL
1. DIVERSITY TESTS (ALL CONFIGURATIONS)		
A. Pilot Level at A IN terminals of Control Panel	-47 to -53 db	-50.8 db
B. Pilot Level at B IN terminals of Control Panel	-47 to -53 db	-50.8 db
C. Pilot Level at SIG OUT terminals of Control Panel with SERVICE SWITCH in A-DISABLE position.	-50 ±0.25db	-50 db
D. Pilot Level at SIG OUT terminals of Control Panel with SERVICE SWITCH In B-DISABLE position.	-50 ±0.25 db	-50 db
E. Pilot Level variation at SIG OUT terminals of control panel with "A" power off.	± 1.0 db	49.8 db
F. Pilot Level variation at SIG OUT terminals of Control Panel with "B" power off.	±1.0 db	50 db
2. BASEBAND (Use Data Sheet BRII/86 for GA-GPA Link)		
A. Level, 100 Kc RX	-34 ± 0.5 db	-34 db
B. Frequency Response		
60 Kc		-34.3 db
100 Kc		-34 db
200 Kc	+ 0.5 db From 100Kc Reference Level	-33.65 db
~~350Kc~~ 350KC		-33.9 db
400 Kc		-34.1 db
500 Kc.		-33.85 db

FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GPA

Transmission Path: From Station GAB to STATION GPA

	EXPECTED	ACTUAL
3. ORDER WIRE		
A. Level, 1 Kc RX	-20 ± 1 dbm	-20 dbm
B. Frequency Response		
0.5 Kc	-2 db, + 1 db From 1 Kc Reference Level	-20.8 dbm
1 Kc		-20 dbm
4 Kc		-19.8 dbm
10 Kc		-20.7 dbm
12 Kc		-21.2 dbm
4. INTERMODULATION DISTORTION		
A. One MW-503A Link	Maximum 45 db	Intermod. Xmtr. RX-A 42 db RX-B 43 Combined 42
	Idle noise RX-A 51 RX-B 52 Combined- 54	
5. RECEIVED SIGNAL POWER		
A. Receiver A		45.3 dbm
B. Receiver B		43.2 dbm

Note: Intermodulation does not meet specifications.

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FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GPA

Transmission Path: From Station GAB to Station GPA

	EXPECTED	ACTUAL
6. NET PATH LOSS		
A. NPL, Path A	(Refer to following list for expected results.)	73.2 db
B. NPL, Path B		71.1 db

C. Expected Results

Test Link	Maximum NPL
GA-GPA	68.8 db
GPA-GBA	74.2
GPA-GIM	60.0
GPA-GTA	64.5
GHO-GPE	63.2
GHO-GAG	62.2
TID-TIC	66.3
TKG-TKH-TKA	79.5
TKA-TKR	65.5
TKR-TIZ	65.9
TAL-TKG	73.8
TDY-TDI	64.5

FEDERAL ELECTRIC CORPORATION BR II/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GPA

Transmission Path: From Station GAB to STATION GPA

		EXPECTED	ACTUAL
7. SIGNAL-TO-NOISE RATIO			
A. Receiver A	(Refer to FIG.9 of this procedure for the expected results.)	-69 db	67.5 -69 db
B. Receiver B		-69 db	70.5 -69 db

DATE 17 July 1963

TESTER Vincent Quinn

SUPERVISOR J. Wanzie

QUALITY ASSURANCE [illegible]

GEEIA [illegible]

FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GAB

Transmission Path: From Station GAB to STATION GPA

	EXPECTED	ACTUAL
1. DIVERSITY TESTS (ALL CONFIGURATIONS)		
A. Pilot Level at A IN terminals of Control Panel	-47 to -53 db	-51.1 db
B. Pilot Level at B IN terminals of Control Panel	-47 to -53 db	-51.8 db
C. Pilot Level at SIG OUT terminals of Control Panel with SERVICE SWITCH in A-DISABLE position.	-50 ±0.25db	-50.0 db
D. Pilot Level at SIG OUT terminals of Control Panel with SERVICE SWITCH In B-DISABLE position.	-50 ±0.25 db	-50.0 db
E. Pilot Level variation at SIG OUT terminals of control panel with "A" power off.	± 1.0 db	-.7 db
F. Pilot Level variation at SIG OUT terminals of Control Panel with "B" power off.	±1.0 db	-.7 db
2. BASEBAND (Use Data Sheet BR11/86 for GA-GPA Link)		
A. Level, 100 Kc RX	-34 ± 0.5 db	-34.0 db
B. Frequency Response		
60 Kc		-34.2 db
100 Kc		-34.0 db
200 Kc	+ 0.5 db From 100Kc Reference Level	-33.9 db
350 Kc		-34.1 db
400 Kc		-34.1 db
500 Kc.		-34.2 db

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FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GAB

Transmission Path: From Station GAB to STATION GPA

	EXPECTED	ACTUAL
3. ORDER WIRE		
A. Level, 1 Kc RX	-20 ± 1 dbm	-20.0 dbm
B. Frequency Response		
0.5 Kc		-21.2 dbm
1 Kc		-20.0 dbm
	-2 db, + 1 db From 1 Kc Reference Level	
4 Kc		-19.2 dbm
10 Kc		-19.8 dbm
12 Kc		-20.1 dbm
4. INTERMODULATION DISTORTION	NOTE. With B Tx at GPA the combined intermod was 42DB	
C. RECEIVER B		47 db
A. One MW-503A Link	Maximum 45 db	48 db
B. RECEIVER A		~~XXXX~~ 47 db
5. RECEIVED SIGNAL POWER		
A. Receiver A		-46.1 dbm
B. Receiver B		-43.2 dbm

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FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GAB

Transmission Path: From Station GAB to Station GPA

	EXPECTED	ACTUAL
6. NET PATH LOSS		
A. NPL, Path A	(Refer to following list for expected results.)	75.7 db
B. NPL, Path B		72.8 db

C. Expected Results

Test Link	Maximum NPL
GA-GPA	68.8 db
GPA-GBA	74.2
GPA-GIM	60.0
GPA-GTA	64.5
GHO-GPE	63.2
GHO-GAG	62.2
TID-TIC	66.3
TKG-TKH-TKA	79.5
TKA-TKR	65.5
TKR-TIZ	65.9
TAL-TKG	73.8
TDY-TDI	64.5

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FEDERAL ELECTRIC CORPORATION BR 11/85

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

STATION GAB

Transmission Path: From Station GAB to STATION GPA

		EXPECTED	ACTUAL
7. SIGNAL-TO-NOISE RATIO			
A. Receiver A	(Refer to FIG.9 of this procedure for the expected results.)		66.5 ~~74~~ db
B. Receiver B			70 ~~72~~ db
C. COMBINED			75 db

DATE 18 JULY 1963

TESTER W. J. Schroeder

SUPERVISOR Frank D. Skorpinski

QUALITY ASSURANCE [illegible]

GEEIA Robert D. Legler

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FEDERAL ELECTRIC CORPORATION BR II/86

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

(GA - GPA LINK ONLY)

STATION GA

Transmission Path: From Station GA to STATION GPA

		EXPECTED	ACTUAL
Baseband (GA - GPA LINK)			
A.	Level, 100 kc RX		
1)	Site GPA	-40 ± 0.5 db	N/A db
2)	Site GA	-34 ± 0.5 db	-34 db
B.	Frequency Response		
	12 kc		-34 db
	60 kc		-33.9 db
	100 kc		-34 db
	200 kc	± 0.5 db From	-33.9 db
	300 kc	100 kc Reference	-34.1 db
	400 kc	Level	-33.85 db
	500 kc		-33.5 db

DATE 14 July 1963

TESTER Jack H. Third

SUPERVISOR Paul J. Davenport

QUALITY ASSURANCE Don Randell

GEEIA Robert A. Legler 4-49

FEDERAL ELECTRIC CORPORATION BR II/86

BIG RALLY II PROJECT

DATA SHEET

MW-503A LOS LINK TEST

(GA - GPA LINK ONLY)

STATION GPA

Transmission Path: From Station GA to STATION GPA

Baseband (GA - GPA LINK)		EXPECTED	ACTUAL
A.	Level, 100 kc RX		
1)	Site GPA	-40 ± 0.5 db	40.2 db
2)	Site GA	-34 ± 0.5 db	N/A/ db
B.	Frequency Response		
	12 kc		+ 0.1 db
	60 kc		+ 0.2 db
	100 kc		+ 0.1 db
	200 kc	± 0.5 db From	0.0 db
	300 kc	100 kc Reference	− 0.3 db
	400 kc	Level	− 0.3 db
	500 kc		− 0.2 db

* Reference Level used- Fig.-40.2 in step A Site GPA,

DATE 14 July 1963

TESTER Vincent Quinn

SUPERVISOR

QUALITY ASSURANCE

GEETA

Sheet 1 of 1

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FED-E

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST
EXCITER

ADDENDUM

Station I.D.

Transmission Path: From Station I.D. to Station L.R.

Exciter Serial No. D13 #2 Frequency 360.49997 MC

AN/~~TRC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
✓1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	9 watts
✓2. CARRIER FREQUENCY		
Frequency	.001% of assigned	360.49886 MC
✓3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		69.2 MC
Upper 1 db point		-70.7 MC
Bandwidth	Minimum 1.5 MC	1.8 MC
✓4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		WS Initials
✓6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10.0 dbm
✓7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10.0 dbm
✓8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	20 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	-20 dbm
✓9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		WS Initials
Exciter No. 2 Driving		WS Initials

DATE 8 June 63
TESTER [signature]
SUPERVISOR [signature]
QUALITY ASSURANCE [signature]

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ID-2

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM Station 1D

Transmission Path: From Station 1D to Station 1R

Exciter Serial No. 014 #1 Frequency 360.49797 MC

AN/MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum 9 watts	9.5 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	360.49707 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		69 MC
Upper 1 db point		70.8 MC
Bandwidth	Minimum 1.5 MC	1.8 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		B.J. Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	21 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	-20 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		B.J. Initials
Exciter No. 2 Driving		B.J. Initials

DATE 2 June 63
TESTER [illegible]
SUPERVISOR D.E. Sullivan
QUALITY ASSURANCE B.C. [illegible]

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1R-W

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station 1R-W

Transmission Path: From Station 1R-W to Station 1D-E

Exciter Serial No. 016 1-V Frequency 392.4999 MC

AN/~~ERC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	10.2 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	392.4993 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		69.2075 MC
Upper 1 db point		70.8995 MC
Bandwidth	Minimum 1.5 MC	1.6920 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5 ADJUSTMENT OF FOUR RECEIVERS		RBS Initials
6 LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	21 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	20.2 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		UNSATISFACTORY Initials
Exciter No. 2 Driving		" Initials

DATE 14 June 1963
TESTER Marlen Lueptow
SUPERVISOR R. McEuen
QUALITY ASSURANCE R.B. Swan
Sheet 1 of 1 ARP

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JR-W

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station 1R-W

Transmission Path: From Station 1R-W to Station 1D-E

Exciter Serial No. 015 2-H Frequency 392.4999 MC

AN/~~MRC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	10.2 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	392.4980 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		69.2195 MC
Upper 1 db point		70.7595 MC
Bandwidth	Minimum 1.5 MC	1.5400 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		RBS Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	22.5 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	20.4 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		UNSATISFACTORY Initials
Exciter No. 2 Driving		" Initials

DATE 14 JUNE 1965
TESTER M. Kephart
SUPERVISOR R. Wasbury
QUALITY ASSURANCE R.B. Sward

Sheet 1 of 1

LRP

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IR-E

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station 1R-E

Transmission Path: From Station 1R-E to Station 1C-W

Exciter Serial No. 009 2-H Frequency 396.4999 MC

AN/~~ERC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	9 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	396.4998 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		69.1537 MC
Upper 1 db point		70.8269 MC
Bandwidth	Minimum 1.5 MC	1.6732 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		RBS Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	24 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	-20 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		UNSATISFACTORY Initials
Exciter No. 2 Driving		" Initials

DATE 14 JUNE 1963
TESTER E Hallen
SUPERVISOR K. Wasilewicz
QUALITY ASSURANCE R.B. Spoon

Sheet 1 of 1 ARP

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1R-E

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM Station 1R-E

Transmission Path: From Station 1R-E to Station 1C-W

Exciter Serial No. 010 1-V Frequency 396.4999 MC

AN/~~ERC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	9 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	396.4988 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		69.2265 MC
Upper 1 db point		70.7679 MC
Bandwidth	Minimum 1.5 MC	1.5414 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14.3 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		RBS Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	24 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	-20 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		UNSATISFACTORY Initials
Exciter No. 2 Driving		Initials

DATE 14 June 1963
TESTER E Dalby
SUPERVISOR R. Woodworth
QUALITY ASSURANCE R.B. Spear

Sheet 1 of 1

ARP

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IC-W

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station IC WEST

Transmission Path: From Station IC ½ to Station IR

Exciter Serial No. 003 #2 Frequency 367.500 MC

AN/~~FRC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	10 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	367.501 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		68.65 MC
Upper 1 db point		70.8 MC
Bandwidth	Minimum 1.5 MC	2.2 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5. ADJUSTMENT OF ~~FOUR~~ THREE RECEIVERS		Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	21 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm,	-20 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		Initials
Exciter No. 2 Driving		Initials

DATE 16 JUNE 63
TESTER J Hudson
SUPERVISOR F A Gafarde
QUALITY ASSURANCE Wilbert R Hoff

Sheet 1 of 1

GEEIA Robert D Lepler

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IC-E

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station IC EAST

Transmission Path: From Station IC to Station GK

Exciter Serial No. 008 #1 Frequency 360.5 MC

AN/~~FRC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	10 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	360.5004 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		359.2 MC
Upper 1 db point		361.5 MC
Bandwidth	Minimum 1.5 MC	1.88 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		RS Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10.2 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	25 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	-20 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		RS Initials
Exciter No. 2 Driving		RS Initials

DATE JUN 2 8 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

Sheet 1 of 1

GEEIA Robert D Seyler

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IC-E

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station IC EAST

Transmission Path: From Station IC to Station GK

Exciter Serial No. 007 # 2 Frequency 360.5000 MC

AN/~~FRC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	10 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	360.5172 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		359.75 MC
Upper 1 db point		361.32 MC
Bandwidth	Minimum 1.5 MC	1.57 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14.0 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		RS Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10.0 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10.0 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	25.5 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	-20 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		RS Initials
Exciter No. 2 Driving		[illegible] Initials

DATE JUN 22 1963

TESTER R Shull

SUPERVISOR [illegible]

QUALITY ASSURANCE [illegible]

Sheet 1 of 1

GEEIA Robert D Zeyler

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FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station G.K.

Transmission Path: From Station G.K. to Station I.C.

Exciter Serial No. 001 #1 Frequency 389500 MC

AN/~~FRC-39~~ MRC-85 EXCITER, RADIO

Used Initial Procedures For Calibrating Meters

		EXPECTED	ACTUAL
1. POWER OUTPUT			
Power Output	Minimum ~~10~~ 9 watts		11.2 watts
2. CARRIER FREQUENCY			387,499,620
Frequency	.001% of assigned		380 MC
3. EXCITER RESPONSE AND DEVIATION			
Lower 1 db point		Mod 69.25	.75 MC
Upper 1 db point		70.75	.75 MC
Bandwidth	Minimum 1.5 MC		1.50 MC
4. HF DEVIATION			
Level at J4	-14 dbm ± 0.5 dbm	* -13.5	-13.6 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		* DBB	Initials
6. LF DEVIATION			
Signal level at J14	-10 dbm ± 0.5 dbm	* -10	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL			
Output at J26-J27	-10 dbm ± 0.5 dbm	* -10	-10 dbm
8. PILOT TONE LEVEL AND DEVIATION			
Radio Pilot Level at J51	20 to 35 volts	* 24.7	24.7 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	* -19.8	19.8 dbm
9. DUAL MODULATOR OPERATION			
Exciter No. 1 Driving			N/A Initials
Exciter No. 2 Driving			N/A Initials

* 26 JUNE, 63

DATE 23 JUNE 63
TESTER [signature]
SUPERVISOR [signature]
QUALITY ASSURANCE [signature]

Sheet 1 of 1

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM Station G.K.

Transmission Path: From Station G.K. to Station I.C.

Exciter Serial No. 005 #2 Frequency 389500 MC

AN/~~ERC-39~~ MRC-85 EXCITER, RADIO

USED ADLER PROCEDURES FOR CALIBRATING METERS.

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	13 watts
2. CARRIER FREQUENCY		389,449,902
Frequency	.001% of assigned	98 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		.75 MC
Upper 1 db point		.75 MC
Bandwidth	Minimum 1.5 MC	1.50 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		RBB Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	25.3 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	-20 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving		Initials
Exciter No. 2 Driving		Initials

DATE 23 JUNE 63
TESTER [signature]
SUPERVISOR Russell E. Carlton
QUALITY ASSURANCE [signature]

Sheet 1 of 1

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GK-E

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station G,K.

Transmission Path: From Station G,K. (#1 #2) to Station G,A.

Exciter Serial No. 006 005 Frequency 382.500. MC

AN/~~FRC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL #1	ACTUAL #2
1. POWER OUTPUT			
Power Output	Minimum 9 watts	9	9.6 watts
2. CARRIER FREQUENCY		382.500158	382.502085
Frequency	.001% of assigned		MC
3. EXCITER RESPONSE AND DEVIATION			
Lower 1 db point		.75	.75 MC
Upper 1 db point		.75	.75 MC
Bandwidth	Minimum 1.5 MC	1.5	1.5 MC
4. HF DEVIATION			
Level at J4	-14 dbm ± 0.5 dbm	-13.5	-13.7 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		BAB. Initials	
6. LF DEVIATION		-9.5 -10	-10 -9.5 *
Signal level at J14	-10 dbm ± 0.5 dbm		dbm
7. ORDER WIRE DEVIATION & LEVEL		-10 -10	-10 -10
Output at J26-J27	-10 dbm ± 0.5 dbm		dbm
8. PILOT TONE LEVEL AND DEVIATION			
Radio Pilot Level at J51	20 to 35 volts	22.5	17.5 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm		dbm
9. DUAL MODULATOR OPERATION		-19.5 -20.5	-20.5 -20.
Exciter No. 1 Driving			Initials
Exciter No. 2 Driving			Initials

* EXCITER #2's READINGS ARE TYPICAL OF EXCITER #1 ON ALL 4 RECEIVERS

DATE 3/11/63
TESTER [illegible]
SUPERVISOR [illegible]
QUALITY ASSURANCE [illegible]

Sheet 1 of 1

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GA-W

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station GA MRC-85

Transmission Path: From Station GA to Station GK

Exciter Serial No. 012 IV Frequency 366.5 MC

AN/~~FRC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	9.5 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	366.5009 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		.470 MC
Upper 1 db point		.616 MC
Bandwidth	Minimum 1.5 MC	1.086 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		WDT Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-9.9 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10.3 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	22.9 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	-20.2 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving	WILL WORK MANUALLY ONLY	WDT Initials
Exciter No. 2 Driving	WILL WORK MANUALLY ONLY	WDT Initials

DATE 10 July 1963
TESTER W.D. Todt
SUPERVISOR Robert D Langer
QUALITY ASSURANCE [illegible]

Sheet 1 of 1
GEEIA

5-13

FEDERAL ELECTRIC CORPORATION BRII/16

BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

ADDENDUM

Station GA MRC-85

Transmission Path: From Station GA to Station GK

Exciter Serial No. 011 (2H) Frequency 366.5 MC

AN/~~ERC-39~~ MRC-85 EXCITER, RADIO

	EXPECTED	ACTUAL
1. POWER OUTPUT		
Power Output	Minimum ~~10~~ 9 watts	10.5 watts
2. CARRIER FREQUENCY		
Frequency	.001% of assigned	366.5004 MC
3. EXCITER RESPONSE AND DEVIATION		
Lower 1 db point		.784 MC
Upper 1 db point		1 MC
Bandwidth	Minimum 1.5 MC	1.784 MC
4. HF DEVIATION		
Level at J4	-14 dbm ± 0.5 dbm	-14 dbm
5. ADJUSTMENT OF FOUR RECEIVERS		WDT Initials
6. LF DEVIATION		
Signal level at J14	-10 dbm ± 0.5 dbm	-10 dbm
7. ORDER WIRE DEVIATION & LEVEL		
Output at J26-J27	-10 dbm ± 0.5 dbm	-10 dbm
8. PILOT TONE LEVEL AND DEVIATION		
Radio Pilot Level at J51	20 to 35 volts	21.5 volts
Deviation at J14 on S1893	-20 dbm ± 0.5 dbm	-20 dbm
9. DUAL MODULATOR OPERATION		
Exciter No. 1 Driving	WILL WORK MANUALLY ONLY	WDT Initials
Exciter No. 2 Driving	WILL WORK MANUALLY "	WDT Initials

DATE July 8 1963

TESTER W. D. Tate

SUPERVISOR Paul D Lawrence

QUALITY ASSURANCE Clark Bradley

Sheet 1 of 1

GEEIA Robert D Taylor

5-14

ID-E

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST
10 KW AMP.

STATION I.D.

Transmission Path: From Station I.D. to Station I.R

10 KW Amplifier Serial No. #1 1b Frequency 360.49997 MC

Exciter Serial No. 014

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	6.5 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10 KW watts
3. REFLECTED POWER	Max.	28 watts	280 watts	160 watts
4. VSWR	Max.	1.40	1.40	1.27
5. FAULT RECYCLING				JP Initials
6. KLYSTRON COOLANT FLOW	Min.		17 GPM	31 GPM

DATE 7 JUNE 62

TESTER E.E. Hobbs

SUPERVISOR R.E. Hobbs

QUALITY ASSURANCE BK Brown
SRP

5-15

ID-E

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION ID

Transmission Path: From Station ID to Station IR

10 KW Amplifier Serial No. #2 014 Frequency 340.49997 MC

Exciter Serial No. 013

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	6 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10 Kw watts
3. REFLECTED POWER	Max.	28 watts	280 watts	180 watts
4. VSWR	Max.	1.40	1.40	1.31
5. FAULT RECYCLING				JP Initials
6. KLYSTRON COOLANT FLOW	Min.		17 GPM	28.5 GPM

DATE 7 June 63

TESTER RE Hollow

SUPERVISOR RE Hollow

QUALITY ASSURANCE [illegible]

ERP

5-16

IR-W

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION IR-W

Transmission Path: From Station IR-W to Station ID-E

10 KW Amplifier Serial No. 016 2-H Frequency 392.4999 MC

Exciter Serial No. 015

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	5.5 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10.5 K watts
3. REFLECTED POWER	Max.	28 watts	280 watts	170 watts
4. VSWR	Max.	1.40	1.40	1.30
5. FAULT RECYCLING				RBS. Initials
6. KLYSTRON COOLANT FLOW	Min.		17 GPM	29.8 GPM

DATE June 11, 1963

TESTER M. Lingohast

SUPERVISOR L. Westerman

QUALITY ASSURANCE R.B. Speer

ARC

5-17

1R-W

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION 1R-W

Transmission Path: From Station 1R-W to Station 1D-E

10 KW Amplifier Serial No. 015 1-V Frequency 392.4999 MC

Exciter Serial No. 016 1-V

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	9.10 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10K watts
3. REFLECTED POWER	Max.	28 watts	280 watts	20 watts
4. VSWR	Max.	1.40	1.40	1.03
5. FAULT RECYCLING				RBS Initials
6. KLYSTRON COOLANT FLOW	Min.	17 GPM		29.5 GPM

DATE 11 JUNE 1963

TESTER M. Leighton

SUPERVISOR L. Wasting

QUALITY ASSURANCE RB Spoon

HRC

5-18

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION 1R-E

Transmission Path: From Station 1R-E to Station 1C-W

10 KW Amplifier Serial No. 010 2-H Frequency 396.4999 MC

Exciter Serial No. 009

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	6 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10.5K watts
3. REFLECTED POWER	Max.	28 watts	280 watts	10.0 watts
4. VSWR	Max.	1.40	1.40	1.06 1.06
5. FAULT RECYCLING				RBS Initials
6. KLYSTRON COOLANT FLOW	Min.		17 GPM	31 GPM

DATE 10 JUNE, 1963

TESTER E Halley

SUPERVISOR C. Wasiewicz

QUALITY ASSURANCE R.B. Spear

L.R.P.

5-19

IR-E

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION IR-E

Transmission Path: From Station IR-E to Station 12-W

10 KW Amplifier Serial No. 009 1-V Frequency 396.4999 MC

Exciter Serial No. 010

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	6 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10 K watts
3. REFLECTED POWER	Max.	28 watts	280 watts	120 watts
4. VSWR	Max.	1.40	1.40	1.25
5. FAULT RECYCLING				RBS Initials
6. KLYSTRON COOLANT FLOW	Min.		17 GPM	28 GPM

DATE 11 June 63

TESTER E Hallen

SUPERVISOR R Watkins

QUALITY ASSURANCE R.B. Sloan

ARP

5-20

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION IC WEST

Transmission Path: From Station IC to Station IR

10 KW Amplifier Serial No. Kly. #1 / Kly. #2 Frequency 367.5 MC

Exciter Serial No Kly. #1 ~ 001 / Kly. #2 ~ 003

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	Kly.#1 7 watts; Kly.#2 5 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	Kly.#1 10 Kw; Kly.#2 10 Kwatts
3. REFLECTED POWER	Max.	28 watts	280 watts	Kly.#1 100 watts; Kly.#2 ~~100~~ watts
4. VSWR	Max.	1.40	1.40	Kly.#1 1.22 VSWR; Kly.#2 1.22 VSWR
5. FAULT RECYCLING				_____ Initials
6. KLYSTRON COOLANT FLOW	Min.		17 GPM	Kly.#1 30; Kly.#2 31 GPM

DATE 16 JUNE 63

TESTER E Decker

SUPERVISOR F A Spada

QUALITY ASSURANCE Wm R Kotz

GEEIA Robert A Lofton

5-21

IC-E

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION IC

Transmission Path: From Station IC to Station GK

10 KW Amplifier Serial No. V 017 & H 006 Frequency 360.5 MC

Exciter Serial No. #1 008 & #2 007

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED		ACTUAL V 017	ACTUAL H 006
Site IC has 10 KW Amp. ONLY		1 KW	10 KW		
1. INPUT POWER	Min. 6 watts	6 watts		8	9.6 watts
2. OUTPUT POWER	Min. 1 KW	10 KW		10	10 watts
3. REFLECTED POWER	Max. 28 watts	280 watts		180	100 ~~20~~ watts
4. VSWR	Max. 1.40	1.40		1.31	1.22
5. FAULT RECYCLING				RS Initials	
6. KLYSTRON COOLANT FLOW	Min. 17 GPM			31	30 GPM

DATE 24 JUNE 63

TESTER P. Chaffee

SUPERVISOR F. A. Pagano

QUALITY ASSURANCE W. Shinn R 24

GEEIA Robert D. Lyle

5-22

GK-3

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION G.K.

Transmission Path: From Station GK to Station I.C.

10 KW Amplifier Serial No. 002 Frequency 389500. MC

Exciter Serial No. 005

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	6 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10/1K watts
3. REFLECTED POWER	Max.	28 watts	280 watts	250 watts
4. VSWR	Max.	1.40	1.40	1.38
5. FAULT RECYCLING				[illegible] Initials
6. KLYSTRON COOLANT FLOW	Min.		17 GPM	29.5 GPM

DATE 24 JUNE 63

TESTER FC Shumpert Jr

SUPERVISOR Russell E Potter

QUALITY ASSURANCE [illegible]

5-23

GK-W

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION G.K.

Transmission Path: From Station G.K. to Station I.C

10 KW Amplifier Serial No. 001 Frequency 389500 MC

Exciter Serial No. 001 #1

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	6.5 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10 K watts
3. REFLECTED POWER	Max.	28 watts	280 watts	240 watts
4. VSWR	Max.	1.40	1.40	1.37
5. FAULT RECYCLING				BBB Initials
6. KLYSTRON COOLANT FLOW	Min.		17 GPM	29 GPM

DATE 24 JUNE 63

TESTER FC Thompson IV

SUPERVISOR [illegible]

QUALITY ASSURANCE [illegible]

5-24

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION G.K.

Transmission Path: From Station G.K. to Station G.A.

10 KW Amplifier Serial No. #1 007 #2 030 Frequency _____ MC

Exciter Serial No. #1 006 #2 005

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED		ACTUAL	
		1 KW	10 KW	PA 1	PA 2
1. INPUT POWER	Min.	6 watts	6 watts	6.6	6 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10K	10K watts
3. REFLECTED POWER	Max.	28 watts	280 watts	35	90 watts
4. VSWR	Max.	1.40	1.40	1.13	1.21
5. FAULT RECYCLING				BB	BB Initials
6. KLYSTRON COOLANT FLOW	Min.	17 GPM		305	30 GPM

DATE 3/14/63

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE B. E. Bea

5-25

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION GA MRC-85

Transmission Path: From Station GA to Station GK

10 KW Amplifier Serial No. 018 1V Frequency 366.5 MC

Exciter Serial No. 012

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	13.6 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10,000 watts
3. REFLECTED POWER	Max.	28 watts	280 watts	170 watts
4. VSWR	Max.	1.40	1.40	1.30
5. FAULT RECYCLING				WDT Initials
6. KLYSTRON COOLANT FLOW	Min.		17 GPM	30 GPM

DATE 10 July 1963

TESTER W. L. Foster

SUPERVISOR Paul Mannigan

QUALITY ASSURANCE Don Cadell

GEEIA Robert L. Leyler

5-26

FEDERAL ELECTRIC CORPORATION BR II/12
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 STATION TEST

STATION GA MRC-85

Transmission Path: From Station GA to Station GK

10 KW Amplifier Serial No. 014 #2H Frequency 366.5 MC

Exciter Serial No. 011 #2H

AN/MRC-85 POWER AMPLIFIER, RADIO

		EXPECTED 1 KW	EXPECTED 10 KW	ACTUAL
1. INPUT POWER	Min.	6 watts	6 watts	11.6 watts
2. OUTPUT POWER	Min.	1 KW	10 KW	10,000 watts
3. REFLECTED POWER	Max.	28 watts	280 watts	~~90~~ 32 watts
4. VSWR	Max.	1.40	1.40	1.12
5. FAULT RECYCLING				WDT Initials
6. KLYSTRON COOLANT FLOW	Min.	17 GPM		29 GPM

DATE 10 July 1963

TESTER W. D. Tate

SUPERVISOR Paul J. Flannery

QUALITY ASSURANCE Stan Lovell

GEEIA Robert D. Seyler

5-27

DATE

SHEET

FEDERAL ELECTRIC CORPORATION BR II/13

BIG RALLY II PROJECT

DATA SHEET

AN/MRC-85 STATION TEST

REC. #1
S/N 0255 00 2

STATION 1D

Transmission Path: Station 1R to Station 1D

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	~~RF Amplifier and Converter~~	Minimum 40 db	N/A db
	Parametric Amplifier & Converter	Minimum 33 db	N/A db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp.	Max. ~~3~~ 2.5uv	2.35 uv
	~~For 20 db Quieting RF Amp.~~	Max. 4uv	N/A uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-35 volts
4.	DIVERSITY COMBINER		

	Rec A	Rec B
Receiver Outputs (Vertical) ± 2 db of each other	#1 - 4.0 db	#3 - 4.5 db
Receiver Outputs (Horizontal) ± 2 db of each other	#2 - 4.0 db	#4 - 4.5 db
Receiver A (V)	Reference	#1 34.0 db
Receiver B (V)	Reference	#3 35.5 db
Combined	AT LEAST 1.5 db ~~Equal to or~~ less than Rec A or Rec B	2.35 db
Receiver A (H)	Reference	#2 - 34.75 db
Receiver B (H)	Reference	#4 - 34.0 db
Combined	AT LEAST 1.5 db ~~Equal to or~~ less than Rec A or Rec B	2.0 db

5.	RECEIVER PILOT TONE		Initials
6.	ANTENNA SYSTEM VSWR	Max. 1.40 ± 1.5 MC AT CENTER	1.3

DATE 8 JUNE 63

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

LRP 5-28

ID-E

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

DATA SHEET

AN/MRC-85 STATION TEST

STATION I.D.

Transmission Patch: Station I.P. to Station I.D.

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	~~RF Amplifier and Converter~~	Minimum 40 db	____ db
	Parametric Amplifier & Converter	Minimum 33 db	N/A db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp.	Max. ~~3~~ 2.5 uv	2.35 uv
	~~For 20 db Quieting RF Amp.~~	Max. 4uv	____ uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-35 volts
4.	DIVERSITY COMBINER		

	Rec A	Rec B
Receiver Outputs (Vertical) ± 2 db of each other #1 #3	4.0 db	4.5 db
Receiver Outputs (Horizontal) ± 2 db of each other #2 #4	4.0 db	4.5 db

Receiver A (V)	Reference	#1	34.0 db
Receiver B (V)	Reference	#3	35.5 db
Combined	~~Equal to~~ or less than Rec A or Rec B (AT least 1.5 db)		2.45 db
Receiver A (H)	Reference	#2	34.5 db
Receiver B (H)	Reference	#4	34.0 db
Combined	~~Equal to~~ or less than Rec A or Rec B (AT LEAST 1.5 db)		2.0 db

5. RECEIVER PILOT TONE ____ Initials

6. ANTENNA SYSTEM VSWR Max. 1.40 ± 1.5 MC AT CENTER 1.34

DATE 8 June 63

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

LRP 5-29

ID-E

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

BR 11/13
Rec'r 3
S/N 033.

DATA SHEET

AN/MRC-85 STATION TEST

STATION I.D.

Transmission Patch: Station I.B. to Station I.D.

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	~~RF Amplifier and Converter~~	Minimum 40 db	____ db
	Parametric Amplifier & Converter	Minimum 33 db	N/A db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp.	Max. ~~3uv~~ 2.5	1.85 uv
	~~For 20 db Quieting RF Amp.~~	Max. 4uv	____ uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	35 volts
4.	DIVERSITY COMBINER		
		Rec A	Rec B
	Receiver Outputs (Vertical) ± 2 db of each other	#1 4.0 db	#3 4.5 db
	Receiver Outputs (Horizontal) ± 2 db of each other	#2 4.0 db	#4 4.5 db
	Receiver A (V)	Reference #1	34.0 db
	Receiver B (V)	Reference #3	35.5 db
	Combined	At least 1.5 db ~~Equal to or~~ less than Rec A or Rec B	2.35 db
	Receiver A (H)	Reference #2	34.75 db
	Receiver B (H)	Reference #4	34.0 db
	Combined	At least 1.5 db ~~Equal to or~~ less than Rec A or Rec B	2.0 db
5.	RECEIVER PILOT TONE		____ Initials
6.	ANTENNA SYSTEM VSWR	Max. 1.40 ± 1.5 mc at center	1.31

DATE 8 JUNE 64

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

SRP 5-30

SHEET 1 of 1

ID-E

FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

BR II/13

REC #14

S/N 003

DATA SHEET

AN/MRC-85 STATION TEST

STATION 1D

Transmission Patch: Station 1R to Station 1D

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	~~RF Amplifier and Converter~~	Minimum 40 db	____ db
	Parametric Amplifier & Converter	Minimum 33 db	N/A db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp.	Max. ~~3~~ 2.5uv	1.85 uv
	~~For 20 db Quieting RF Amp.~~	Max. 4uv	____ uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-35 volts
4.	DIVERSITY COMBINER		

		Rec A	Rec B
Receiver Outputs (Vertical) ± 2 db of each other		#1 4.0 db	#3 4.5 db
Receiver Outputs (Horizontal) ± 2 db of each other		#2 4.0 db	#4 4.5 db
Receiver A (V)	Reference	#1	34.0 db
Receiver B (V)	Reference AT LEAST 1.5 db	#3	35.5 db
Combined	~~Equal to or~~ less than Rec A or Rec B		2.25 db
Receiver A (H)	Reference	#2	34.75 db
Receiver B (H)	Reference AT LEAST 1.5 db	#4	35.0 db
Combined	~~Equal to or~~ less than Rec A or Rec B		2.0 db

5.	RECEIVER PILOT TONE	BS Initials
6.	ANTENNA SYSTEM VSWR	Max. 1.40 ± 1.5MC AT CENTER 1.3

DATE 8 June 68

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

SRP

5-31

1R-W

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

RECEIVER 1-V

SERIAL # 029

DATA SHEET

AN/MRC-85 STATION TEST

STATION 1R-W

Transmission Patch: Station 1D-E to Station 1R-W

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	RF Amplifier and Converter	Minimum 40 db	db
	~~Parametric Amplifier & Converter~~	~~Minimum 33 db~~	db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp. For 20db Quieting	Max. 2.5uv	2.3 uv
	For 20 db Quieting RF Amp.	Max. 4uv	uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-35 volts
4.	DIVERSITY COMBINER		
	Receiver Outputs (Vertical) ± 2 db of each other	#1 Rec A 10.8 db	#3 Rec B 10.5 db
	Receiver Outputs (Horizontal) ± 2 db of each other	#4 .9 db	#2 8.7 db
	Receiver A (V) 1	Reference	19.5 db
	Receiver B (V) 3	Reference	20. db
	Combined MIN 1.5 db NOISE IMPROVEMENT	At least 1.5 ~~Equal to or~~ less than Rec A or Rec B	7.5 db
	Receiver A (H) 4	Reference	-20 db
	Receiver B (H) 2	Reference	-17.5 db
	Combined MIN 1.5 db NOISE IMPROVEMENT.	At least 1.5 ~~Equal to or~~ less than Rec A or Rec B	2.0 db
5.	RECEIVER PILOT TONE		RBS Initials
6.	ANTENNA SYSTEM VSWR at Fo ± 7.5mc	Max. 1.40	1.8:1

DATE 11 JUNE 1963

TESTER Tom Kuykendall

SUPERVISOR K. Wasserman

QUALITY ASSURANCE R B Sprout

LRP

5-32

IR-W

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

RECEIVER 2-H

SERIAL # 030

DATA SHEET

AN/MRC-85 STATION TEST

STATION IR-W

Transmission Patch: Station 1D-E to Station IR-W

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	~~RF Amplifier and Converter~~	Minimum ~~40~~ db	NA db
	~~Parametric Amplifier & Converter~~	Minimum 33 db	NA db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp. For 20 db Quieting	Max. ~~3~~ 2.5 uv	1.9 uv
	~~For 20 db Quieting RF Amp.~~	Max. 4uv	NA uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-35 volts
4.	DIVERSITY COMBINER		

	Rec A	Rec B
Receiver Outputs (Vertical) ± 2 db of each other #1	10.6 db	#3 10.5 db
Receiver Outputs (Horizontal) ± 2 db of each other #4	9.0 db	#2 8.7 db

Receiver A (V)		Reference	17.5 db
Receiver B (V)		Reference	20.0 db
Combined	MIN 1.5 db NOISE IMPROVEMENT FIG.	Equal to or less than Rec A or Rec B	2.45 db
Receiver A (H)		Reference	-30.0 db
Receiver B (H)		Reference	-17.5 db
Combined	MIN 1.5 db NOISE IMPROVEMENT FIG.	Equal to or less than Rec A or Rec B	2.0 DB

5. RECEIVER PILOT TONE RBS Initials

6. ANTENNA SYSTEM VSWR @ 50 ± 1.5 mc. Max. 1.40 1.11

DATE 11 JUNE 1963

TESTER M. Laughbaum

SUPERVISOR R. Van Riper

QUALITY ASSURANCE R B Sprout

JRP

5-33

1R-W

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

RECEIVER 3-V

DATA SHEET

SERIAL # 031

AN/MRC-85 STATION TEST

STATION 1R-W

Transmission Patch: Station 1D-E to Station 1R-W

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	RF Amplifier and Converter	Minimum 40 db N/A	db
	~~Parametric Amplifier & Converter~~	~~Minimum 33 db~~ N/A	db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp. For 20 db Quieting	Max. 2.5 µuv	2.2 uv
	For 20 db Quieting RF Amp.	Max. 4uv N/A	uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-35 volts
4.	DIVERSITY COMBINER		
	Receiver Outputs (Vertical) ± 2 db of each other		Rec A #1 10.3 db #3 10.5 db / Rec B
	Receiver Outputs (Horizontal) ± 2 db of each other		#4 9.0 db #2 8.7 db
	Receiver A (V)	Reference	19.5 db
	Receiver B (V)	Reference	20.0 db
	Combined MIN 1.5 db NOISE IMPROVEMENT	Equal to or less than Rec A or Rec B	2.5 db
	Receiver A (H)	Reference	-20.0 db
	Receiver B (H)	Reference	-17.5 db
	Combined MIN 1.5 db NOISE IMPROVEMENT.	Equal to or less than Rec A or Rec B	2.0 DS
5.	RECEIVER PILOT TONE		RWS Initials
6.	ANTENNA SYSTEM VSWR AT So 1 2.5 INC.	Max. 1.40	2.0:1

DATE 11 JUNE 1963

TESTER W. Leyhart

SUPERVISOR R. Woodson

QUALITY ASSURANCE R B Scion

ARP

5-34

1R-W

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

RECEIVER 4-11

SERIAL # 1032

DATA SHEET

AN/MRC-85 STATION TEST

STATION 1R-W

Transmission Patch: Station 1D-E to Station 1R-W

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	~~RF Amplifier and Converter~~	Minimum ~~40~~ db	NA db
	~~Parametric Amplifier & Converter~~	~~Minimum 33 db~~	NA db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp. FOR 20db QUIETING	Max. ~~3~~ 2.5uv	2.4 uv
	~~For 20 db Quieting RF Amp.~~	~~Max. 4uv~~	~~NA~~ uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-35 volts
4.	DIVERSITY COMBINER		
	Receiver Outputs (Vertical) ± 2 db of each other		1 Rec A #4 @10.8 db Rec B #3 10.5 db
	Receiver Outputs (Horizontal) ± 2 db of each other		#4 - 9 db #2 -8.7 db
	Receiver A (V) 1	Reference	-19.5 db
	Receiver B (V) 3	Reference	-20 db
	Combined MIN 1.5 db NOISE IMPROVEMENT FIG.	~~Equal to or less than Rec A or Rec B~~	2.5 db
	Receiver A (H) 4	Reference	-20 db
	Receiver B (H) 2	Reference	-17.5 ~~2.1 db~~
	Combined MIN. 1.5 DB NOISE IMPROVEMENT FIG.	~~Equal to or less than Rec A or Rec B~~	~~2.0 db~~ 2.0 db
5.	RECEIVER PILOT TONE		RBS Initials
6.	ANTENNA SYSTEM VSWR at 60 ± 1.5mc	Max. 1.40	1.23.1

DATE 12 JUNE 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE R.B. Sparks

LRP

5-35

IR-E

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

RECEIVER 1-V

SERIAL 017

DATA SHEET

AN/MRC-85 STATION TEST

STATION 1R-E

Transmission Path: Station 1C-W to Station 1R-E

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	RF Amplifier and Converter	Minimum 40 db	NA db
	Parametric Amplifier & Converter	Minimum 33 db	35 db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp. For 20db Quieting	Max. ~~3~~ 2.5 uv	2.4 uv
	For 20 db Quieting RF Amp.	Max. 4uv	NA uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-36 volts
4.	DIVERSITY COMBINER		
	Receiver Outputs (Vertical) ± 2 db of each other		#1 Rec A +5.1 db #3 Rec B +3.8 db
	Receiver Outputs (Horizontal) ± 2 db of each other		#2 +4.5 db #4 +5 db
	Receiver A (V) #1	Reference	-24.9 db
	Receiver B (V) #3	Reference	-26.2 db
	Combined MIN 1.5 db NOISE IMPROVEMENT.	Equal to or less than ~~Rec A or Rec B~~	-2.75 db
	Receiver A (H) #2	Reference	-25.5 db
	Receiver B (H) #4	Reference	-25 db
	Combined MIN. 1.5 db NOISE IMPROVEMENT	Equal to or less than ~~Rec A or Rec B~~	-2.5 db
5.	RECEIVER PILOT TONE		RBS Initials
6.	ANTENNA SYSTEM VSWR.	Max. 1.40	1.57

DATE 14 JUNE 1963

TESTER E Hall

SUPERVISOR Robert Watkins

QUALITY ASSURANCE R.B. Swan

QRP

5-36

12-E

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

RECEIVER 2-H

SERIAL 018

DATA SHEET

AN/MRC-85 STATION TEST

STATION 1R-E

Transmission Patch: Station 1C-W to Station 1R-E

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	RF Amplifier and Converter	Minimum 40 db	NA db
	Parametric Amplifier & Converter	Minimum 33 db	39 db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp. For 20 db Quieting	Max. ~~3~~ 2.5 uv	2.0 uv
	Far 20 db Quieting ~~RF Amp~~. WITH CONVERTER ONLY	Max. ~~5~~ 4 uv	~~4.4~~ 4.8 uv
3.	DC CONTROL VOLTAGE		
	DC Cantral Valtage	-35 volts ± 3.5	-35 valts
4.	DIVERSITY COMBINER		
	Receiver Outputs (Vertical) ± 2 db of each other		Rec A +5.1 db Rec B +3.8 db
	Receiver Outputs (Horizontal) ± 2 db of each other		+4.5 db +5 db
	Receiver A (V)	Reference	-24.9 db
	Receiver B (V)	Reference	-26.2 db
	Combined MIN. 1.5 db NOISE IMPROVEMENT	~~Equal to or less than Rec A or Rec B~~	-2.75 db
	Receiver A (H)	Reference	~~-25.5~~ db
	Receiver B (H)	Reference	-25 db
	Combined MIN. 1.5 db NOISE IMPROVEMENT.	~~Equal to or less than Rec A or Rec B~~	-2.5 db
5.	RECEIVER PILOT TONE		RBS Initials
6.	ANTENNA SYSTEM VSWR	Max. 1.40	1.40

NOTE: PARAMETRIC AMPLIFIER #2 DOWN. DATA RECORDED USING PARAMETRIC AMP #1

DATE 14 JUNE 1963

TESTER E Hall

SUPERVISOR Robert Wadsworth

QUALITY ASSURANCE R.B. Spear

ARP

5-37

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

Receiver 3-V

Serial 019

DATA SHEET

AN/MRC-85 STATION TEST

STATION 1R-E

Transmission Patch: Station 1C-W to Station 1R-E

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	RF Amplifier and Converter	Minimum 40 db	N.A db
	Parametric Amplifier & Converter	Minimum 33 db	35 db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp. For 20 db Quieting	Max. ~~3~~ 2.5 uv	2.5 uv
	For 20 db Quieting RF Amp.	Max. 4uv	N.A uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-34 volts
4.	DIVERSITY COMBINER		
	Receiver Outputs (Vertical) ± 2 db of each other		Rec A +5.1 db Rec B +3.8 db
	Receiver Outputs (Horizontal) ± 2 db of each other		+4.5 db +5 db
	Receiver A (V)	Reference	-24.9 db
	Receiver B (V)	Reference	-26.2 db
	Combined MIN 1.5 db NOISE IMPROVEMENT	Equal to or less than Rec A or Rec B	-2.75 db
	Receiver A (H)	Reference	-25.5 db
	Receiver B (H)	Reference	-25 db
	Combined MIN 1.5 db NOISE IMPROVEMENT	Equal to or less than Rec A or Rec B	-2.5 db
5.	RECEIVER PILOT TONE		RC Initials
6.	ANTENNA SYSTEM VSWR	Max. 1.40	1.40

DATE 14 JUNE 1963

TESTER E. Hall

SUPERVISOR Robert Watkins

QUALITY ASSURANCE R.B. Spear

ARP

5-38

1R-E

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

RECEIVER 4-H

SERIAL 020

DATA SHEET

AN/MRC-85 STATION TEST

STATION 1R-E

Transmission Patch: Station 1C-W to Station 1R-E

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	RF Amplifier and Converter	Minimum 40 db	NA db
	Parametric Amplifier & Converter	Minimum 33 db	40 db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp. For 20 db QUIETING	Max. ~~3~~ 2.5 uv	2.4 uv
	For 20 db Quieting RF Amp.	Max. 4uv	NA uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-37 volts
4.	DIVERSITY COMBINER		

		Rec A	Rec B
Receiver Outputs (Vertical) ± 2 db of each other		+5.1 db	+3.8 db
Receiver Outputs (Horizontal) ± 2 db of each other		+4.5 db	+5. db
Receiver A (V)	Reference		-24.9 db
Receiver B (V)	Reference		-26.2 db
Combined MIN 1.5 db NOISE IMPROVEMENT.	~~Equal to or less than Rec A or Rec B~~		-2.75 db
Receiver A (H)	Reference		-25.5 db
Receiver B (H)	Reference		-25 db
Combined MIN 1.5 db NOISE IMPROVEMENT.	~~Equal to or less than Rec A or Rec B~~		-2.5 db

5.	RECEIVER PILOT TONE	RBS Initials
6.	ANTENNA SYSTEM VSWR	Max. 1.40 — 1.57

DATE 14 JUNE 1963

TESTER E Hall

SUPERVISOR Robert Westling

QUALITY ASSURANCE R.B. Spear

APP 5-39

IC-W

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

DATA SHEET

AN/MRC-85 STATION TEST

RECEIVER

STATION IC WEST

Transmission Patch: Station ~~IR~~ to Station ~~IC~~

		Receiver 2	3	4	
1. RECEIVER GAIN	EXPECTED				ACTUAL
RF Amplifier and Converter	IF#2 Minimum 40 db	57	66.4	68.2	db
Parametric Amplifier & Converter	IF#1 Minimum 33 db	32.2	38.2	42.8	db
2. RECEIVER SENSITIVITY					
Signal Required Paramp.	Max. 3uv	1.8	1.9	1.6	uv
For 20 db Quieting RF Amp.	Max. 4uv				uv
3. DC CONTROL VOLTAGE					
DC Control Voltage	-35 volts ± 3.5	-35	-35	-35	volts

4. DIVERSITY COMBINER		Rec A		Rec B
Receiver Outputs (Vertical) ± 2 db of each other	#1	+4.5 db	#3	5.25 db
Receiver Outputs (Horizontal) ± 2 db of each other	#2	+4.5 db	#4	5.00 db
Receiver A (V)	Reference			db
Receiver B (V)	Reference			db
Combined	At least 1.5 ~~Equal to or~~ less than Rec A or Rec B			db
Receiver A (H)	Reference			-25 db
Receiver B (H)	Reference			-25 db
Combined	At least 1.5 db ~~Equal to or~~ less than Rec A or Rec B			-21 db

5. RECEIVER PILOT TONE _____ Initials

6. ANTENNA SYSTEM VSWR Max. 1.40

Antenna #1 2.1 ✓
Antenna #2 2.2 ✓
Antenna #3 1.22
Antenna #4 2.15 ✓

DATE 16 JUNE 63
TESTER T. Jacker
SUPERVISOR F.H. Garafolo
QUALITY ASSURANCE William R. Mote
GEEIA Harold D. Logler

5-40

1C-E

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

DATA SHEET

AN/MRC-85 STATION TEST

STATION IC

Transmission Patch: Station GK to Station IC

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	RF Amplifier and Converter IF # 1	Minimum 40 db	34.5 33 31 35 db
	~~Parametric Amplifier & Converter~~ IF # 2	Minimum ~~XX~~ 50 db	63 58 60 63 db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp.	Max. 3uv	N / A uv
	For 20 db Quieting RF Amp.	Max. 4uv	3.2 2.8 3.5 3.5
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	35 35 35 35 volts
4.	DIVERSITY COMBINER		
	Receiver Outputs (Vertical) ± 2 db of each other		Rec 1 +10.5 db Rec 3 +11 db
	Receiver Outputs (Horizontal) ± 2 db of each other		Rec #2 +10.75 db Rec # 4 +10.0 db
	Receiver A (V)	Reference	- 20.5 db
	Receiver B (V)	Reference	-24.0 db
	Combined	At least 1.5 db ~~Equal to or~~ less than Rec A or Rec B	2.5 db
	Receiver A (H)	Reference	-18 db
	Receiver B (H)	Reference	-18 db
	Combined	At least 1.5 db ~~Equal to or~~ less than Rec A or Rec B	2.5 dbm
5.	RECEIVER PILOT TONE		RS Initials
6.	ANTENNA SYSTEM VSWR	Max. 1.40	

Rec. # 1 2 3 4
1.40 1.70 1.25 1.7

DATE 23 JUNE 63
TESTER R Shadel
SUPERVISOR F H Rosfarella
QUALITY ASSURANCE William K Yost
GEEIA Robert C Seifert

Sheet 1 of 1

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GK-W

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

DATA SHEET

AN/MRC-85 STATION TEST

STATION G.K.

Transmission Patch: Station G.K. to Station I.P.

			Recvrs. 1	2	3	4
1. RECEIVER GAIN		EXPECTED			ACTUAL	
	RF Amplifier and Converter (IF #2 With Parametric Amp. / IF #1 Without Parametric Amp.)	Minimum 40 db	33	30	33.5	34 db
	Parametric Amplifier & Converter	Minimum 33 db	N/A.			db
2. RECEIVER SENSITIVITY						
	Signal Required Paramp.	~~Max. 3uv~~ 2.5 uv	N/A			uv
	For 20 db Quieting RF Amp.	Max. 4uv	~~3~~ 2.75	~~2.5~~ 1.85	~~3~~ 2.75	~~3.6~~ 3.7 uv
3. DC CONTROL VOLTAGE						
	DC Control Voltage	-35 volts ± 3.5	~~36~~ 31	~~34.3~~ 33	~~34.5~~ 34.5	~~35.8~~ 33.3 volts
4. DIVERSITY COMBINER						
	Receiver Outputs (Vertical) ± 2 db of each other		#1 Rec A ~~+11~~ 10 db		#3 Rec B ~~+10.5~~ 9.5 db	
	Receiver Outputs (Horizontal) ± 2 db of each other		#2 11 db		#4 10 db	
	Receiver A (V)	Reference	#1		-20 db	
	Receiver B (V)	Reference	#3		-20 db	
	Combined (MINIMUM 1.5 db. NOISE IMPROVEMENT.)	~~Equal to or less than Rec A or Rec B~~			-22.5 db	
	Receiver A (H)	Reference	#2		-20.5 db	
	Receiver B (H)	Reference	#4		18.5 db	
	Combined (MINIMUM 1.5 db. NOISE IMPROVEMENT.)	~~Equal to or less than Rec A or Rec B~~			-22.5 db.	
5. RECEIVER PILOT TONE					BTB. Initials	
6. ANTENNA SYSTEM VSWR		Max. 1.40	1.57	1.76	1.31	

DATE 26-JUNE, 63

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

Sheet 1 of 1

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GK-E.

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

DATA SHEET

AN/MRC-85 STATION TEST

STATION G,K.

Transmission Patch: Station G,K. to Station G,A.

			ACTUAL			
			#1	#2	#3	#4
1. RECEIVER GAIN	EXPECTED					
~~RF Amplifier and Converter~~	~~Minimum 40 db~~					~~db~~ db
Parametric Amplifier & Converter	Minimum 33 db	35 (I.F. OUTPUT #1)	33	43	39	db
2. RECEIVER SENSITIVITY		65 (I.F. OUTPUT #2)	58	65	66	
Signal Required Paramp.	Max. ~~3uv~~ 2.5 uv	1.9	1.9	1.9	1.9	uv
~~For 20 db Quieting RF Amp.~~	~~Max. 4uv~~					~~uv~~ uv
3. DC CONTROL VOLTAGE						
DC Control Voltage	-35 volts ± 3.5	-36.2	-35	-35	~~-35~~	volts
4. DIVERSITY COMBINER						
Receiver Outputs (Vertical) ± 2 db of each other		#1 Rec A +11 db			#4 Rec B +11 db	
Receiver Outputs (Horizontal) ± 2 db of each other		#2 +2 db			#3 +2 db	
Receiver A (V)	Reference #1	-20.5 db				
Receiver B (V)	Reference #4	-21.5 db				
Combined 1.5db NOISE IMPROVEMENT	~~Equal to or less than Rec A or Rec B~~	-23 db				
Receiver A (H)	Reference #2	-23.5 db				
Receiver B (H)	Reference #3	-23.5 db				
Combined 1.5db NOISE IMPROVEMENT.	~~Equal to or less than Rec A or Rec B~~	-24 db				
5. RECEIVER PILOT TONE		BCB. Initials				
6. ANTENNA SYSTEM VSWR FROM OPER. FREQ.	Max. 1.40 ± .5 MAS:	1.25	1.27	1.31	1.40	

DATE 3 July 63

TESTER [signature]

SUPERVISOR Russell S. Carlson

QUALITY ASSURANCE [signature]

5-43

Sheet 1 of 1

GA

FEDERAL ELECTRIC CORPORATION BR 11/13

BIG RALLY II PROJECT

DATA SHEET

AN/MRC-85 STATION TEST

STATION GA MRC-85

Transmission Patch: Station GA to Station GK

		EXPECTED	ACTUAL
1.	RECEIVER GAIN		
	~~RF Amplifier and Converter~~	~~Minimum 40 db~~	____ db
	Parametric Amplifier & Converter	Minimum 33 db	1V 39, 2H 39, 3V 34, 4H 36.5 db
2.	RECEIVER SENSITIVITY		
	Signal Required Paramp.	Max. ~~3uv~~ 2.5uv	1.6 1.9 1.9 1.7 uv
	~~For 20 db Quieting RF Amp.~~	~~Max. 4uv~~	XXXX uv
3.	DC CONTROL VOLTAGE		
	DC Control Voltage	-35 volts ± 3.5	-35 volts
4.	DIVERSITY COMBINER		
	Receiver Outputs (Vertical) ± 2 db of each other		Rec A 1: 2.7 db; Rec B 3: 3.8 db
	Receiver Outputs (Horizontal) ± 2 db of each other		2: 4.5 db; 4: 4.5 db
	Receiver A (V) 1	Reference	26.7 db
	Receiver B (V) 3	Reference	26.3 db
	Combined	MINIMUM ~~1.5~~ 2 db IMPROVEMENT; ~~Equal to or less than Rec A or Rec B~~	2.3 db
	Receiver A (H) 2	Reference	25.5 db
	Receiver B (H) 4	Reference	25.5 db
	Combined	MINIMUM 1.5 db IMPROVEMENT; ~~Equal to or less than Rec A or Rec B~~	2.7 db
5.	RECEIVER PILOT TONE		WDT Initials
6.	ANTENNA SYSTEM VSWR	Max. 1.40	1V 1.25, 2H 1.18, 3V 1.25, 4H 1.57

DATE 9 July 1963

TESTER W. D. Tate

SUPERVISOR Paul Wasserman

QUALITY ASSURANCE Stan Gandell

GEEIA Robert D Taylor

5-44

ID-E

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION I.D.

Transmission Path: From I.D. Station to I.R. Station

Exciter Serial No. #1 S/N 014, #2 S/N 013

Receiver Serial No. Rec. A# 1 (VERT.), Rec. B# 4 (HORZ.)

Power Amplifier Serial No. #1 S/N 016, #2 S/N 014

EXC #1, PA #1, RCVR #1, (VERT.) EXC #2, PA #2 RCVR #4, (HORZ)

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED NPR	ACTUAL Rec. A	ACTUAL Rec. B
15 KC	~~Minimum NPR-45dB~~ ~~Maximum -55 dbm~~	55/54* dbm	54/62* dbm
55 KC	~~Maximum -55 dbm~~	55/55* dbm	61/61 dbm
80 KC	~~Maximum -55 dbm~~	55/58* dbm	59/63* dbm

* RESIDUAL NOISE

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL Rec. A	ACTUAL Rec. B
12 KC		-10.9 dbm	-10.8 dbm
20 KC	-2 + 1 db	-10.2 dbm	-10 dbm
30 KC	with respect	-10 dbm	-10 dbm
40 KC	to 30 KC level	-10 dbm	-10 dbm
50 KC		-10.1 dbm	-10.2 dbm
60 KC		-10.2 dbm	-10.3 dbm
70 KC		-10 dbm	-10 dbm
80 KC	±0.25 db	-10 dbm	-10 dbm
90 KC	with respect	-10 dbm	-10 dbm
100 KC	to 90 KC level	-10 dbm	-9.9 dbm
110 KC		-10.1 dbm	-10 dbm
120 KC		-10.1 dbm	-10 dbm

DATE 8 JUNE 82
TESTER B Bugnar
SUPERVISOR R.E. Gilbert
QUALITY ASSURANCE [illegible]

LRP

IR-W

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION IR - WEST

Transmission Path: From IR-W Station to ID- E Station

Exciter Serial No. 016 1-V

Receiver Serial No. Rec. A# 029 1-V, Rec. B# 031 3-V

Power Amplifier Serial No. 015 1-V

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED NPR	ACTUAL Rec. A #1	ACTUAL Rec. B #3
15 KC	~~Maximum -55 dbm~~ Minimum NPR-45db	-58 dbm	-58 dbm
55 KC	~~Maximum -55 dbm~~	-56 dbm	-57 dbm
80 KC	~~Maximum -55 dbm~~	-52 dbm	-49 dbm

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL Rec. A 1	ACTUAL Rec. B 3
12 KC		-10.5 dbm	-10.5 dbm
20 KC	-2 + 1 db	-10 dbm	-10 dbm
30 KC	with respect	-10 dbm	-10 dbm
40 KC	to 30 KC level	-10 dbm	-9.8 dbm
50 KC		-10 dbm	-9.9 dbm
60 KC		-10.2 dbm	-10.1 dbm
70 KC		-10 dbm	-10 dbm
80 KC	+0.25 db	-10 dbm	-10 dbm
90 KC	with respect	-10 dbm	-10 dbm
100 KC	to 90 KC level	-10 dbm	-10 dbm
110 KC		-10 dbm	-10 dbm
120 KC		-10 dbm	-10 dbm

DATE JUNE 12 1963
TESTER M. Leyshock
SUPERVISOR R. Watkins
QUALITY ASSURANCE RB Spear
JRP

12-W

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION 1R-W

Transmission Path: From 1R-W Station to 1D-E Station

Exciter Serial No. 015 2-H

Receiver Serial No. Rec. A# 030 2-H, Rec. B# 032 4-H

Power Amplifier Serial No. 016 2-H

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED NPR	ACTUAL Rec. A 2-H	ACTUAL Rec. B 4-H
15 KC	~~Maximum -55 dbm~~ Minimum NPR-45db	-61 dbm	-58 dbm
55 KC	~~Maximum -55 dbm~~	-57 dbm	-56 dbm
80 KC	~~Maximum -55 dbm~~	-52 dbm	-53 dbm

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL Rec. A 2-H	ACTUAL Rec. B 4-H
12 KC		-10.7 dbm	-10.5 dbm
20 KC	-2 + 1 db	-10.1 dbm	-10 dbm
30 KC	with respect	-10 dbm	-10 dbm
40 KC	to 30 KC level	-10.3 dbm	-10.4 dbm
50 KC		-10.7 dbm	-10.8 dbm
60 KC		-11.2 dbm	-11.5 dbm
70 KC		-10 dbm	-9.8 dbm
80 KC	±0.25 db	-10 dbm	-9.8 dbm
90 KC	with respect	-10 dbm	-9.9 dbm
100 KC	to 90 KC level	-10 dbm	-10 dbm
110 KC		-10 dbm	-10 dbm
120 KC		-10 dbm	-10 dbm

DATE June 12, 1963
TESTER M Leyhest
SUPERVISOR R. Wantini
QUALITY ASSURANCE R B Scott

ERP

JR-E

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION 1R-2E

Transmission Path: From 1R-E Station to 1C-W Station

Exciter Serial No. 009 2-H

Receiver Serial No. Rec. A# 018 2-H, Rec. B# 020 #3 4-H

Power Amplifier Serial No. 010 2-H

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED NPR	ACTUAL 2-H Rec. A	ACTUAL #3 4-H Rec. B
15 KC	~~Maximum -55 dbm~~ Minimum NPR-45db	-52 dbm	-52 dbm
55 KC	~~Maximum -55 dbm~~	-53 dbm	-55 dbm
80 KC	~~Maximum -55 dbm~~	-54 dbm	-57 dbm

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL 2H Rec. A	ACTUAL #3 4-H Rec. B
12 KC		-11.2 dbm	-11.3 dbm
20 KC	-2 + 1 db	-10.6 dbm	-10.6 dbm
30 KC	with respect	-10.3 dbm	-10.3 dbm
40 KC	to 30 KC level	-10.3 dbm	-10.3 dbm
50 KC		-10.2 dbm	-10.3 dbm
60 KC		-10.2 dbm	-10.3 dbm
70 KC		-10 dbm	-10 dbm
80 KC	±0.25 db	-10. dbm	-10 dbm
90 KC	with respect	-10. dbm	-10 dbm
100 KC	to 90 KC level	-10. dbm	-10 dbm
110 KC		-10. dbm	-10.1 dbm
120 KC		-10. dbm	-10.1 dbm

DATE 16 June 1963
TESTER E Hall
SUPERVISOR E Hall
QUALITY ASSURANCE R.B. Sloan
WRP

5-48

1R-E

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION 1R-E

Transmission Path: From 1R-E Station to 1C-W Station

Exciter Serial No. 010 1-V

Receiver Serial No. Rec. A# 017 1-V, Rec. B# 019 3-V

Power Amplifier Serial No. ~~010~~ 009 1-V

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED NPR	ACTUAL 1-V Rec. A	ACTUAL ~~Rec. B~~ Receiver
15 KC	~~Maximum -55 dbm~~ Minimum NPR-45db	-53 dbm	-55 dbm
55 KC	~~Maximum -55 dbm~~	-50 dbm	-60 dbm
80 KC	~~Maximum -55 dbm~~	-50 dbm	-60 dbm

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL Rec. A-1-V	ACTUAL Rec. B-3V
12 KC		-11 dbm	-10.5 dbm
20 KC	-2 + 1 db	-10.3 dbm	-10.3 dbm
30 KC	with respect	-10 dbm	-10 dbm
40 KC	to 30 KC level	-10 dbm	-10 dbm
50 KC		-10 dbm	-10 dbm
60 KC		-10.2 dbm	-10.2 dbm
70 KC		-10 dbm	-10 dbm
80 KC	±0.25 db	-10 dbm	-10 dbm
90 KC	with respect	-10 dbm	-10 dbm
100 KC	to 90 KC level	-10 dbm	-10 dbm
110 KC		-10 dbm	-10 dbm
120 KC		-10 dbm	-10.1 dbm

DATE 16 June 1963
TESTER E W Hatley
SUPERVISOR Robert Westerling
QUALITY ASSURANCE R B Spear
LRP

IC-W

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION IC WEST

Transmission Path: From IC Station to IR Station

Exciter Serial No. 003 # 2

Receiver Serial No. Rec. ~~A~~ 3 # 007, Rec. ~~B~~ 4 # 008

Power Amplifier Serial No. _____

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED NPR	ACTUAL 3 Rec. A	ACTUAL 4 Rec. B
15 KC	~~Maximum -55 dbm~~ Minimum NPR-45db	-56 dbm	-54 dbm
55 KC	~~Maximum -55 dbm~~	-56 dbm	-54 dbm
80 KC	~~Maximum -55 dbm~~	-55 dbm	-53 dbm

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL 3 Rec. A	ACTUAL 4 Rec. B
12 KC		-12.0 dbm	-10.5 dbm
20 KC	-2 + 1 db	-10.5 dbm	-10.0 dbm
30 KC	with respect	-10.0 dbm	-10.0 dbm
40 KC	to 30 KC level	-10.0 dbm	-10.25 dbm
50 KC		-10.0 dbm	-10.25 dbm
60 KC		-10.0 dbm	-10.25 dbm
70 KC		-10.0 dbm	-10.25 dbm
80 KC	+0.25 db	-10.0 dbm	-10.25 dbm
90 KC	with respect	-10.0 dbm	-10.25 dbm
100 KC	to 90 KC level	-10.0 dbm	-10.5 dbm
110 KC		-10.0 dbm	-10.5 dbm
120 KC		-10.25 dbm	-10.5 dbm

DATE 16 June 1963
TESTER T Decker
SUPERVISOR F H Galvardo
QUALITY ASSURANCE C Willis R 20
GEEIA Robert D Taylor

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IC-E

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION IC

Transmission Path: From ~~IE~~ IC Station to ~~IE~~ GK Station

Exciter Serial No. EXC.# 1 / EXC.# 2

Receiver Serial No. Rec. A# Rx.#1 / Rx.#2 ½, Rec. B# Rx.#3 / Rx.#4

Power Amplifier Serial No. Amp.#1 / Amp.#2

1. SYSTEM INTERMODULATION

Rx.#1	Intermodulation Frequency Rx.#3		EXPECTED NPR	ACTUAL Rec. A#2	ACTUAL Rec. B#4
-50.0	-50.5	15 KC	Minimum NPR-45db ~~Maximum -55 dbm~~	-53 dbm	-52 dbm
-50.5	-50.0	55 KC	~~Maximum -55 dbm~~	-52 dbm	-50 dbm
-51.0	-51.5	80 KC	~~Maximum -55 dbm~~	-50.5 dbm	-50 dbm

2. RADIO BASEBAND FREQUENCY RESPONSE

Rx. #1	Rx. #3	Frequency	EXPECTED	ACTUAL Rec. A#2	ACTUAL Rec. B#4
-10.9	-10.9	12 KC		-11 dbm	-11 dbm
-10.2	-10.1	20 KC	-2 + 1 db	-10.3 dbm	-10.2 dbm
-10.0	- 9.75	30 KC	with respect	-10.25 dbm	-10.0 dbm
-10.0	- 9.5	40 KC	to 30 KC level	-10.3 dbm	-10.0 dbm
-10.2	- 9.8	50 KC		-10.4 dbm	-10.0 dbm
-10.4	- 9.8	60 KC		-10.6 dbm	- 9.9 dbm
-10.0	-9.75	70 KC		-10.1 dbm	- 9.9 dbm
-10.2	- 9.75	80 KC	±0.25 db	-10.2 dbm	- 9.9 dbm
-10.0	- 9.75	90 KC	with respect	-10.25 dbm	-10.0 dbm
-10.0	- 9.75	100 KC	to 90 KC level	-10.4 dbm	-10.0 dbm
-10.0	- 9.75	110 KC		-10.25 dbm	-9.9 dbm
-10.2	-9.75	120 KC		-10.4 dbm	-9.8 dbm

DATE 22 JUNE 63
TESTER R Higgs
SUPERVISOR F A Lafarda
QUALITY ASSURANCE William R. Yates
GEEIA Robert D Leyler

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GK-W

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION G.K.

Transmission Path: From G.K. Station to I.C. Station

Exciter Serial No. #1 001 #2 005.

Receiver Serial No. Rec. A# 2 002, Rec. B# 4 004

Power Amplifier Serial No. #2 029 ~~005~~. P.A. #1 S/N 001

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED NPR	MOD 1 EXC 2 PA 2 ACTUAL Rec. A2	MOD 2 EXC 1 PA 1 Rec. B1
15 KC	Minimum NPR-45db ~~Maximum -55 dbm~~	56 dbm	52 dbm 58
55 KC	~~Maximum -55 dbm~~	53 dbm	47 dbm* 53
80 KC	~~Maximum -55 dbm~~	53 dbm	49 dbm* 52

2. RADIO BASEBAND FREQUENCY RESPONSE

MOD 2 EXCT. 1 PA 1 REC 3	MOD 2 EXCT. 1 PA 1 REC 1	MOD 1 EXCT. 2 PA 2 REC 4	MOD 1 EXCT 2 PA 2 REC 2	Frequency	EXPECTED	ACTUAL Rec. A	ACTUAL Rec. B
19.75	19.7	19.9	20.1	12 KC		____ dbm	____ dbm
19	19	19.3	19.4	20 KC	-2 + 1 db	____ dbm	____ dbm
19	19	19	19	30 KC	with respect	____ dbm	____ dbm
18.75	18.9	18.8	19	40 KC	to 30 KC level	____ dbm	____ dbm
18.8	18.85	18.7	19	50 KC		____ dbm	____ dbm
18.8	18.7	18.6	19	60 KC		____ dbm	____ dbm
19.2	19.2	19.2	18.85	70 KC		____ dbm	____ dbm
19	19.1	19.5	18.9	80 KC	±0.25 db	____ dbm	____ dbm
19	19.	19	19.	90 KC	with respect	____ dbm	____ dbm
18.85	19.	18.9	19.	100 KC	to 90 KC level	____ dbm	____ dbm
18.75	19.	18.85	19.	110 KC		____ dbm	____ dbm
18.75	19.	18.75	19.1	120 KC		____ dbm	____ dbm

DATE 27 JUNE, 63
TESTER [signature]
SUPERVISOR Russell L. Carter
QUALITY ASSURANCE B F Boss.

Readings taken w/meter calibrated for 600Ω Imp. Correction factor of 9db has to be applied for correct reading. Ex. 18.75 Reading = 9.75 Corrected.

* 29 JUNE, 63

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GE-E

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION G.K.

Transmission Path: From G.K. (#1) Station to G.A. (#2) Station

Exciter Serial No. 006 (#1) 005 (#2)

Receiver Serial No. Rec. ~~A~~# 013 (#1) 014 (#2), Rec. ~~B~~# ____ (#3) ____ (#4)

Power Amplifier Serial No. DD7-H (#1) DDB-V (#2)

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED (NPR)	ACTUAL Rec. ~~A~~ 2	ACTUAL Rec. ~~B~~ 1
15 KC	Minimum NPR-45db ~~Maximum -55 dbm~~	-54 dbm	-58 dbm
55 KC	~~Maximum -55 dbm~~	-51 dbm	-53 dbm
80 KC	~~Maximum -55 dbm~~	-55 dbm	-51 dbm

2. RADIO BASEBAND FREQUENCY RESPONSE

Mod 2 PA 2 Exc. 2 Rec. 1	Mod 2 PA 2 Exc 2 Rec 4	Mod 1 PA 1 Exc 1 Rec 3	Mod 1 PA 1 Exc 1 Rec 2	Frequency	EXPECTED	ACTUAL Rec. A	ACTUAL Rec. B
-.20	-20	-20	-20	12 KC		____ dbm	____ dbm
-.19		-192	-19.1	20 KC	-2 + 1 db	____ dbm	____ dbm
-.19	-19	-19	-19	30 KC	with respect	____ dbm	____ dbm
-.19		-19	-19	40 KC	to 30 KC level	____ dbm	____ dbm
-.19		-19.1	-19.1	50 KC		____ dbm	____ dbm
-.192	-195	-19.1	-19.2	60 KC		____ dbm	____ dbm
-19	-19	-19	-19	70 KC		____ dbm	____ dbm
-19		-19	-19	80 KC	+0.25 db	____ dbm	____ dbm
-19	-19	-19	-19	90 KC	with respect	____ dbm	____ dbm
-19		-19	-19	100 KC	to 90 KC level	____ dbm	____ dbm
-19		-19	-19	110 KC		____ dbm	____ dbm
-19	-19	-19	-19	120 KC		____ dbm	____ dbm

DATE 4 July 63
TESTER [illegible]
SUPERVISOR Russell E. Carter
QUALITY ASSURANCE W. E. Bess

Meter to be monitor calibrated for -1 Emp. Correction factor of 9db to be applied for correct reading Ex. 18.75 Reading = 9.75 Corrected.]

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GA-W

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION GA MRC-85

Transmission Path: From GA Station to GK Station

Exciter Serial No. 011 2H

Receiver Serial No. Rec. A# 022 2H, Rec. B# 024 4H

Power Amplifier Serial No. 014 2H

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED NPR	ACTUAL Rec. A	ACTUAL Rec. B
15 KC	~~Maximum -55 dbm~~ Minimum NPR 45db	-54 dbm	-55 dbm
55 KC	~~Maximum -55 dbm~~	-50 dbm	-50 dbm
80 KC	~~Maximum -55 dbm~~	-51 dbm	-51 dbm

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL Rec. A	ACTUAL Rec. B
12 KC		-12.0 dbm	-10.7 dbm
20 KC	-2 + 1 db	-11.1 dbm	-10.0 dbm
30 KC	with respect	-10.6 dbm	-9.8 dbm
40 KC	to 30 KC level	-10.4 dbm	-9.6 dbm
50 KC		-10.2 dbm	-9.5 dbm
60 KC		-10.0 dbm	-9.4 dbm
70 KC		-10.1 dbm	-9.6 dbm
80 KC	±0.25 db	-10.0 dbm	-9.7 dbm
90 KC	with respect	-10.0 dbm	-9.7 dbm
100 KC	to 90 KC level	-10.0 dbm	-9.8 dbm
110 KC		-10.0 dbm	-9.8 dbm
120 KC		-9.9 dbm	-9.8 dbm

DATE 13 July 1963
TESTER [signature]
SUPERVISOR [signature]
QUALITY ASSURANCE [signature]
GEEIA Robert D Legler

5-54

GA-W

FEDERAL ELECTRIC CORPORATION BRII/14
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 OVERALL TEST

STATION GA MRC-85

Transmission Path: From GA Station to GK Station

Exciter Serial No. 012 1V

Receiver Serial No. Rec. A# 021 1V, Rec. B# 023 3V

Power Amplifier Serial No. 018 1V

1. SYSTEM INTERMODULATION

Intermodulation Frequency	EXPECTED	ACTUAL Rec. A	ACTUAL Rec. B
THIS TEST WAS CONDUCTED WITH PA OPERATING AT 7KW		NPR / RN	NPR / RN
15 KC	Minimum NPR 45db ~~Maximum -55 dbm~~	-50/56 dbm	-51/52 dbm
55 KC	~~Maximum -55 dbm~~	-48/55 dbm	-50/53 dbm
80 KC	~~Maximum -55 dbm~~	-51/56 dbm	-50/55 dbm

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL Rec. A	ACTUAL Rec. B
12 KC		-10.9 dbm	-10.5 dbm
20 KC	-2 + 1 db	-10.2 dbm	-9.8 dbm
30 KC	with respect	-10.1 dbm	-9.6 dbm
40 KC	to 30 KC level	-10.1 dbm	-9.5 dbm
50 KC		-10.1 dbm	-9.5 dbm
60 KC		-10.2 dbm	-9.4 dbm
70 KC		-10.2 dbm	-9.5 dbm
80 KC	±0.25 db	-10.3 dbm	-9.5 dbm
90 KC	with respect	-10.4 dbm	-9.6 dbm
100 KC	to 90 KC level	-10.4 dbm	-9.6 dbm
110 KC		-10.5 dbm	-9.8 dbm
120 KC		-10.5 dbm	-9.8 dbm

DATE 13 July 1963
TESTER [illegible]
SUPERVISOR [illegible]
QUALITY ASSURANCE [illegible]
GEEIA Robert D. Legler

5-55

FEDERAL ELECTRIC CORPORATION BRII/15
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 LINK TEST

STATION I.D.

Transmission Path: From I.R Station to I.D. Station

V. Exc. Serial No. 014 V. Rec. Serial No. 025
H. Exc. Serial No. 013 V. Rec. Serial No. 027
V. 10 KW P.A. No. 1 H. Rec. Serial No. 026
H. 10 KW P.A. No. 2 H. Rec. Serial No. 028
V. Trans. Ant. No. 1
H. Trans. Ant. No. 2

+ 9 db. ATTENUATOR

1. RADIO NOISE AND SPURIOUS TONE LEVELS

	FREQ	Hi	Lo	FREQ	Hi	Lo
Baseband Noise	12	60	55	52	60	50
	24	50	48	54	60	48
	31	61	49	60	60	48
	32	61	49	65	58	48
	36	52	50	84	52	50
	39	61	48	97	59	50
	44	61	48	119	70	65

EXPECTED: -60 dbm

ACTUAL Freq. Noise Level
___KC _____dbm
___KC _____dbm
___KC _____dbm
___KC _____dbm
___KC _____dbm

NOTE: Record all noise signals greater than -60 dbm, except signal at 60 KC.

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL
12 KC		-11.2 dbm
20 KC	-2 +1 dbm	-10.5 dbm
30 KC	with respect	-10 dbm
40 KC	to 30 KC level	-10 dbm
50 KC		-10 dbm
60 KC		-10 dbm
70 KC		-10 dbm
80 KC	±0.25 dbm	-10 dbm
90 KC	with respect	-10 dbm
100 KC	to 90 KC level	-9.5 dbm
110 KC		-9.8 dbm
120 KC		-10 dbm

DATE 17 June 63
TESTER K. Nelson
SUPERVISOR R. Gibbons
QUALITY ASSURANCE [illegible]

Sheet 1 of 1

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FEDERAL ELECTRIC CORPORATION BRII/15
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 LINK TEST

STATION 1R-W

Transmission Path: From 1D-E Station to 1R-W Station

V. Exc. Serial No. 016 1-V V. Rec. Serial No. 029 1-V
H. Exc. Serial No. 015 3-H V. Rec. Serial No. 031 3-V
V. 10 KW P.A. No. 015 1-V H. Rec. Serial No. 030 2-H
H. 10 KW P.A. No. 016 2-H H. Rec. Serial No. 032 4-H
V. Trans. Ant. No. 1
H. Trans. Ant. No. 2

1. RADIO NOISE AND SPURIOUS TONE LEVELS

		EXPECTED	ACTUAL Freq.	Noise Level
Baseband Noise	Spurious Noise Pulses Fades + Noise Bursts Radio Pilot	-60 dbm	12 to 18 KC	-54 dbm
			21 KC	-46 dbm
			60 KC	-16 dbm
	Spurious Noise Throughout Base Band.		___ KC	___ dbm
			___ KC	___ dbm

NOTE: Record all noise signals greater than -60 dbm, except signal at 60 KC.

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL
12 KC		-20 dbm
20 KC	-2 +1 dbm	-19 dbm
30 KC	with respect	-19 dbm
40 KC	to 30 KC level	-19 dbm
50 KC		-19 dbm
60 KC		-18.75 dbm
70 KC		-19 dbm
80 KC	±0.25 dbm	-19 dbm
90 KC	with respect	-19 dbm
100 KC	to 90 KC level	-19 dbm
110 KC		-19 dbm
120 KC		-19 dbm

DATE 16 June, 1963.
TESTER Martin Lippert
SUPERVISOR Robert Wentz
QUALITY ASSURANCE R B Spear

Sheet 1 of 1

E.R.P.

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IR-E

FEDERAL ELECTRIC CORPORATION BRII/15
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 LINK TEST

STATION IR-E

Transmission Path: From IC-W Station to IR-E Station

V. Exc. Serial No. 010 1-V V. Rec. Serial No. 017 1-V
H. Exc. Serial No. 009 2-H V. Rec. Serial No. 019 3-V
V. 10 KW P.A. No. 009 1-V H. Rec. Serial No. 018 2-H
H. 10 KW P.A. No. 010 2-H H. Rec. Serial No. 020 4-H
V. Trans. Ant. No. ~~009~~ 2 1
H. Trans. Ant. No. ~~010~~ 1 2-H

1. RADIO NOISE AND SPURIOUS TONE LEVELS

				EXPECTED	ACTUAL Freq.	ACTUAL Noise Level
Baseband Noise	Rec 4-H	Hit or fade - Not steady		-60 dbm	56 KC	-51 dbm
	Rec 3-V	At 2500 slot		12 to	32 KC	-51.6 dbm
	"	"		Hit or fade	110 KC	-50 dbm
	Rec 2-H	At 250 slot		steady	119 KC	-49 dbm
	Rec 1-V	"		Hit or fade	65 KC	-56 dbm

NOTE: Record all noise signals greater than -60 dbm, except signal at 60 KC.

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL
12 KC		-12 ~~-16~~ dbm
20 KC	-2 +1 dbm	-11.8 ~~-16~~ dbm
30 KC	with respect	-11.5 ~~-15.5~~ dbm
40 KC	to 30 KC level	-11.5 ~~-15.5~~ dbm
50 KC		-11.5 ~~-16~~ dbm
60 KC		-11.7 ~~-15.5~~ dbm
70 KC		-11.0 dbm
80 KC	±0.25 dbm	-11.0 ~~-11.1~~ dbm
90 KC	with respect	-11.0 ~~-12~~ dbm
100 KC	to 90 KC level	-11.0 dbm
110 KC		-11.0 dbm
120 KC		-11.0 dbm

DATE 15 JUNE 1963
TESTER E Hall
SUPERVISOR R Watson
QUALITY ASSURANCE R.B. Sprow.

Sheet 1 of 1

RP

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IC-W

FEDERAL ELECTRIC CORPORATION BRII/15
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 LINK TEST

STATION IC WEST

Transmission Path: From ~~IC~~ IR Station to ~~IR~~ IC Station

V. Exc. Serial No. 004 V. Rec. Serial No. _____
H. Exc. Serial No. 003 V. Rec. Serial No. 006
V. _____ KW P.A. No. _____ H. Rec. Serial No. 007
H. _____ KW P.A. No. _____ H. Rec. Serial No. 008
V. Trans. Ant. No. _____
H. Trans. Ant. No. _____

1. RADIO NOISE AND SPURIOUS TONE LEVELS

		EXPECTED	ACTUAL Freq.	Noise Level
Baseband Noise	Rec. #3	-60 dbm	120 KC	-42 dbm
	" #2		120 KC	-55 dbm
	" #4		120 KC	-69 dbm
			___ KC	___ dbm
			___ KC	___ dbm

NOTE: Record all noise signals greater than -60 dbm, except signal at 60 KC.

2. RADIO BASEBAND FREQUENCY RESPONSE

Receiver # 2 Only

Frequency	EXPECTED	ACTUAL
12 KC		-11 dbm
20 KC	-2 +1 dbm	-9.25 dbm
30 KC	with respect	-10.25 dbm
40 KC	to 30 KC level	-11.0 dbm
50 KC		-11.0 dbm
60 KC		-11.0 dbm
70 KC		-10 dbm
80 KC	±0.25 dbm	-10 dbm
90 KC	with respect	-10.25 dbm
100 KC	to 90 KC level	-10.25 dbm
110 KC		-10.25 dbm
120 KC		-10.25 dbm

DATE 16 June 1963
TESTER J Geffen
SUPERVISOR F A Gonzales
QUALITY ASSURANCE Wilbur R Watts

Sheet 1 of 1
GEEIA Robert D Leyler
5-59

IC-E

FEDERAL ELECTRIC CORPORATION BRII/15
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 LINK TEST

STATION IC

Transmission Path: From GK Station to IC Station

V. Exc. Serial No. 008 V. Rec. Serial No. 009
H. Exc. Serial No. 007 V. Rec. Serial No. 011
V. 10 KW P.A. No. 017 H. Rec. Serial No. 010
H. 10 KW P.A. No. 006 H. Rec. Serial No. 002
V. Trans. Ant. No. 1
H. Trans. Ant. No. X 2
RAS

1. RADIO NOISE AND SPURIOUS TONE LEVELS

		EXPECTED	ACTUAL Freq.	Noise Level
Baseband Noise		-60 dbm	KC	dbm
2nd harmonic of 60 Kc Pilot Tone	Rx # 1		120 KC	-29 dbm
	Rx # 2		120 KC	-35 dbm
	Rx # 3		120 KC	-26 dbm
	Rx # 4		120 KC	-26 dbm

NOTE: Record all noise signals greater than -60 dbm, except signal at 60 KC.
GK must drop Horz. Mod. to make radio BB freq. responce test on Vert. Receive at IC

2. RADIO BASEBAND FREQUENCY RESPONSE

VERTICAL Rx # 1	VERTICAL Rx # 3	Frequency	HORIZONTAL Rx # 2 EXPECTED	HORIZONTAL Rx # 2 ACTUAL	HORIZONTAL Rx # 4
		12 KC			11.25 dbm
10 dbm	10 dbm	20 KC	11.0 dbm		10.5 dbm
9.5	9.5	30 KC	10.5	-2 +1 dbm	10.25 dbm
10.5	10.5	40 KC	10.75	with respect	10.25 dbm
9.0	9.5	50 KC	10.25	to 30 KC level	10.25 dbm
9.25	9.75	60 KC	10.25		10.25 dbm
9.75	10.0		10.5		10.25 dbm
		70 KC			10.0 dbm
9.75 dbm	10.0 dbm	80 KC	10.25 dbm		10.25 dbm
10.0	10.0		10.0	±0.25 dbm	
10.0	10.0	90 KC	10.0	with respect	10.25 dbm
10.0	10.25	100 KC	9.75	to 90 KC level	10.25 dbm
10.0	10.25	110 KC	9.75		10.25 dbm
10.0	10.25	120 KC	9.75		10.25 dbm

DATE 27 June 63
TESTER R Shadel
SUPERVISOR F H Gaylord
QUALITY ASSURANCE Wilbur R. Hoe

Sheet 1 of 1 GEEIA Robert V Seyler

5-60

GK-W

FEDERAL ELECTRIC CORPORATION BRII/15
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 LINK TEST

STATION G.K.

Transmission Path: From ~~G.K.~~ I.C. Station to ~~I.C.~~ G.K. Station

V. Exc. Serial No. 001 V. Rec. Serial No. 1 S/N 1
H. Exc. Serial No. 005 V. Rec. Serial No. 3 S/N 3
V. 10 KW P.A. No. _____ H. Rec. Serial No. 2 S/N 2
H. 10 KW P.A. No. _____ H. Rec. Serial No. 4 S/N 4
V. Trans. Ant. No. _____
H. Trans. Ant. No. _____

1. RADIO NOISE AND SPURIOUS TONE LEVELS

Baseband Noise SLOW VARYING TONE.

EXPECTED ACTUAL

	Freq.	Noise Level
-60 dbm	-55 KC	-52 dbm
	-64 KC	-51 dbm
	-119 KC	-57 dbm
	___ KC	___ dbm
	___ KC	___ dbm

NOTE: Record all noise signals greater than -60 dbm, except signal at 60 KC.

2. RADIO BASEBAND FREQUENCY RESPONSE

2-H	Frequency	4-H
-11.1	12 KC	-11.3
	20 KC	-10.6
-10.1	30 KC	-10.2
	40 KC	-10.2
	50 KC	-10.2
-10.	60 KC	-10.2
-10.1	70 KC	-9.8
	80 KC	-9.7
-10.3	90 KC	-9.8
	100 KC	-9.6
	110 KC	-9.6
-10.3	120 KC	-9.6

EXPECTED	1-V ACTUAL	3-V. ACTUAL
-11.5		-10.8 dbm
-2 +1 dbm		-10.5 dbm
with respect	-10.5	-10. dbm
to 30 KC level		-10. dbm
		-10.1 dbm
	-10.9	-10.4 dbm
-9.9		-9.4 dbm
±0.25 dbm		-9.4 dbm
with respect	-10	-9.5 dbm
to 90 KC level		-9.4 dbm
		-9.5 dbm
	-10.2	-9.4 dbm

DATE 27 JUNE 63
TESTER [illegible]
SUPERVISOR [illegible]
QUALITY ASSURANCE [illegible]

Sheet 1 of 1

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GK-F

FEDERAL ELECTRIC CORPORATION BRII/15
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 LINK TEST

STATION G.K.

Transmission Path: From ~~G.K.~~ GA Station to ~~G.A.~~ GK Station

V. Exc. Serial No. 1 S/N 005 V. Rec. Serial No. 1 S/N 013
H. Exc. Serial No. 2 S/N 006 V. Rec. Serial No. 4 S/N 016
V. 10 KW P.A. No. 008 H. Rec. Serial No. 2 S/N 014
H. 10 KW P.A. No. 007 H. Rec. Serial No. 3 S/N 015
V. Trans. Ant. No. 2
H. Trans. Ant. No. 1

1. RADIO NOISE AND SPURIOUS TONE LEVELS USING -70 SCALE.

Baseband Noise VARYING TONE - STEADY within ONE db.

	EXPECTED	ACTUAL Freq.	Noise Level
-60 dbm		118 KC	-62 dbm
assumed		118 KC	-62 dbm
		___ KC	___ dbm
		___ KC	___ dbm
		___ KC	___ dbm

NOTE: Record all noise signals greater than -60 dbm, except signal at 60 KC.

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency		REC 4V	REC 1V	EXPECTED	ACTUAL	REC 2H	REC 3H
-20.2	12 KC	-20.3			-20.2	-20.3	dbm
-19.6	20 KC			-2 +1 dbm	-19.5		dbm
-19.1	30 KC	-19.5		with respect	-19	-19.3	dbm
-19	40 KC			to 30 KC level	-19		dbm
-19	50 KC				-18.7		dbm
-18.8	60 KC	-18.8			-18.5	-18.8	dbm
-18.9	70 KC	-19			-18.9	-19	dbm
-18.8	80 KC			±0.25 dbm	-19		dbm
-18.9	90 KC	-18.8		with respect	-19	-19	dbm
-19	100 KC			to 90 KC level	-18.8		dbm
-18.8	110 KC				-18.8		dbm
-18.7	120 KC	-18.9			-19	-19	dbm

DATE 10 JUNE 63
TESTER [illegible]
SUPERVISOR [illegible]
QUALITY ASSURANCE [illegible]

Sheet 1 of 1

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GA-W.

FEDERAL ELECTRIC CORPORATION BRII/15
BIG RALLY II PROJECT
DATA SHEET
AN/MRC-85 LINK TEST

STATION GA MRC-85

Transmission Path: From ~~GA~~ GK Station to ~~GK~~ GA Station

V. Exc. Serial No. 012 V. Rec. Serial No. 21 (1V)
H. Exc. Serial No. 011 V. Rec. Serial No. 23 (3V)
V. 10 KW P.A. No. CARRIAGE 018 H. Rec. Serial No. 22 (2H)
H. 10 KW P.A. No. CARRIAGE 015 H. Rec. Serial No. 24 (4H)
V. Trans. Ant. No. ONE
H. Trans. Ant. No. TWO

1. RADIO NOISE AND SPURIOUS TONE LEVELS

	EXPECTED	ACTUAL Freq.	ACTUAL Noise Level
Baseband Noise	-60 dbm	___ KC	___ dbm
SPURIOUS NOISES WERE NOTED ON BOTH VERTICAL RCVR'S. ACROSS ENTIRE BASEband with AN AVERAGE READING OF -46 dbm PEAKING AT -41 dbm. ON RCVR'S 2&4 NO READINGS ABOVE -60dbm WERE NOTED		___ KC	___ dbm
		___ KC	___ dbm
		___ KC	___ dbm
		___ KC	___ dbm

NOTE: Record all noise signals greater than -60 dbm, except signal at 60 KC.

2. RADIO BASEBAND FREQUENCY RESPONSE

Frequency	EXPECTED	ACTUAL
12 KC		___ dbm
20 KC	-2 +1 dbm	___ dbm
30 KC	with respect	___ dbm
40 KC	to 30 KC level	___ dbm
50 KC		___ dbm
60 KC		___ dbm
70 KC		___ dbm
80 KC	±0.25 dbm	___ dbm
90 KC	with respect	___ dbm
100 KC	to 90 KC level	___ dbm
110 KC		___ dbm
120 KC		___ dbm

BASEBAND FREQ. RESPONSE LINK TEST COULD NOT BE CONDUCTED DUE TO RAPIDLY FLUCTUATING LEVELS. LOCAL TESTS DID NOT REVEAL AN EQUIPTMENT MALFUNCTion.

DATE 12 July 1963
TESTER [signature]
SUPERVISOR [signature]
QUALITY ASSURANCE [signature]
[signature]

Sheet 1 of Sheets

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FEDERAL ELECTRIC CORPORATION BRII/31

BIG RALLY II PROJECT

DATA SHEET

AN/TRC-35 STATION

STATION GAB

Transmission Path: From Station GAB to Station GEL

Transmitter Serial No. #1 702, #2 3789.

Assigned Frequency 386.5000 MC

Transmitter, T302/TRC

	EXPECTED	ACTUAL XMTG#1	ACTUAL XMTG#2
1. FREQUENCY	±.002% of assigned	386.506 MC	386.511 MC
2. POWER OUTPUT	Minimum 50 Watts	85 Watts	100 Watts
3. AUTOMATIC FREQUENCY CONTROL		WJS	WJS Initials
4. LOW POWER ALARM RF Output Power	Maximum 30 Watts	26 Watts	26 Watts

DATE 21 July 1968

TESTER W. J. Schneider

SUPERVISOR Everett P. Stapleton

QUALITY ASSURANCE F. Bowden

GEEIA Robert A. Leyden

Sheet 1 of 1

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FEDERAL ELECTRIC CORPORATION BRII/31

BIG RALLY II PROJECT

DATA SHEET

AN/TRC-35 STATION

STATION GEL

Transmission Path: From Station GEL to Station GAB

Transmitter Serial No. #1 444, #2 920.

Assigned Frequency 374.5 MC

Transmitter, T302/TRC

	EXPECTED	ACTUAL XMTG#1	ACTUAL XMTG#2
1. FREQUENCY	±.002% of assigned	374.506 MC	374.506 MC
2. POWER OUTPUT	Minimum 50 Watts	120 Watts	84 Watts
3. AUTOMATIC FREQUENCY CONTROL		MC	MC Initials
4. LOW POWER ALARM RF Output Power	Maximum 30 Watts	22 Watts	45 Watts

DATE 21 July 1963

TESTER George B Bennett

SUPERVISOR Andrew J Horvath

QUALITY ASSURANCE [illegible]

GEEIA [illegible]

Sheet 1 of 1

FEDERAL ELECTRIC CORPORATION BRII/32

BIG RALLY II PROJECT

DATA SHEET

AN/TRC-35 STATION

STATION GAB

Transmission Path: From Station GAB to Station GEL

Receiver Serial No. #1 1518 , #2 706 .

RECEIVER, R-417/TRC (TRC-35)

	EXPECTED	ACTUAL REC#1	ACTUAL REC#2
1. SQUELCH (SENSITIVITY)			
Measure meter reading (C)	approximately 30μa	29 μa	30.05 μa
Measure meter reading (H)		18 μa	19 μa
Input Signal Level	Max 250 μv	250 μv	250 μv
2. BANDWIDTH			
Lower limit		267 kc	269 kc
Upper limit		280 kc	270 kc
Bandwidth	540kc ±25 kc	547 kc	539 kc

DATE 21 JULY 1963

TESTER W. J. Schwabin

SUPERVISOR Frank J. Stagnaro

QUALITY ASSURANCE [illegible]

GEEIA Robert Dolzer

Sheet 1 of 1

FEDERAL ELECTRIC CORPORATION BRII/32

BIG RALLY II PROJECT

DATA SHEET

AN/TRC-35 STATION

STATION GEL

Transmission Path: From Station GEL to Station GAB

Receiver Serial No. #1 1133 , #2 264 .

RECEIVER, R-417/TRC (TRC-35)

	EXPECTED	ACTUAL REC#1	ACTUAL REC#2
Assigned Freq. = 386,5 MC			
1. SQUELCH (SENSITIVITY)			
Measure meter reading (C)	approximately 30μa	30 μa	30 μa
Measure meter reading (H)		14 μa	15 μa
Input Signal Level	Max 250 μv	250 μv	250 μv
2. BANDWIDTH			
Lower limit		387,321 kc	387,007 kc
Upper limit		386,653 kc	386,092 kc
Bandwidth	540kc ±25 kc	668 kc	915 kc

DATE 21 July 1963

TESTER George B Bennett

SUPERVISOR Andrew J Horvath

QUALITY ASSURANCE [signature]

GEEIA [signature]

Sheet 1 of 1

FEDERAL ELECTRIC CORPORATION BRII/33

BIG RALLY II PROJECT

DATA SHEET

AN/TRC-35 OVERALL TEST

STATION GAB

Transmission Path: From Station GAB to Station GEL

1. R; F. DEVIATION AND BASEBAND GAIN

	EXPECTED	ACTUAL XMTG-REC#1	ACTUAL XMTG-REC#2
Signal level (Step E)		32 µv	36 µv
Signal level (Step L)		32 µv	36 µv
Receiver output (Step I)	-6 dbm	-6 dbm	-6 dbm
Receiver output (Step N)	0dbm ±0.5dbm	-7 dbm	-7 dbm

2. BASEBAND FREQUENCY RESPONSE READJUSTED Tx INPUT AND Rx OUTPUT USING BUILTIN 1000 cps TONE FOR THIS TEST.

FREQUENCY H. P. 200CD	EXPECTED	ACTUAL XMTG-REC#1	ACTUAL XMTG-REC#2
8KC		0m dbm	∠0.2 dbm
16KC	Within ±1 db	∠0.1 dbm	∠1.2 dbm
32KC	of the 8 KC	∠0.2 dbm	∠1.5 dbm
48KC	level	∠0.5 dbm	∠1.7 dbm
68KC		∠1.6 dbm	∠1.5 dbm
90KC	At least 35db from 8 KC level	-44.0dbm	-43.8 dbm

3. ANTENNA VSWR

		EXPECTED	ACTUAL
Transmit Antenna Current			
Forward	Minimum	30µa	34 µa
Reflected	Maximum	10µa	2 µa
Receive Antenna Current			
Forward	Minimum	30µa	34 µa
Reflected	Maximum	10µa	2 µa

DATE 22 July 1963

TESTER Wm. D. Schroeder

SUPERVISOR Frank D. Sheminski

QUALITY ASSURANCE Bauchat

GEEIA Gabriel Leyba

Sheet 1 of 1

FEDERAL ELECTRIC CORPORATION BRII/33

BIG RALLY II PROJECT

DATA SHEET

AN/TRC-35 OVERALL TEST

STATION GEL

Transmission Path: From Station GEL to Station GAB

1. R:F. DEVIATION AND BASEBAND GAIN

	EXPECTED	ACTUAL XMTG-REC#1	ACTUAL XMTG-REC#2
Signal level (Step E)		26 µv	28 µv
Signal level (Step L)		26 µv	28 µv
Receiver output (Step I)	-6 dbm	-6 dbm	- 6 dbm
Receiver output (Step N)	0dbm ±0.5dbm	0 dbm	0 dbm

2. BASEBAND FREQUENCY RESPONSE

FREQUENCY H.P. 200CD	EXPECTED	ACTUAL XMTG-REC#1	ACTUAL XMTG-REC#2
8KC		0 dbm	0 dbm
16KC	Within ±1 db	0 dbm	0 dbm
32KC	of the 8 KC	+.5 dbm	+.25 dbm
48KC	level	+1 dbm	+.125 dbm
68KC	See note	+2.5 dbm	+.3 dbm
90KC	At least 35db from	Below dbm	Below dbm
	8 KC level	Meter scale	Meter scale

3. ANTENNA VSWR

		EXPECTED	ACTUAL
Transmit Antenna Current			
Forward	Minimum	30µa	32 µa
Reflected	Maximum	10µa	6 µa
Receive Antenna Current			
Forward	Minimum	30µa	32 µa
Reflected	Maximum	10µa	7 µa

Note= Out of specs.

DATE 21 July 1963

TESTER George B Barnett

SUPERVISOR Andrew J Bonzett

QUALITY ASSURANCE [illegible]

GEEIA [illegible]

Sheet 1 of 1

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FEDERAL ELECTRIC CORPORATION BRII/34

BIG RALLY II PROJECT

DATA SHEET

AN/TRC-35 LINK TEST

STATION GAB

Transmission Path: From Station GAB to Station GEL

1. NOISE AND SPURIOUS TONES

FREQUENCY	NOISE LEVEL	
BOTH REDEIVERS OUT OF SPECS THROUGH OUT THE BASEBAND.	REC #1	REC #2
12 KC	-43.0 dbm	-45.0 dbm
____ KC	____ dbm	____ dbm
____ KC	____ dbm	____ dbm
____ KC	____ dbm	____ dbm
68 KC	-35.0 dbm	-40.0 dbm

Note: Record all noise signals greater than -55 dbm.

2. BASEBAND FREQUENCY RESPONSE LINK LEVELS READJUSTED FOR THIS TEST

TRANSMISSION FREQUENCY	EXPECTED	ACTUAL REC #1	ACTUAL REC #2
8 KC		±0.3 dbm	0 dbm
16 KC	Within ±1 db	±0.3 dbm	±0.3 dbm
32 KC	of the 8 KC	±0.0 dbm	±0.3 dbm
48 KC	level	±0.3 dbm	±0.8 dbm
68 KC		-0.1 dbm	±2.0 dbm
90 KC	At least 35 db from 8 KC level	-49.7 dbm	-49.7 dbm

Note: It may be necessary to obtain a reasonable average meter indication if fading is present.

DATE 22 JULY 1963

TESTER W. J. Schroeder

SUPERVISOR Frank J. Scopinaro

QUALITY ASSURANCE Stoneland

GEEIA Robert A. Taylor

Sheet 1 of 1

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FEDERAL ELECTRIC CORPORATION BRII/34

BIG RALLY II PROJECT

DATA SHEET

AN/TRC-35 LINK TEST

STATION GEL

Transmission Path: From Station GEL to Station GAB

1. NOISE AND SPURIOUS TONES

FREQUENCY	NOISE LEVEL REC #1	NOISE LEVEL REC #2
45 TO 68 KC	-52 TO -55 dbm	____ dbm
____ KC	____ dbm	____ dbm
____ KC	____ dbm	____ dbm
____ KC	____ dbm	____ dbm
12 TO 68 KC	____ dbm	-48 TO -51 dbm

Note: Record all noise signals greater than -55 dbm.

2. BASEBAND FREQUENCY RESPONSE

TRANSMISSION FREQUENCY	EXPECTED	ACTUAL REC #1	ACTUAL REC #2
8 KC		±.5 dbm	0 dbm
16 KC	With ±1 db	±.6 dbm	±.25 dbm
32 KC	of the 8 KC	±.6 dbm	±.25 dbm
48 KC	level	±1 dbm	±.6 dbm
68 KC		±1.2 dbm	±1.5 dbm
90 KC	At least 35 db from 8 KC level	-43 dbm	-40 dbm

Note: It may be necessary to obtain a reasonable average meter indication if fading is present.

NOTE 1 MEASURED AT 2500 CYCLE SLOT ON SIERRA 125B

NOTE 2 MEASURMENTS TAKEN WITH FILTERS INSTALLED IN RECEIVERS

DATE 22 JULY 1963

TESTER George B Barnett

SUPERVISOR Andrew J Horvath

QUALITY ASSURANCE J Brindley

GEEIA H R Patel

Sheet 1 of 1

6-8

ID-E

ALARM CHECKS

FAULT IND. # 1		FAULT IND. # 2	
FILAMENT CHG OVER	✓	FILAMENT CHG OVER	✓
CABINET TEMP	✓	CABINET TEMP	✓
ALARM PS FAILURE	✓	ALARM PS FAILURE	✓
HIGH VSWR	✓	HIGH VSWR	✓
LOW FWD POWER	✓	LOW FWD POWER	✓
FILAMENT REG LIMITS	✓	FILAMENT REG LIMITS	✓
RECYCLE	✓	RECYCLE	✓

HEAT EXCHANGER #1		HEAT EXCHANGER # 2	
LOW LEVEL	✓	LOW LEVEL	✓
LOW TEMP	✓	LOW TEMP	✓
HIGH TEMP	✓	HIGH TEMP	✓
DRY AIR	N/A	DRY AIR	N/A

MOD TRANSFER	✓	MOD TRANSFER	✓
MOD FAILURE	✓	MOD FAILURE	✓
VSWR	✓	VSWR	✓
LOW RF	✓	LOW RF	✓

RECEIVER	A	B	RECEIVER	A	B
PILOT	✓	✓	PILOT	✓	✓
NOISE	✓	✓	NOISE	✓	✓

DATE 7 June 63
TESTER D.E. Stebbins
SUPERVISOR D.E. Stebbins
QUALITY ASSURANCE J.C. King

SRP 7-1

TEST DATA SHEET

ID-E

STATION ID DATE 7 June 63

DUMMY LOAD OPERATION LOAD CALIBRATION FUNTION O.K.

PA INTO LOAD OPERATION O.K

EQUIPMENT INTERLOCK FUNCTION CHECK O.K

DATE 7 June 63
TESTER [illegible]
QUALITY ASSURANCE [illegible]
SUPERVISOR [illegible]

LRP

7-2

ID-E

DEHYDRATOR PRESSURE CHECK

SYSTEM # 1

READING BEFORE CHECK 5"

READING AFTER ½ HR. 4"

TOTAL DROP IN PRESSURE 1"

SYSTEM # 2

READING BEFORE CHECK 5.4"

READING AFTER ½ HR. 3.2"

TOTAL DROP IN PRESSURE 2.2"

AIR CONDITIONERS HEATING AND VENTILATING

#1 SERIAL # 68K 3672

AUTOMATIC OPERATION O.K.

MANUAL OPERATION O.K.

#2 SERIAL # 68L 3673

AUTOMATIC OPERATION O.K.

MANUAL OPERATION O.K.

DATE 6 JUNE, 1963

TESTER C.W. Mabb

SUPERVISOR R.E. Stebbins

QUALITY ASSURANCE B.F. Tyson

SRP

7-3

IR-W

DEHYDRATOR/PRESSUREZATION UNIT

I R VAN WEST 9 JUNE 1963

Press. at beginning of test: 5" OF WATER

Press. after one hour: ½ OF SYSTEM OK ½ SYSTEM NO PRESSURE (ANTENNA #1

Press. Drop: _____

Remarks:

I R VAN EAST

Press. at beginning of test: *SEE REMARKS

Press. after one hour: _____

Press. Drop: _____

Inches of water:

Remarks: *DEHYDRATOR INOPERATIVE SINCE 22 MAY 1963 DUE TO DEFECTIVE CENTRIFUGAL SWITCH IN MOTOR. THIS ITEM TO BE CARRIED OVER TO APTO 88 EXCEPTION LIST RP

DATE 6-9-63
TESTER E Hall
SUPERVISIOR K. Wasley
QUALITY ASSURANCE R.B Spar

7-4

IR-W

AIR CONDITIONERS

I.R VAN WEST

Serial # 3670 Hours 0330.9

	Air Conditioning	Ventilation	Heating
Auto	OK	OK	OK
Manual	OK	OK	OK

Remarks: DRAIN TUBE CLOGGED AS SHOWN BY WATER UNDER BLOWER UNIT.

THIS ITEM REPAIRED 6/12/63 ARP (GEEIA)

Serial # 3671 Hours 7890.3

	Air Conditioning	Ventilation	Heating
Auto	OK	OK	OK
Manual	OK	OK	OK

Remarks: DRAIN TUBE CLOGGED AS SHOWN BY WATER UNDER BLOWER UNIT.

THIS ITEM REPAIRED 6/12/63 ARP (GEEIA)

DATE: JUNE 9, 1963

Performed by: C-9-63

Witnessed by: R. Wartenig

FEC QA: R.B. Speer

ARP

7-5

AIR CONDITIONING

IR-W

SAFETY DEVICES

I-R VAN WEST

INTERLOCKS

PA #1 O.K.
PA #2 O.K.

Shorting Stick OK

Circuit Breaker Operation:

Rcvr #1 OK
Rcvr #2 OK
Rcvr #3 OK
Rcvr #4 OK

Exc. #1 OK
Exc. #2 OK

Remarks: RECEIVER 3 & 4 HAVE AIR SWITCH BYPASSED ✓
COOLANT FLOW SWITCH ON KLYSTRON CARRIAGE #005 INOPERATIVE ✓
BOTH OF ABOVE ITEMS ARE BEING CARRIED ON AFTO 88 EXCEPTION LIST

Fault Indicator Panels

PWR AMP.

Fil Chy Over ✓
Cab. Temp. — NOT CHECKED
Alarm PS Fail ✓
High VSWR ✓
Low Fwd Pwr ✓
Fil Reg Limits ✓
Recycle ✓

Heat Exchange.

	#1	#2
Low Coolant Temp.	✓	✓
Low Temp.	✓	✓
High Temp.	✓	✓

Exciter

Modulator Trans. — NOT WORKING CORRECTLY ✓
Modulator Fail. ✓
High VSWR ✓
Low VSWR ✓

RECEIVER "A" FI "1" FI "2"

Radio Pilot ✓
Noise Amplifier ✓

Receiver "B2" FI "1" FI #2

Radio Pilot ✓
Noise Amplifier ✓

DATE 6-9-63
TESTER [signature]
SUPERVISOR [signature]
QUALITY ASSURANCE R.B Spoon
ARP.

7-b

IR-E

SAFETY DEVICES

I-R VAN EAST

INTERLOCKS

PA #1 OK

PA #2 OK

CIRCUIT BREAKER OPERATION

Shorting Stick OK

Rcvr #1 ✓
Rcvr #2 ✓
Rcvr #3 ✓
Rcvr #4 ✓

Exc. #1 ✓
Exc. #2 ✓

Remarks: ① RECEIVER 1 & 4 HAVE AIR SWITCH BYPASSED ✓

② REGULATED 120 V AC MOTOR BURNED OUT PA #1 ✓

FAULT INDICATOR PANELS.

PWR AMP.

Fil Chy Over	✓
Cab Temp	✓
Alarm PS Fail	✓
High VSWR	✓
Low Fwd Pwr	✓
Fil Reg Limits	SEE REMARK #2 ✓
Recycle	✓

HEAT EXCHANGE.

	#1	#2
Low Coolant Temp.	✓	✓
Low Temp.	✓	✓
High Temp.	✓	✓

EXCITER.

Modulator Trans.	INOPERATIVE ✓
Modulator Fail	INOPERATIVE ✓
High VWSR	✓
Low VSWR	✓

RECEIVER "A"	FI 1	FI 2
Radio Pilot	✓	✓
Noise Amplifier	✓	✓

Receiver "B"	FI 1	FI 2
Radio Pilot	✓	✓
Noise Amplifier	✓	✓

DATE 6-9-63

TESTER C Hall

SUPERVISOR R. Westerveld

QUALITY ASSURANCE R B Sprout

A.R.P.

7-7

IR-E

AIR CONDITIONERS

I R EAST VAN

Serial #3664 Hours 7827.8 10 June 1963

	Air Conditioning	Ventilation	Heating
Auto	OK	OK	OK
Manual	OK	OK	OK

Remarks:

Serial #3675 Hours 0352.4

	Air Conditioning	Ventilation	Heating
Auto	OK	OK	OK
Manual	OK	OK	OK

Date 6-9-63
Tested E. Hollins
Inspected by K. Wm Koenig
Quality Assurance R. B. Scott

LRC

7-8

IC-W

BRII SUPPLEMENTAL TEST DATA SHEET

A. M-58 Air Conditioner check

1. Manual Operation — OK [X]
2. Automatic Operation — OK [X]
3. Other None — OK [ ]

Remarks:

Tester Walter Craig
S.S. F. H. Lazarde
QA William R. Metz

B. Andrews Dehydrator Check

1. Pressuration Test — Min of 20 Sec before recycle — OK [X]
2. Other — OK [X]

Remarks: Does not meet ½ Hr. pressure leak test

Tester Robert D Lesher
S.S. F. H. Lazarde
QA William R. Metz

C. Rel Fault Indicator Checks

1. Alarm Tests — OK [X]
2. Other — OK [ ]

Remarks:

Tester Robert D Lesher
S.S. F. H. Lazarde
QA William R. Metz

D. Dummy Load

1. Operational Check — OK [X]
2. Other — OK [X]

Remarks:

7-9

Tester Robert D Lesher
S.S. F. H. Lazarde
QA William R. Metz

IC-E

BRII SUPPLEMENTAL TEST DATA SHEET

A. M-58 Air Conditioner check

1. Manual Operation — OK [X]
2. Automatic Operation — OK [X]
3. Other UNIT #3665, — OK [ ]

Remarks: LEAKS in PUMP AREA, NEEDS FREON RECHARGE.

Tester J.C. Dooley
S.S. F. Lafarda
QA William R. Hitt
GEEIA Robert D. Zeigler

B. Andrews Dehydrator Check

1. Pressurization Test — Min of 20 Sec before recycle — OK [X]

Meet 20 Sec. recycle test but leaks are evedent.

2. Other — OK [ ]

Remarks:

Tester J.C. Dooley
S.S. F. Lafarda
QA William R. Hitt
GEEIA Robert D. Zeigler

C. Rel Fault Indicator Checks

1. Alarm Tests — OK [X]
2. Other — OK [ ]

Remarks:

Tester J.C. Dooley
S.S. F. Lafarda
QA William R. Hitt
GEEIA Robert D. Zeigler

D. Dummy Load

1. Operational Check — OK [X]
2. Other — OK [ ]

Remarks:

Tester J.C. Dooley
S.S. F. Lafarda
QA William R. Hitt
GEEIA Robert D. Zeigler

7-15

GK-W

SAFETY DEVICES

GK VAN WEST

INTERLOCKS

PA # 1 O.K. S/N 001

PA #2 O.K. S/N 002

PA. SHORTING STICK O.K.

RCVR #1 O.K.
RCVR #2 O.K.
RCVR #3 O.K.
RCVR #4 O.K.

EXC. #1 OK
EXC. #2 OK

REMARKS:

FAULT INDICATOR PANELS

PWR AMP.	FI. 1	FI. 2
FIL CHY OVER	O.K.	O.K.
CAB TEMP	NG.	NG.
ALARM PS FAIL	O.K.	O.K.
HIGH VSWR	O.K.	O.K.
LOW FWD PWR	O.K.	O.K.
FIL REG LIMITS	O.K.	O.K.
RECYCLE	O.K.	O.K.

HEAT EXCHANGE	#1	#2
LOW COOLANT TEMP.	OK	OK
LOW TEMP.	OK	OK
HIGH TEMP.	OK	OK

EXCITER	#1	#2
MODULATOR TANS.	OK	OK
MODULATOR FAIL	—	—
HIGH VWSR	O.K.	O.K.
LOW VSWR	O.K.	O.K.

RECEIVER "A"	FI 1	FI 2
RADIO PILOT	O.K.	O.K.
NOISE AMPLIFIER	O.K.	O.K.

RECEIVER "B"	FI 1	FI 2
RADIO PILOT	O.K.	O.K.
NOISE AMPLIFIER	O.K.	O.K.

DATE 30 June 78
TESTER [illegible]
SUPERVISOR [illegible]
QUALITY ASSURANCE [illegible]
GEEIA

7-11

GK-W

AIR CONDITIONERS

GK / I.P. Vadl.

SERIAL # 3660 HOURS Not Operational.

	AIR CONDITIONING	VENTILATION	HEATING
AUTO	O.K	O.K	O.K
MANUAL	O.K.	O.K	O.K

REMARKS:

SERIAL # 3661 HOURS 7759

	AIR CONDITIONING	VENTILATION	HEATING
AUTO	O.K	O.K.	O.K.
MANUAL	O.K.	O.K.	O.K.

REMARKS:

DATE 23 June 63
TESTED [illegible]
SUPERVISOR Russell E Carter
QUALITY ASSURANCE [illegible]
GEEIA

7-12

GK-W

DEHYDRATOR PRESSURIZATION UNIT

GK VAN WEST

	Antenna #1	Antenna #2
PRESS. AT BEGINNING OF TEST:	6.5	6.5
PRESS. AFTER ONE HOUR:	4.0	4.0
PRESS. DROP:	2.5	2.5

REMARKS:

GK VAN EAST

	Antenna #1	Antenna #2
PRESS. AT BEGINNING OF TEST:	6.5	6.25
PRESS. AFTER ONE HOUR:	4.75	4.0
PRESS. DROP:	1.75	2.25

INCHES OF WATER:

REMARKS: Pressure drop is excessive on Antenna #1

DATE 4/6/64, 65
TESTER [illegible]
SUPERVISOR [illegible]
QUALITY ASSURANCE [illegible]
GEEIA

7-13

GK-W

DUMMY LOAD

OPERATING AND CALIBRATION INSTRUMENT AVAILABLE: (YES) NO

GK VAN WEST		GK VAN EAST	
PA #1	O.K.	PA #1	OK
PA #2	O.K. S/N 002	PA #2	OK

ALERTING UNIT OPERATION

GK VAN WEST		GK VAN EAST	
LOCAL ALARM	O.K.	LOCAL ALARM	O.K.
POWER ALARM	O.K.	POWER ALARM	O.K.
REMOTE CE ALARM	O.K.	REMOTE CE ALARM	O.K.
REMOTE POWER ALARM		REMOTE POWER ALARM	O.K.

DATE 1 July 63
TESTER [illegible]
SUPERVISOR [illegible]
QUALITY ASSURANCE [illegible]
GEEIA

7-14

GK-E

AIR CONDITIONERS

GK -6D

SERIAL # 3664 HOURS 8567

	AIR CONDITIONING	VENTILATION	HEATING
AUTO	O.K.	O.K.	O.K.
MANUAL	O.K.	O.K.	O.K.

REMARKS:

SERIAL # 3667 HOURS 8795

	AIR CONDITIONING	VENTILATION	HEATING
AUTO	O.K.	O.K.	O.K.
MANUAL	O.K.	O.K.	O.K.

REMARKS:

DATE 30 Jan. 63
TESTED [illegible]
SUPERVISOR [illegible]
QUALITY ASSURANCE [illegible]
GEEIA

7-15

GK-E

GK EAST

MAIN LINE CURRENTS

PA #1 CIRCUIT BREAKER 125 AMPS

PHASE 1	PHASE 2	PHASE 3
I= 0 E Drop 61 *	I= 0 E Drop 73	I= 0 E Drop 44

PA #2 CIRCUIT BREAKER 125 AMPS

PHASE 1	PHASE 2	PHASE 3
I= 0 E Drop 71	I= 0 E Drop 81	I= 0 E Drop 83

"MAIN" CIRCUIT BREAKER 200 AMPS

PHASE 1	PHASE 2	PHASE 3
I= 3/20 E Drop 152	I= 1/10 E Drop 161	I= 3/20 E Drop 135

** E Drop = Drop across breaker

PHASE I I = 135 PHASE II I = 140 PHASE III I = 135 500 VAC MAIN CIRCUIT BREAKER 400 AMPS

Air Conditioner Unit #1 100 AMPS

PHASE I I = 64 PHASE II I = 66 PHASE III I = 68

R E Lantz GEEIA Tester

R E Lantz Site Supervisor

Quality Assurance

3 July 63

7-16

GK-E

GK WEST

MAIN LINE CURRENTS

PA #1 CIRCUIT BREAKER 125 AMPS

PHASE 1	PHASE 2	PHASE 3
I= 0 E Drop	I= 0 E Drop	I= 0 E Drop

PA #2 CIRCUIT BREAKER 125 AMPS

PHASE 1	PHASE 2	PHASE 3
I= 0 E Drop	I= 0 E Drop	I= 0 E Drop

"MAIN" CIRCUIT BREAKER 200 AMPS

PHASE 1	PHASE 2	PHASE 3
I= 1/0 E Drop	I= 1/0 E Drop	I= 1/0 E Drop

* E Drop = Drop across breaker

K E Cutler GEEIA Tester

Site Supervisor

Quality Assurance

27 June 63

7-17

GA

SAFETY DEVICES

SITE GA MRC-85

INTERLOCKS			
PA #1	WDT	PF MON #1	WDT
PA #2	WDT	PF MON #2	WDT
ETLC #1	WDT	EXC #1	WDT
ETLC #2	WDT	EXC #2	WDT
RCVR #1	WDT		
RCVR #2	WDT		
RCVR #3	WDT		
RCVR #4	WDT		

SHORTING STICKS	
PA #1	WDT
PA #2	WDT

FAULT INDICATORS PANELS

POWER AMPLIFIER	#1	#2
FIL CHG OVER	WDT	WDT
CAB TEMP	WDT	WDT
ALARM PS FAILURE	WDT	WDT
HIGH VSWR	WDT	WDT
LOW FWD POWER	WDT	WDT
FILAMENT REG LIM	WDT	WDT
RECYCLE	WDT	WDT

HEAT EXCHANGER	#1	#2
LOW COOLANT LEVEL	WDT	WDT
LOW TEMP	WDT	WDT
HIGH TEMP	WDT	WDT

EXCITER	#1	#2
MODULATOR TRANSFER	WDT	WDT
MODULATOR FAIL	INOP	INOP
HIGH VSWR	WDT	WDT
LOW RF	WDT	WDT

RECEIVER "A"	FI-1	FI-2
RADIO PILOT	WDT	WDT
NOISE AMPL	WDT	WDT

RECEIVER "B"	FI-1	FI-2
RADIO PILOT	WDT	WDT
NOISE AMPL	WDT	WDT

ALERTING UNIT OPERATION

MRC-85 VAN
LOCAL ALARM KG
POWER ALARM KG
REMOTE CE ALARM KG

LOS BLDG
LOCAL ALARM KG
POWER ALARM KG
REMOTE CE ALARM KG

GEN VAN
REMOTE CE ALARM KG

DATEER
DATE 8 July 1963
TESTER [signature]
SUPERVISOR [signature]
QUALITY ASSURANCE [signature]
GEEIA [signature]

7-18

GA

AIR CONDITIONERS
SITE GA MRC-85

SERIAL # 3674 HOURS 7970

	AIR CONDITIONING	VENTILATION	HEATING
AUTO:	CWM	CWM	CWM
MANUAL:	CWM	CWM	CWM

REMARKS:

SERIAL # 3663 HOURS 9775

	AIR CONDITIONING	VENTILATION	HEATING
AUTO:	CWM	CWM	CWM
MANUAL:	CWM	CWM	CWM

DEHYDRATOR PRESSURIZATION UNIT

PRESS. AT BEGINNING OF TEST: _____
PRESS. AFTER ONE HOUR _____
PRESS. DROP: _____

REMARKS: PA #1, RCVR #1, RCVR #2 Lines hold pressure within Specs.
PA #2, RCVR #3, RCVR #4 Lines will not hold pressure within Specs. ✓

DEHYDRATOR PUMPS UP TO SUPPLY PRESSURE EVERY 45 SECONDS. ✓

DUMMY LOAD

CALIBRATION WDT
OPERATION WDT

REMARKS:

DATE 12 July 1963
TESTER C. W. Mabbey
SUPERVISOR [illegible]
QUALITY ASSURANCE [illegible]
GEEIA [illegible]

7-19

BIG RALLY II PROJECT - DEHYDRATOR PRESSURE CHECK

STATION GPA

14 July 1963

GPA-GA ANTENNA A GA

PRESS AT START .0.22

PRESS AT 1/2 HR. .215

TOTAL PRESS DROP .005 lbs/in.^{2}

ANTENNA B GA

PRESS AT START .22

PRESS AT 1/2 HR. .03

TOTAL PRESS DROP .19

GPA-GAB ANTENNA A GAB

PRESS AT START .22

PRESS AT 1/2 HR. .215

TOTAL PRESS DROP .005

ANTENNA B GAB

PRESS AT START .22

PRESS AT 1/2 HR. .075

TOTAL PRESS DROP .145

n.b.: All figures are given in lbs/sq. ins.

DATE 15 July 63

TESTER Vincent Quinn

SUPERVISOR [illegible]

QUALITY ASSURANCE [illegible]

GEEIA [illegible] 7-20

FEDERAL ELECTRIC CORPORATION BRII/101

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION L.D.

1. FREQUENCY (See Para. 7)

Generator I

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading	60 cps
B. Sudden Change - Full Load to No Load	
Minimum Frequency	59 cps
Maximum Frequency	60 cps
Recovery Time	2 Seconds
C. Sudden Change - No Load to Full Load	
Minimum Frequency	— cps
Maximum Frequency	— cps
Recovery Time	— Seconds

Generator II

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading	60 cps
B. Sudden Change - Full Load to No Load	
Minimum Frequency	59 cps
Maximum Frequency	61 cps
Recovery Time	2 Seconds
C. Sudden Change - No Load to Full Load	
Minimum Frequency	— cps
Maximum Frequency	— cps
Recovery Time	— Seconds

DATE 9 June 65

TESTER [illegible]

SUPERVISOR R.E. Gibson

QUALITY ASSURANCE W. E. Boyd

Walter L Craig

FEDERAL ELECTRIC CORPORATION BRII/102

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION LD.

2. LOAD BALANCE (See Para. 8)

	Test I	Test II (Corrected Unbalance)
Generator		
Phase I		
Amperes	370	
Volts	120	
Volts x Amperes	44400	
Phase II		
Amperes	375	
Volts	120	
Volts x Amperes	45000	
Phase III		
Amperes	340	
Volts	120	
Volts x Amperes	40800	
Generator II		
Phase I		
Amperes	340	
Volts	120	
Volts x Amperes	40800	
Phase II		
Amperes	350	
Volts	120	
Volts x Amperes	42000	
Phase III		
Amperes	330	
Volts	120	
Volts x Amperes	39600	

DATE 8 June 63

TESTER [illegible]

SUPERVISOR R.E. Gilbert

QUALITY ASSURANCE B.E. Brown

Walter L. Craig

FEDERAL ELECTRIC CORPORATION BRII/103

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATION SYSTEM

STATION L.D.

3. PHASING (See Para. 9)

Generator I

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

Generator II

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

4. NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal .1 OHMS

Generator II

Ground Rod to Neutral Terminal .1 OHMS

DATE 9 June 63

TESTER [illegible]

SUPERVISOR R.C. Hebbon

QUALITY ASSURANCE B.E. Bell

Walter L. Craig

FEDERAL ELECTRIC CORPORATION BRII/104

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATOR SYSTEM

STATION I.D.

5. TERMINAL VOLTAGE (See Para. II)

Percent Voltage Drop ($\frac{\text{Generator Panel Board Voltage - Terminal Voltage}}{\text{Generator Panel Board Voltage}} \times 100\%$)

3 Phase 208 Volts

		Generator Panel Board Volt.		Term. Volts		% Volt Drop	
		#1	#2	#1	#2	#1	#2
Feeder I	Phase 1 & 2	210	212	210	210	0	2
	Phase 2 & 3	210	213	210	210	0	3
	Phase 3 & 1	210	212	210	208	0	2
	Phase 1 to Neutral	120	120	117	117	2	3
	Phase 2 to Neutral	120	120	117	117	2	3
	Phase 3 to Neutral	120	120	118	118	2	2
Feeder II	Phase 1 & 2	210	212	209	209	1	3
	Phase 2 & 3	210	213	210	210	0	3
	Phase 3 & 1	210	212	209	209	1	3
	Phase 1 to Neutral	120	120	119	119	1	1
	Phase 2 to Neutral	120	120	119	119	1	1
	Phase 3 to Neutral	120	120	119	119	1	1
Feeder III	Phase 1 & 2	210	212	209	209	1	3
	Phase 2 & 3	210	213	209	209	1	4
	Phase 3 & 1	210	212	210	210	0	2
	Phase 1 to Neutral	120	120	118	118	2	3
	Phase 2 to Neutral	120	120	118	118	2	2
	Phase 3 to Neutral	120	120	119	119	1	1

DATE 8 June 63

TESTER [illegible]

SUPERVISOR R.E. Hobbs

QUALITY ASSURANCE R.E. Hobbs

Walter L Craig

FEDERAL ELECTRIC CORPORATION BRII/105

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION LD

6. GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	300	300
Wattage	100 KW	80 KW
Frequency	60 CPS	60 CPS.

Time in Seconds to Effect Transfer 18 seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	300	266
Wattage	80 KW	80 KW
Frequency	60 CPS	60 CPS.

Time in Seconds to Effect Transfer 15 seconds.

DATE 9-June 63

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE [illegible]

Walter L Craig

FEDERAL ELECTRIC CORPORATION BRII/106

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATING SYSTEM

STATION I.D.

7. PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	140	Amps
Watts	61 K	Watts
Volts	114	Volts
Frequency	60	CPS
Tachometer Reading		RPM

Generator II (After Paralleling)

Amps	160	Amps
Watts	55 K	Watts
Volts	114	Volts
Frequency	60	CPS
Tachometer Reading		RPM

DATE 8 June 63

TESTER [illegible]

SUPERVISOR R E Gibbons

QUALITY ASSURANCE W.E. Jones

Walter L. Craig

FEDERAL ELECTRIC CORPORATION BRII/101

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION IR-West

1. FREQUENCY (See Para. 7)

Generator 1

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading	60 cps
B. Sudden Change - Full Load to No Load	
Minimum Frequency	59 cps
Maximum Frequency	60 cps
Recovery Time	2 Seconds
C. Sudden Change - No Load to Full Load	
~~Minimum Frequency~~	~~cps~~
Maximum Frequency	cps
~~Recovery Time~~	~~Seconds~~

Generator II

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading	60 cps
B. Sudden Change - Full Load tc No Load	
Minimum Frequency	59 cps
Maximum Frequency	60 cps
Recovery Time	2 Seconds
C. Sudden Change - No Load to Full Load	
~~Minimum Frequency~~	~~cps~~
Maximum Frequency	cps
~~Recovery Time~~	~~Seconds~~

DATE 11 JUNE 1963

TESTER Walt Mahlon

SUPERVISOR L. Wisniewski

QUALITY ASSURANCE R.B. Speak

Walter L. Craig

HQ GECIA

FEDERAL ELECTRIC CORPORATION BRII/102

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION 1R- WEST

2. LOAD BALANCE (See Para. 8)

	Test I	Test II (Corrected Unbalance)
Generator		
Phase I		
Amperes	105	
Volts	120	
Volts x Amperes	12600	
Phase II		
Amperes	105	
Volts	120	
Volts x Amperes	12600	
Phase III		
Amperes	100	
Volts	120	
Volts x Amperes	12000	
Generator II		
Phase I		
Amperes	220	
Volts	120	
Volts x Amperes	26400	
Phase II		
Amperes	225	
Volts	120	
Volts x Amperes	27000	
Phase III		
Amperes	210	
Volts	120	
Volts x Amperes	25200	

DATE 11 JUNE 1963

TESTER Edw Mahlum

SUPERVISOR L. Watkins

QUALITY ASSURANCE R.B. Spoor

Walter L. Craig

HQ GEEIA

FEDERAL ELECTRIC CORPORATION BRII/103

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATION SYSTEM

STATION 1R- WEST

3. PHASING (See Para. 9)

Generator I

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

Generator II

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

4. NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal .1 OHMS

Generator II

Ground Rod to Neutral Terminal .1 OHMS

DATE 11 JUNE 1963

TESTER C.W. Mahlen

SUPERVISOR L. Watkins

QUALITY ASSURANCE R.B. Spear

Walter L. Craig

169 GEEIA

FEDERAL ELECTRIC CORPORATION BRII/104

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATOR SYSTEM

STATION 1R - WEST

5. TERMINAL VOLTAGE (See Para. II)

Percent Voltage Drop ($\frac{\text{Generator Panel Board Voltage - Terminal Voltage}}{\text{Generator Panel Board Voltage}} \times 100\%$)

3 Phase 208 Volts

		Generator Panel Board Volt.		Term. Volts		Volt Drop	
		#1	#2	#1	#2	#1	#2
Feeder I	Phase 1 & 2	210	209	209	208	1	1
	Phase 2 & 3	211	210	210	208	1	2
	Phase 3 & 1	211	209	210	208	1	1
	Phase 1 to Neutral	120	120	119	119	1	1
	Phase 2 to Neutral	120	120	119	119	1	1
	Phase 3 to Neutral	120	120	119	119	1	1
Feeder II	Phase 1 & 2	210	209	209	208	1	1
	Phase 2 & 3	211	210	210	208	1	2
	Phase 3 & 1	211	209	210	208	1	1
	Phase 1 to Neutral	120	120	119	119	1	1
	Phase 2 to Neutral	120	120	119	119	1	1
	Phase 3 to Neutral	120	120	119	119	1	1
Feeder III	Phase 1 & 2	210	209	210	209	0	0
	Phase 2 & 3	211	210	211	210	0	0
	Phase 3 & 1	210	209	210	209	0	0
	Phase 1 to Neutral	120	120	119	121	1	+1
	Phase 2 to Neutral	120	120	119	121	1	+1
	Phase 3 to Neutral	120	120	119	123	1	+2

DATE JUNE 11, 1963

TESTER C.W. Mahlon

SUPERVISOR L. Watkins

QUALITY ASSURANCE R.B. Spear

Walter L. Craig

HQ USCEIR

FEDERAL ELECTRIC CORPORATION BRII/105

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION 1R - WEST

6. GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	330	330
Wattage	110 KW	110 KW
Frequency	60	60

Time in Seconds to Effect Transfer 9 seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	340	340
Wattage	105 KW	105 KW
Frequency	60	60

Time in Seconds to Effect Transfer 14 seconds.

DATE 11 JUNE, 1963

TESTER C.W. Mahlum

SUPERVISOR C. Westerling

QUALITY ASSURANCE R.B. Spear

Walter L. Craig

169 Cecil

FEDERAL ELECTRIC CORPORATION BRII/106

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATING SYSTEM

STATION 1R-W

7. PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	100	Amps
Watts	17 KW	Watts
Volts	120	Volts
Frequency	60	CPS
Tachometer Reading		RPM

Generator II (After Paralleling)

Amps	70	Amps
Watts	17 KW	Watts
Volts	120	Volts
Frequency	60	CPS
Tachometer Reading		RPM

DATE 11 JUNE, 1963

TESTER C.W. Mahlen

SUPERVISOR L. Wasleing

QUALITY ASSURANCE R.B. Spear

Walter L. Craig

HQ GCEIA

8-12

FEDERAL ELECTRIC CORPORATION BRII/101

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION I.R.-E

1. FREQUENCY (See Para. 7)

Generator I

	Name Plate Frequency	60 cps
A.	Steady State Load	
	Minimum Frequency Reading	60 cps
	Maximum Frequency Reading	60 cps
B.	Sudden Change - Full Load to No Load	
	Minimum Frequency	59 cps
	Maximum Frequency	61 cps
	Recovery Time	2 Seconds
C.	Sudden Change - No Load to Full Load	
	Minimum Frequency	~~ cps
	~~Maximum Frequency~~	~~ cps
	~~Recovery Time~~	~~ Seconds

Generator II

	Name Plate Frequency	60 cps
A.	Steady State Load	
	Minimum Frequency Reading	60 cps
	Maximum Frequency Reading	60 cps
B.	Sudden Change - Full Load tc No Load	
	Minimum Frequency	59 cps
	Maximum Frequency	61 cps
	Recovery Time	2 Seconds
~~C.~~	~~Sudden Change - No Load to Full Load~~	
	~~Minimum Frequency~~	~~ cps
	~~Maximum Frequency~~	~~ cps
	~~Recovery Time~~	~~ Seconds

DATE 11-JUNE, 63

TESTER E.W. Maples

SUPERVISOR L. Watkins

QUALITY ASSURANCE R B Spear

Walter L. Craig

Hq GEEIA

8-13

FEDERAL ELECTRIC CORPORATION BRII/102

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION 1R-F

2. LOAD BALANCE (See Para. 8)

	Test I	Test II (Corrected Unbalance)
Generator		
Phase I		
Amperes	240	
Volts	120	
Volts x Amperes	28800	
Phase II		
Amperes	235	
Volts	120	
Volts x Amperes	28200	
Phase III		
Amperes	205	
Volts	120	
Volts x Amperes	24600	
Generator II		
Phase I		
Amperes	265	
Volts	120	
Volts x Amperes	31800	
Phase II		
Amperes	265	
Volts	120	
Volts x Amperes	31800	
Phase III		
Amperes	240	
Volts	120	
Volts x Amperes	28800	

DATE 11 June 63

TESTER C W Mahlen

SUPERVISOR R Wentzing

QUALITY ASSURANCE R B Spear

Walter L Craig
1-9 GEEIA

FEDERAL ELECTRIC CORPORATION BRII/103

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATION SYSTEM

STATION I R-F

3. PHASING (See Para. 9)

Generator I

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

Generator II

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

4. NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal .1 OHMS

Generator II

Ground Rod to Neutral Terminal .1 OHMS

DATE 11 June 63

TESTER Edward Cain

SUPERVISOR R. Watkins

QUALITY ASSURANCE R B Green

Walter L. Craig

Hq GEGIA

FEDERAL ELECTRIC CORPORATION BRII/104

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATOR SYSTEM

STATION L.R.-F

5. TERMINAL VOLTAGE (See Para. II)

Percent Voltage Drop $\left(\frac{\text{Generator Panel Board Voltage - Terminal Voltage}}{\text{Generator Panel Board Voltage}} \times 100\%\right)$

3 Phase 208 Volts

		Generator Panel Board Volt.		Term. Volts		% Volt Drop	
		#1	#2	#1	#2	#1	#2
Feeder I	Phase 1 & 2	211	211	210	210	.5	.5
	Phase 2 & 3	213	212	211	210	1.	1.
	Phase 3 & 1	212	211	210	210	1.	.5
	Phase 1 to Neutral	120	120	119	119	1.	1.
	Phase 2 to Neutral	120	120	119	119	1.	1.
	Phase 3 to Neutral	120	120	119	119	1.	1.
Feeder II	Phase 1 & 2	211	211	210	210	.5	.5
	Phase 2 & 3	213	211	213	211	0	0
	Phase 3 & 1	212	211	210	209	1.	1.
	Phase 1 to Neutral	120	120	119	119	1.	1.
	Phase 2 to Neutral	120	120	119	119	.5	.5
	Phase 3 to Neutral	120	120	119	119	1.	1.
Feeder III	Phase 1 & 2	211	211	210	210	.5	.5
	Phase 2 & 3	213	212	212	211	.5	.5
	Phase 3 & 1	212	211	210	209	1	1.
	Phase 1 to Neutral	120	120	119	119	1.	1.
	Phase 2 to Neutral	120	120	119	119	.5	.5
	Phase 3 to Neutral	120	120	119	119	1.	1.

DATE 11 June 73

TESTER W Mahle

SUPERVISOR R Wiedeis

QUALITY ASSURANCE R B Spear

Walter L. Craig
HQ GCEIA

FEDERAL ELECTRIC CORPORATION BRII/105

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION I. R. F.

6. GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	310	300
Wattage	110 KW	105 KW
Frequency	60	60

Time in Seconds to Effect Transfer 14 seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	360	300
Wattage	110 KW	105 KW
Frequency	60	60

Time in Seconds to Effect Transfer 15 seconds.

DATE 11 June 63

TESTER Edw Mallon

SUPERVISOR R Watkins

QUALITY ASSURANCE R B Spear

Walter L. Craig

Hq GCEIA

FEDERAL ELECTRIC CORPORATION BRII/106

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATING SYSTEM

STATION I.R.E.

7. PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	180	Amps
Watts	50	Watts
Volts	130	Volts
Frequency	60	CPS
Tachometer Reading		RPM

Generator II (After Paralleling)

Amps	180	Amps
Watts	50	Watts
Volts	130	Volts
Frequency	60	CPS
~~Tachometer Reading~~		RPM

DATE 11 June 63

TESTER C.W. Mallow

SUPERVISOR R. Watkins

QUALITY ASSURANCE RB Spear

Walter L. Craig

HQ GEEIA

FEDERAL ELECTRIC CORPORATION BRII/101

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION IC West

1. FREQUENCY (See Para. 7)

Generator I

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading	60 cps
B. Sudden Change - ~~Full~~ 125 Kw Load to No Load	
Minimum Frequency	59 cps
Maximum Frequency	61 cps
Recovery Time	2 Seconds
~~**C. Sudden Change - No Load to Full Load**~~	
~~Minimum Frequency~~	~~cps~~
~~Maximum Frequency~~	~~cps~~
~~Recovery Time~~	~~Seconds~~

Generator II

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading	60 cps
B. Sudden Change - ~~Full~~ 125 Kw Load to No Load	
Minimum Frequency	59 cps
Maximum Frequency	61 cps
Recovery Time	2 Seconds
~~**C. Sudden Change - No Load to Full Load**~~	
~~Minimum Frequency~~	~~cps~~
~~Maximum Frequency~~	~~cps~~
~~Recovery Time~~	~~Seconds~~

DATE 14 June 1963

TESTER [illegible]

SUPERVISOR F.H. Galindo

QUALITY ASSURANCE [illegible]

GEEIA Walter J. Lacy

FEDERAL ELECTRIC CORPORATION BRII/102

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION IC WEST

2. LOAD BALANCE (See Para. 8)

Generator	Test I	Test II (Corrected Unbalance)
Phase I		
Amperes	210	
Volts	120	
Volts x Amperes	35400	
Phase II		
Amperes	305	
Volts	120	
Volts x Amperes	36600	
Phase III		
Amperes	290	
Volts	120	
Volts x Amperes	34800	
Generator II		
Phase I		
Amperes	295	
Volts	120	
Volts x Amperes	35400	
Phase II		
Amperes	300	
Volts	120	
Volts x Amperes	36000	
Phase III		
Amperes	290	
Volts	120	
Volts x Amperes	34800	

DATE 14 June 62

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA Walter L. Raig

FEDERAL ELECTRIC CORPORATION BRII/103

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATION SYSTEM

STATION IC WEST

3. PHASING (See Para. 9)

Generator I

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

Generator II

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

4. NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal 0.1 OHMS

Generator II

Ground Rod to Neutral Terminal 0.1 OHMS

DATE 14 June 63

TESTER [illegible]

SUPERVISOR F. H. Lafarde

QUALITY ASSURANCE [illegible]

GEEIA Walter L. Roig

FEDERAL ELECTRIC CORPORATION BRII/104

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATOR SYSTEM

STATION IC WEST

5. TERMINAL VOLTAGE (See Para. II)

Percent Voltage Drop ($\frac{\text{Generator Panel Board Voltage - Terminal Voltage}}{\text{Generator Panel Board Voltage}} \times 100\%$

3 Phase 208 Volts

		Generator Panel Board Volt.		Term. Volts		% Volt Drop
Feeder I	Phase 1 & 2	208	208	208	208	
	Phase 2 & 3	208	208	208	208	
	Phase 3 & 1	208	208	208	208	
	Phase 1 to Neutral	120	120	120	120	
	Phase 2 to Neutral	120	120	120	120	
	Phase 3 to Neutral	120	120	120	120	
Feeder II	Phase 1 & 2	208	208	208	208	
	Phase 2 & 3	208	208	208	208	
	Phase 3 & 1	208	208	208	208	
	Phase 1 to Neutral	120	120	120	120	
	Phase 2 to Neutral	120	120	120	120	
	Phase 3 to Neutral	120	120	120	120	
Feeder III	Phase 1 & 2	208	208	208	208	
	Phase 2 & 3	208	208	208	208	
	Phase 3 & 1	208	208	208	208	
	Phase 1 to Neutral	120	120	120	120	
	Phase 2 to Neutral	120	120	120	120	
	Phase 3 to Neutral	120	120	120	120	
		1	2	1	2	

DATE 14 June 1963

TESTER C Mathews

SUPERVISOR F H Leonard

QUALITY ASSURANCE Wm R Dent

GEEIA Walter L Reig

FEDERAL ELECTRIC CORPORATION BRII/105

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION IC WEST

6. GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	245	245
Wattage	95 KW	95 KW
Frequency	60	60

Time in Seconds to Effect Transfer 14 seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	300	300
Wattage	103 KW	103 KW
Frequency	60	60

Time in Seconds to Effect Transfer 13 seconds.

DATE 14 June 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

FEDERAL ELECTRIC CORPORATION BRII/106

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATING SYSTEM

STATION IC WEST

7. PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	105	Amps
Watts	25 KW	Watts
Volts	120	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

Generator II (After Paralleling)

Amps	105	Amps
Watts	25 KW	Watts
Volts	120	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

DATE 14 June 1963

TESTER C McMillan

SUPERVISOR F A Hayes Jr

QUALITY ASSURANCE William R Watts

GEEIA Walter L Ray

FEDERAL ELECTRIC CORPORATION BRII/101

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION IC EAST

1. FREQUENCY (See Para. 7)

Generator I

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading 125Kw	60 cps
B. Sudden Change - ~~Full~~ Load to No Load	
Minimum Frequency	59 cps
Maximum Frequency	61 cps
Recovery Time	2 Seconds
C. ~~Sudden Change - No Load to Full Load~~	
~~Minimum Frequency~~	~~cps~~
~~Maximum Frequency~~	~~cps~~
~~Recovery Time~~	~~Seconds~~

Generator II

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading 125Kw	60 cps
B. Sudden Change - ~~Full~~ Load tc No Load	
Minimum Frequency	59 cps
Maximum Frequency	61 cps
Recovery Time	2 Seconds
C. ~~Sudden Change - No Load to Full Load~~	
~~Minimum Frequency~~	~~cps~~
~~Maximum Frequency~~	~~cps~~
~~Recovery Time~~	~~Seconds~~

DATE 15 June 1963

TESTER [signature]

SUPERVISOR F. H. Lizardo

QUALITY ASSURANCE [signature]

GEEIA Walter L. Craig

8-25

FEDERAL ELECTRIC CORPORATION BRII/103

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATION SYSTEM

STATION 1C East

3. PHASING (See Para. 9)

Generator I

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

Generator II

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

4. NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal 0.1 OHMS

Generator II

Ground Rod to Neutral Terminal 0.1 OHMS

DATE 15 June 1963

TESTER _____

SUPERVISOR F H Eyrardo

QUALITY ASSURANCE Willis R. Hitt

GEEIA Walter F. Craig

FEDERAL ELECTRIC CORPORATION BRII/104

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATOR SYSTEM

STATION 1C East

5. TERMINAL VOLTAGE (See Para. II)

Percent Voltage Drop ($\frac{\text{Generator Panel Board Voltage - Terminal Voltage}}{\text{Generator Panel Board Voltage}} \times 100\%$)

3 Phase 208 Volts

		Generator Panel Board Volt.		Term. Volts		% Volt Drop
Feeder I	Phase 1 & 2	208	208	208	208	
	Phase 2 & 3	210	208	210	208	
	Phase 3 & 1	208	208	208	208	
	Phase 1 to Neutral	120	120	120	120	
	Phase 2 to Neutral	120	120	120	120	
	Phase 3 to Neutral	120	120	120	120	
Feeder II	Phase 1 & 2	208	208	208	208	
	Phase 2 & 3	210	208	210	208	
	Phase 3 & 1	208	208	208	208	
	Phase 1 to Neutral	120	120	120	120	
	Phase 2 to Neutral	120	120	120	120	
	Phase 3 to Neutral	120	120	120	120	
Feeder III	Phase 1 & 2	208	208	208	208	
	Phase 2 & 3	210	208	210	208	
	Phase 3 & 1	208	208	208	208	
	Phase 1 to Neutral	120	120	120	120	
	Phase 2 to Neutral	120	120	120	120	
	Phase 3 to Neutral	120	120	120	120	
		1	2	1	2	

DATE 15 June 1963

TESTER _____

SUPERVISOR F H Lafarde

QUALITY ASSURANCE Willis R Zost

GEEIA Walter L Greig

FEDERAL ELECTRIC CORPORATION BRII/105

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION 1C East

6. GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	245	245
Wattage	95 KW	95 KW
Frequency	60	60

Time in Seconds to Effect Transfer 10 seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	245	245
Wattage	95 KW	95 KW
Frequency	60	60

Time in Seconds to Effect Transfer 4 seconds.

DATE 15 June 1963

TESTER _____

SUPERVISOR F.A. Sedwick

QUALITY ASSURANCE William E. Yates

GEEIA Walter J. Craig

8-29

FEDERAL ELECTRIC CORPORATION BRII/106

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATING SYSTEM

STATION 1C East

7. PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	110	Amps
Watts	45 K	Watts
Volts	119	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

Generator II (After Paralleling)

Amps	105	Amps
Watts	25 K	Watts
Volts	119	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

DATE 15 June 1963

TESTER

SUPERVISOR F. H. Zayarda

QUALITY ASSURANCE William B. Stoltz

GEEIA Walter L. Craig

GE-W

FEDERAL ELECTRIC CORPORATION BRII/101

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION G.K-I.C.

1. FREQUENCY (See Para. 7)

Generator I

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading	60 cps
B. Sudden Change - Full Load to No Load	
Minimum Frequency	57 cps
Maximum Frequency	63 cps
Recovery Time	3 5 Seconds
~~C. Sudden Change - No Load to Full Load~~	
~~Minimum Frequency~~	~~cps~~
~~Maximum Frequency~~	~~cps~~
~~Recovery Time~~	~~Seconds~~

Generator II

Name Plate Frequency	60 cps
A. Steady State Load	
Minimum Frequency Reading	60 cps
Maximum Frequency Reading	60 cps
B. Sudden Change - Full Load tc No Load	
Minimum Frequency	59 cps
Maximum Frequency	61 cps
Recovery Time	2 Seconds
~~C. Sudden Change - No Load to Full Load~~	
~~Minimum Frequency~~	~~cps~~
~~Maximum Frequency~~	~~cps~~
~~Recovery Time~~	~~Seconds~~

DATE 25 JUNE 63

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

Gazin, Walter Craig

8-31

FEDERAL ELECTRIC CORPORATION BRII/102

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION G.K-I.C.

2. LOAD BALANCE (See Para. 8)

	Test I	Test II (Corrected Unbalance)
Generator I		
Phase I		
Amperes	135	
Volts	120	
Volts x Amperes	16200	
Phase II		
Amperes	135	
Volts	120	
Volts x Amperes	16200	
Phase III		
Amperes	125	
Volts	121	
Volts x Amperes	15125	
Generator II		
Phase I		
Amperes	165	
Volts	120	
Volts x Amperes	19800	
Phase II		
Amperes	160	
Volts	120	
Volts x Amperes	19200	
Phase III		
Amperes	150	
Volts	120	
Volts x Amperes	18000	

DATE 25 JUNE 63

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE R E Jones

Walter Craig

FEDERAL ELECTRIC CORPORATION BRII/103

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATION SYSTEM

STATION G.K - I.C.

3. PHASING (See Para. 9)

Generator I

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

Generator II

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

4. NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal .01 OHMS

Generator II

Ground Rod to Neutral Terminal .01 OHMS

DATE 25 JUNE 43

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE [illegible]

Walter Gray

FEDERAL ELECTRIC CORPORATION BRII/104

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATOR SYSTEM

STATION 6K-4C

5. TERMINAL VOLTAGE (See Para. II)

Percent Voltage Drop $\left(\frac{\text{Generator Panel Board Voltage - Terminal Voltage}}{\text{Generator Panel Board Voltage}} \times 100\%\right)$

3 Phase 208 Volts

		Generator Panel Board Volt.		Term. Volts		% Volt Drop	
		#1	#2	#1	#2	#1	#2
Feeder I	Phase 1 & 2	205	205	202	202	2%	2%
	Phase 2 & 3	205	205	204	204	1%	1%
	Phase 3 & 1	205	205	202	202	2%	2%
	Phase 1 to Neutral	120	120	118	118	2%	2%
	Phase 2 to Neutral	120	120	119	119	1%	1%
	Phase 3 to Neutral	120	120	119	119	1%	1%
Feeder II	Phase 1 & 2	205	205	202	202	1%	1%
	Phase 2 & 3	205	205	204	204	1%	1%
	Phase 3 & 1	205	205	202	202	2%	2%
	Phase 1 to Neutral	120	120	117	117	2.5%	2.5%
	Phase 2 to Neutral	120	120	118	118	2%	2%
	Phase 3 to Neutral	120	120	118	118	2%	2%
Feeder III	Phase 1 & 2	205	205	204	204	1%	1%
	Phase 2 & 3	205	205	204	204	1%	1%
	Phase 3 & 1	205	205	203	203	1%	1%
	Phase 1 to Neutral	120	120	118	118	2%	2%
	Phase 2 to Neutral	120	120	119	119	1%	1%
	Phase 3 to Neutral	120	120	119	119	1%	1%

DATE 25 JUNE, 63

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE [illegible]

Walter Craig

FEDERAL ELECTRIC CORPORATION BRII/105

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION GH-I.C.

6. GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage		
Amperage	120	120
Wattage	200	200
Frequency	75 KW 60	65 KW 60

Time in Seconds to Effect Transfer 20. seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage		
Amperage	110	110
Wattage	200	210
Frequency	65 KW 60	60 KW 60

Time in Seconds to Effect Transfer 15 seconds.

Tester ~~DATE~~ Cornell

Date ~~TESTER~~ 25 JUNE, 63

SUPERVISOR Russell J. Carter

QUALITY ASSURANCE T. E. Brown

Walter Craig

8-35

FEDERAL ELECTRIC CORPORATION BRII/106

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATING SYSTEM

STATION G.K.-I.C.

7. PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	50	Amps
Watts	17 K	Watts
Volts	110	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

Generator II (After Paralleling)

Amps	50	Amps
Watts	15 K	Watts
Volts	120	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

DATE 27 JUNE, 63

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

Walter Craig

8-36

FEDERAL ELECTRIC CORPORATION BRII/101

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION G.K.-G.A.

1. FREQUENCY (See Para. 7)

Generator I

	Name Plate Frequency	60 cps
A.	Steady State Load	
	Minimum Frequency Reading	58 cps (0.6 ~)
	Maximum Frequency Reading	60 cps
B.	Sudden Change - Full Load to No Load	
	Minimum Frequency	58 cps
	Maximum Frequency	60 cps
	Recovery Time	2.5 Seconds
~~C.~~	~~Sudden Change - No Load to Full Load~~	
	~~Minimum Frequency~~	~~cps~~
	~~Maximum Frequency~~	~~cps~~
	~~Recovery Time~~	~~Seconds~~

Generator II

	Name Plate Frequency	60 cps
A.	Steady State Load	
	Minimum Frequency Reading	60 cps
	Maximum Frequency Reading	60 cps
B.	Sudden Change - Full Load tc No Load	
	Minimum Frequency	59.5 cps
	Maximum Frequency	60 cps
	Recovery Time	2.5 Seconds
~~C.~~	~~Sudden Change - No Load to Full Load~~	
	~~Minimum Frequency~~	~~cps~~
	~~Maximum Frequency~~	~~cps~~
	~~Recovery Time~~	~~Seconds~~

DATE 25 JUNE, 1963

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE B. E. Bess

Walter Craig

8-31

FEDERAL ELECTRIC CORPORATION BRII/102

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION GK/GA.

2. LOAD BALANCE (See Para. 8)

	Test I	Test II	(Corrected Unbalance)
Generator I			
Phase I			
Amperes	220		
Volts	~~120~~		
Volts x Amperes	26400		
Phase II			
Amperes	220		
Volts	~~120~~		
Volts x Amperes	26400		
Phase III			
Amperes	200		
Volts	~~120~~		
Volts x Amperes	24000		
Generator II			
Phase I			
Amperes	230		
Volts	~~120~~		
Volts x Amperes	27600		
Phase II			
Amperes	225		
Volts	~~120~~		
Volts x Amperes	27000		
Phase III			
Amperes	205		
Volts	~~120~~		
Volts x Amperes	24600		

DATE 25 JUNE, 63

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE B & Bess

Walter Craig

FEDERAL ELECTRIC CORPORATION BRII/103

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATION SYSTEM

STATION G.K - I.C.

3. PHASING (See Para. 9)

Generator I

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

Generator II

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

4. NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal .01 OHMS

Generator II

Ground Rod to Neutral Terminal .01 OHMS

DATE 25 JUNE 63

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE [illegible]

Walter Craig

FEDERAL ELECTRIC CORPORATION BRII/104

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATOR SYSTEM

STATION GK-GA

5. TERMINAL VOLTAGE (See Para. II)

Percent Voltage Drop ($\frac{\text{Generator Panel Board Voltage - Terminal Voltage}}{\text{Generator Panel Board Voltage}} \times 100\%$)

3 Phase 208 Volts

		Generator Panel Board Volt.		Term. Volts		% Volt Drop	
		#1	#2	#1	#2	#1	#3
Feeder I	Phase 1 & 2	206	206	203	203	1.5	1.5
	Phase 2 & 3	207	207	205	205	1	1
	Phase 3 & 1	205	207	200	202	2	2
	Phase 1 to Neutral	120	120	119	119	1	1
	Phase 2 to Neutral	120	120	119	119	1	1
	Phase 3 to Neutral	120	120	120	120	0	0
Feeder II	Phase 1 & 2	206	206	205	205	.5	.5
	Phase 2 & 3	207	207	207	207	0	0
	Phase 3 & 1	205	207	202	204	1.5	1.5
	Phase 1 to Neutral	120	120	119	119	1	1
	Phase 2 to Neutral	120	120	120	120	0	0
	Phase 3 to Neutral	120	120	120	120	0	0
Feeder III	Phase 1 & 2	206	206	205	205	.5	.5
	Phase 2 & 3	207	207	207	207	0	0
	Phase 3 & 1	205	207	203	205	1	1
	Phase 1 to Neutral	120	120	120	120	0	0
	Phase 2 to Neutral	120	120	120	120	0	0
	Phase 3 to Neutral	120	120	120	120	0	0

DATE 25 June 63

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE BG Boss

Walter Craig

8-40

FEDERAL ELECTRIC CORPORATION BRII/105

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION G.K - G.A.

6. GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	117
Amperage	325	245
Wattage	95 KW	70 KW
Frequency	60 CPS.	60 C.P.S.

Time in Seconds to Effect Transfer 13 seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	118	118
Amperage	330	330
Wattage	95 KW.	93 KW.
Frequency	60 CPS.	60 C.P.S.

Time in Seconds to Effect Transfer 13. seconds.

DATE 25 JUNE, 63.

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE D.F. Bess.

Walter Craig

FEDERAL ELECTRIC CORPORATION BRII/106

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATING SYSTEM

STATION G.K.-G.A.

7. PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	130	Amps
Watts	30 K	Watts
Volts	119	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

Generator II (After Paralleling)

Amps	130	Amps
Watts	35K	Watts
Volts	118	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

DATE 25 JUNE, 63

TESTER [illegible]

SUPERVISOR [illegible]

QUALITY ASSURANCE W.F. Bass.

Walter Craig

G.A.

FEDERAL ELECTRIC CORPORATION BRII/101

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION GA

1. FREQUENCY (See Para. 7)

Generator I

Name Plate Frequency	60	cps
A. Steady State Load		
Minimum Frequency Reading	60	cps
Maximum Frequency Reading	60	cps
B. Sudden Change - Full Load to No Load		
Minimum Frequency	59	cps
Maximum Frequency	61	cps
Recovery Time	3	Seconds
~~C. Sudden Change - No Load to Full Load~~		
~~Minimum Frequency~~		cps
~~Maximum Frequency~~		cps
~~Recovery Time~~		Seconds

Generator II

Name Plate Frequency	60	cps
A. Steady State Load		
Minimum Frequency Reading	60	cps
Maximum Frequency Reading	60	cps
B. Sudden Change - Full Load tc No Load		
Minimum Frequency	59	cps
Maximum Frequency	61	cps
Recovery Time	3	Seconds
~~C. Sudden Change - No Load to Full Load~~		
~~Minimum Frequency~~		cps
~~Maximum Frequency~~		cps
~~Recovery Time~~		Seconds

DATE 12 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA Walter L Craig

8-43

FEDERAL ELECTRIC CORPORATION BRII/102

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION GA

2. LOAD BALANCE (See Para. 8)

	Test I	Test II	(Corrected Unbalance)
Generator I			
Phase I			
Amperes	355		
Volts	120		
Volts x Amperes	42600		
Phase II			
Amperes	345		
Volts	120		
Volts x Amperes	41400		
Phase III			
Amperes	340		
Volts	120		
Volts x Amperes	38400		
Generator II			
Phase I			
Amperes	340		
Volts	130		
Volts x Amperes	44200		
Phase II			
Amperes	345		
Volts	130		
Volts x Amperes	44850		
Phase III			
Amperes	315		
Volts	130		
Volts x Amperes	40950		

DATE 11 July 1963

TESTER [signature]

SUPERVISOR Paul J Davenport

QUALITY ASSURANCE [signature]

GEEIA Walter L Craig

FEDERAL ELECTRIC CORPORATION BRII/103

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATION SYSTEM

STATION GA

3. PHASING (See Para. 9)

Generator I

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

Generator II

Phase I	120 volts
Phase II	120 volts
Phase III	120 volts

4. NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal .1 OHMS

Generator II

Ground Rod to Neutral Terminal .1 OHMS

DATE 12 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

FEDERAL ELECTRIC CORPORATION BRII/104

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATOR SYSTEM

STATION GA

5. TERMINAL VOLTAGE (See Para. II)

Percent Voltage Drop $\left(\frac{\text{Generator Panel Board Voltage - Terminal Voltage}}{\text{Generator Panel Board Voltage}} \times 100\%\right)$

3 Phase 208 Volts

		Generator Panel Board Volt.		Term. Volts		% Volt Drop	
		#1	#2	#1	#2	#1	#2
Feeder I	Phase 1 & 2	210	210	209	209	.48	.48
	Phase 2 & 3	210	210	210	210	0	0
	Phase 3 & 1	209	209	209	209	0	0
	Phase 1 to Neutral	120	120	120	120	0	0
	Phase 2 to Neutral	120	120	120	120	0	0
	Phase 3 to Neutral	120	120	120	120	0	0
Feeder II	Phase 1 & 2	210	210	209	209	.48	.48
	Phase 2 & 3	210	210	210	210	0	0
	Phase 3 & 1	209	209	209	209	0	0
	Phase 1 to Neutral	120	119	119	119	.83	0
	Phase 2 to Neutral	120	120	120	120	0	0
	Phase 3 to Neutral	120	120	120	120	0	0
Feeder III	Phase 1 & 2	210	210	209	209	.48	.48
	Phase 2 & 3	210	210	210	210	0	0
	Phase 3 & 1	209	209	209	209	0	0
	Phase 1 to Neutral	120	119	119	119	.83	0
	Phase 2 to Neutral	120	120	120	120	0	0
	Phase 3 to Neutral	120	120	120	120	0	0

DATE 12 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

FEDERAL ELECTRIC CORPORATION BRII/105

BIG RALLY II PROJECT

DATA SHEET

150 KW POWER GENERATING SYSTEM

STATION GA

6. GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	315	320
Wattage	116	125
Frequency	60	60

Time in Seconds to Effect Transfer 11 seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	317	310
Wattage	113	113
Frequency	60	60

Time in Seconds to Effect Transfer 15 seconds.

DATE 12 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

8-47

FEDERAL ELECTRIC CORPORATION BRII/106

BIG RALLY II PROJECT

DATA SHEET

150 KW DIESEL GENERATING SYSTEM

STATION GA

7. PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	130	Amps
Watts	55K	Watts
Volts	120	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

Generator II (After Paralleling)

Amps	190	Amps
Watts	60K	Watts
Volts	120	Volts
Frequency	60	CPS
~~Tachometer Reading~~		~~RPM~~

DATE 12 July 1963

TESTER [signature]

SUPERVISOR Paul J Davenport

QUALITY ASSURANCE [signature]

GEEIA Walter L Craig

FEDERAL ELECTRIC CORPORATION BRII/111

BIG RALLY II PROJECT

DATA SHEET

60 KW POWER GENERATING SYSTEM

STATION GPA - System 1

FREQUENCY (See Para. 7)

Generator I

Name Plate Frequency	60	cps
A. Steady State Load		
Minimum Frequency Reading	60	cps
Maximum Frequency Reading	60	cps
B. Sudden Change - Full Load to No Load		
Minimum Frequency	59	cps
Maximum Frequency	61	cps
Recovery Time	2	Seconds
~~C. Sudden Change - No Load to Full Load~~		
~~Minimum Frequency~~		cps
~~Maximum Frequency~~		cps
~~Recovery Time~~		Seconds

Generator II

Name Plate Frequency	60	cps
A. Steady State Load		
Minimum Frequency Reading	60	cps
Maximum Frequency Reading	60	cps
B. Sudden Change - Full Load to No Load		
Minimum Frequency	59	cps
Maximum Frequency	61	cps
Recovery Time	3	Seconds
~~C. Sudden Change - No Load to Full Load~~		
~~Minimum Frequency~~		cps
~~Maximum Frequency~~		cps
~~Recovery Time~~		Seconds

DATE 12 July 1963

TESTER T.D. Mallen

SUPERVISOR Joseph Wenigard

QUALITY ASSURANCE J. Bouchard

GEEIA Walter Craig

FEDERAL ELECTRIC CORPORATION BRII/112

BIG RALLY II PROJECT

DATA SHEET

60 KW POWER GENERATING SYSTEM

STATION GPA- System #1

LOAD BALANCE (See Para. 8)

	Test I	Test II (Corrected Unbalance)
Generator I		
Phase I		
Amperes	150	128
Volts	120	120
Volts x Amperes	18000	15360
Phase II		
Amperes	100	129
Volts	120	120
Volts x Amperes	12000	15480
Phase III		
Amperes	118	130
Volts	120	120
Volts x Amperes	14160	15600
Generator II		
Phase I		
Amperes	145	128
Volts	120	120
Volts x Amperes	17400	15360
Phase II		
Amperes	105	129
Volts	120	120
Volts x Amperes	12600	15480
Phase III		
Amperes	135	130
Volts	120	120
Volts x Amperes	16200	15600

DATE 12 July 1963

TESTER C.W. Mallon

SUPERVISOR Joseph Weninger

QUALITY ASSURANCE R. Bouchard

GEETA Chester L. Craig

B-50

FEDERAL ELECTRIC CORPORATION BRII/113

BIG RALLY II PROJECT

DATA SHEET

60 KW POWER GENERATING SYSTEM

STATION GPA- System #1

PHASING (See Para. 9)

Generator I

Phase I	120	volts
Phase II	120	volts
Phase III	120	volts

Generator II

Phase I	120	volts
Phase II	120	volts
Phase III	120	volts

NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal .1 OHMS

Generator II

Ground Rod to Neutral Terminal .1 OHMS

DATE 12 July 1963

TESTER C.W. Mahlum

SUPERVISOR Joseph Wemyss

QUALITY ASSURANCE J. Bowlden

GEEIA Walter L. Craig

FEDERAL ELECTRIC CORPORATION BRII/114

BIG RALLY II PROJECT

DATA SHEET

60 KW DIESEL GENERATOR SYSTEM

STATION GPA- System #1
MRC-85 East and West Vans

TERMINAL VOLTAGE (See Para. 11)

Percent Voltage Drop $\frac{(\text{Generator Panel Board Voltage} - \text{Terminal Voltage}) \times 100\%}{\text{Generator Panel Board Voltage}}$

Single Phase 208 Volts

	Generator Panel Board Voltage	Terminal Volts	% Volt Drop
Transformer I	230	220	4.4
Transformer II	N/A	N/A	

Three Phase 208 Volts

	Generator Panel Board Voltage		West Van Terminal Volts	% Volt Drop	East	%
	West 208	East 210				
Phase 1 to 2	208	210	204	2%	210	0%
Phase 2 to 3	207	208	207	0%	210	0%
Phase 3 to 1	120	118	117	2.5%	205	1.5%
Phase 1 to Neutral	120	118	119	1.7%	118	1.7%
Phase 2 to Neutral	120	120	119	1.7%	118	1.7%
Phase 3 to Neutral					120	0%

DATE 12 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

8-52

FEDERAL ELECTRIC CORPORATION BRII/115

BIG RALLY II PROJECT

DATA SHEET

60 KW POWER GENERATOR SYSTEM

STATION GPA- System #1

GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	140	142
Wattage	50 K	50 K
Frequency	60	60

Time in Seconds to Effect Transfer 15 Seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	142	150
Wattage	50 K	56 K
Frequency	60	60

Time in Seconds to Effect Transfer 4 Seconds.

DATE 12 July 1963

TESTER C W Mallon

SUPERVISOR Lloyd Rennison

QUALITY ASSURANCE L. Bonshaw

GEEIA Walter L Craig

8-53

FEDERAL ELECTRIC CORPORATION BRII/116

BIG RALLY II PROJECT

DATA SHEET

60 KW DIESEL GENERATING SYSTEM

STATION GPA-System #1

PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	100	Amps
Watts	30 K	Watts
Volts	120	Volts
Frequency	60	cps
~~Tachometer Reading~~		~~RPM~~

Generator II (After Paralleling)

Amps	100	Amps
Watts	26K	Watts
Volts	120	Volts
Frequency	60	cps
~~Tachometer Reading~~		~~RPM~~

DATE 12 July 63

TESTER C.W. Mallon

SUPERVISOR Joseph Wenzel

QUALITY ASSURANCE J. Bruchez

GEETA Walter L. Craig

8-54

FEDERAL ELECTRIC CORPORATION BRII/111

BIG RALLY II PROJECT

DATA SHEET

60 KW POWER GENERATING SYSTEM

STATION GPA-~~System~~ #2

FREQUENCY (See Para. 7)

Generator I

Name Plate Frequency	60	cps
A. Steady State Load		
Minimum Frequency Reading	60	cps
Maximum Frequency Reading	60	cps
B. Sudden Change - Full Load to No Load		
Minimum Frequency	59	cps
Maximum Frequency	61	cps
Recovery Time	3	Seconds
~~C. Sudden Change - No Load to Full Load~~		
~~Minimum Frequency~~		~~cps~~
~~Maximum Frequency~~		~~cps~~
~~Recovery Time~~		~~Seconds~~

Generator II

Name Plate Frequency	60	cps
A. Steady State Load		
Minimum Frequency Reading	60	cps
Maximum Frequency Reading	60	cps
B. Sudden Change - Full Load to No Load		
Minimum Frequency	59	cps
Maximum Frequency	61	cps
Recovery Time	2	Seconds
~~C. Sudden Change - No Load to Full Load~~		
~~Minimum Frequency~~		~~cps~~
~~Maximum Frequency~~		~~cps~~
~~Recovery Time~~		~~Seconds~~

DATE 12 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

FEDERAL ELECTRIC CORPORATION BRII/112

BIG RALLY II PROJECT

DATA SHEET

60 KW POWER GENERATING SYSTEM

STATION GPA-System #2

LOAD BALANCE (See Para. 8)

Generator I

	Test I	Test II (Corrected Unbalance)
Phase I		
Amperes	155	128
Volts	120	120
Volts x Amperes	21700	15360
Phase II		
Amperes	125	129
Volts	122	120
Volts x Amperes	15250	15480
Phase III		
Amperes	105	130
Volts	120	120
Volts x Amperes	12600	15600

Generator II

Phase I		
Amperes	150	128
Volts	120	120
Volts x Amperes	18000	15360
Phase II		
Amperes	105	129
Volts	120	120
Volts x Amperes	12600	15480
Phase III		
Amperes	120	130
Volts	120	120
Volts x Amperes	14400	15600

DATE 12 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

8-56

FEDERAL ELECTRIC CORPORATION BRII/113

BIG RALLY II PROJECT

DATA SHEET

60 KW POWER GENERATING SYSTEM

STATION GPA-System #2

PHASING (See Para. 9)

Generator I

Phase I	120	volts
Phase II	122	volts
Phase III	120	volts

Generator II

Phase I	120	volts
Phase II	120	volts
Phase III	120	volts

NEUTRAL GROUNDING (See Para. 10)

Generator I

Ground Rod to Neutral Terminal .1 OHMS

Generator II

Ground Rod to Neutral Terminal .1 OHMS

DATE 12 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

8-57

FEDERAL ELECTRIC CORPORATION BRII/114

BIG RALLY II PROJECT

DATA SHEET

60 KW DIESEL GENERATOR SYSTEM

STATION GPA System #2

TERMINAL VOLTAGE (See Para. 11)

Percent Voltage Drop $\frac{\text{(Generator Panel Board Voltage - Terminal Voltage)}}{\text{Generator Panel Board Voltage}} \times 100\%$

Single Phase 208 Volts

	Generator Panel Board Voltage	Terminal Volts	% Volt Drop
Transformer I	230	220	4.4%
~~Transformer II~~	N/A	N/A	N/A

Three Phase 208 Volts

	Generator Panel Board Voltage West	Generator Panel Board Voltage East	West Terminal Volts	West % Volt Drop	East T.V.	East % Drp
Phase 1 to 2	208	210	204	2%	210	0%
Phase 2 to 3	208	210	207	.5%	210	0%
Phase 3 to 1	207	208	207	0%	205	1.5%
Phase 1 to Neutral	120	120	117	2.5%	118	1.7%
Phase 2 to Neutral	120	120	119	1.9%	118	1.7%
Phase 3 to Neutral	120	120	119	1.9%	120	0%

DATE 13 July 63

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

8-58

FEDERAL ELECTRIC CORPORATION BRII/115

BIG RALLY II PROJECT

DATA SHEET

60 KW POWER GENERATOR SYSTEM

STATION GPA-System #2

GENERATOR TRANSFER OPERATION (See Para. 12)

Generator I

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	140	135
Wattage	51K	46K
Frequency	60	60

Time in Seconds to Effect Transfer 11 Seconds.

Generator II

	Normal Operating Conditions	Conditions New Duty Unit After Transfer
Voltage	120	120
Amperage	135	138
Wattage	45K	48K
Frequency	60	60

Time in Seconds to Effect Transfer 8 Seconds.

DATE 12 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

8-59

FEDERAL ELECTRIC CORPORATION BRII/116

BIG RALLY II PROJECT

DATA SHEET

60 KW DIESEL GENERATING SYSTEM

STATION GPA-System #2

PARALLELING TEST (See Para. 13)

Generator I (After Paralleling)

Amps	90	Amps
Watts	28K	Watts
Volts	120	Volts
Frequency	60	cps
~~Tachometer Reading~~		~~RPM~~

Generator II (After Paralleling)

Amps	80	Amps
Watts	26K	Watts
Volts	120	Volts
Frequency	60	cps
~~Tachometer Reading~~		~~RPM~~

DATE ~~12 July 1963~~

TESTER Edw Mallon

SUPERVISOR Joseph Wesniewski

QUALITY ASSURANCE J Bouchard

GEEIA Walter Lewis

8-60

FEDERAL ELECTRIC CORPORATION BRII/121

BIG RALLY II PROJECT

DATA SHEET

20 KW POWER GENERATING SYSTEM

STATION GEL

FREQUENCY (See Para. 7)

Generator I

Name Plate Frequency 60 cps

A. Steady State Load
- Minimum Frequency Reading 60 cps
- Maximum Frequency Reading 60 cps

B. Sudden Change - Full Load to No Load
- Minimum Frequency 59 cps
- Maximum Frequency 61 cps
- Recovery Time 2 Seconds

~~C. Sudden Change - No Load to Full Load~~
- ~~Minimum Frequency~~ cps
- ~~Maximum Frequency~~ cps
- ~~Recovery Time~~ Seconds

Generator II

Name Plate Frequency 60 cps

A. Steady State Load
- Maximum Frequency Reading 60 cps
- Maximum Frequency Reading 60 cps

B. Sudden Change - Full Load to No Load
- Minimum Frequency 59 cps
- Maximum Frequency 61 cps
- Recovery Time 3 Seconds

~~C. Sudden Change - No Load to Full Load~~
- ~~Minimum Frequency~~ cps
- ~~Maximum Frequency~~ cps
- ~~Recovery Time~~ Seconds

DATE 17 July 1963

TESTER S.W. Mahlen

SUPERVISOR Andrew J Horvath

QUALITY ASSURANCE

GEEIA

8-61

FEDERAL ELECTRIC CORPORATION BRII/122

BIG RALLY II PROJECT

DATA SHEET

20 KW POWER GENERATING SYSTEM

STATION GEL

PHASING (See Para. 8)

Generator I

Position I	240	Volts
Position II	120	Volts

Generator II

Position I	240	Volts
Position II	120	Volts

NEUTRAL GROUNDING (See Para. 9)

Generator I

Ground Rod to Neutral Terminal .1 OHMS

Generator II

Ground Rod to Neutral Terminal .1 OHMS

DATE 17 July 1963

TESTER C.W. Mahlen

SUPERVISOR Andrew F. Barratt

QUALITY ASSURANCE GEEIA

8-62

FEDERAL ELECTRIC CORPORATION BRII/123

BIG RALLY II PROJECT

DATA SHEET

20 KW POWER GENERATOR SYSTEM

STATION GEL

TERMINAL VOLTAGE (See Para. 10)

Percent Voltage Drop $\frac{\text{(Generator Panelboard Voltage - Terminal Voltage)}}{\text{Generator Panelboard Voltage}} \times 100\%$

Single Phase 240 Volts

	Generator Panelboard Volt.	Term. Volts	% Volt Drop
TRC-35 ~~MRC-80~~	240	238	.9%

Single Phase 120 Volts

	Generator Panelboard Volt.	Term. Volts	% Volt Drop
TRC-35 ~~MRC-80~~			
Line 1 to Neutral	120	119	.9%
Line 2 to Neutral	120	120	0%

DATE 17 July 1963

TESTER C.W. Mahlen

SUPERVISOR ~~Andrew A. Horvath~~

QUALITY ASSURANCE J. Bowden

GEEIA Walter L. Craig

8-63

FEDERAL ELECTRIC CORPORATION BRII/124

BIG RALLY II PROJECT

DATA SHEET

20 KW POWER GENERATING SYSTEM

STATION GEL

GENERATOR TRANSFER OPERATION (See Para. 11)

Generator 1

	Normal Operation Conditions	Conditions New Duty Unit After Transfer
Voltage	240	240
Amperage	100	90
Wattage	20,000	21,000
Frequency	60	60

Time in Seconds to Effect Transfer 12 Seconds.

Generator II

	Normal Operation Conditions	Conditions New Duty Unit After Transfer
Voltage	240	240
Amperage	89	100
Wattage	21,000	20,000
Frequency	60	60

Time in Seconds to Effect Transfer 8 Seconds.

DATE 17 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

8-64

FEDERAL ELECTRIC CORPORATION BRII/125

BIG RALLY II PROJECT

DATA SHEET

20 KW DIESEL GENERATING SYSTEM

STATION GEL

PARALLELING TEST (See Para. 12)

Generator I (After Paralleling)

Amps	30	Amps
Watts	6K	Watts
Volts	238	Volts
Frequency	60	cps
~~Tachometer Reading~~		~~RPM~~

Generator II (After Paralleling)

Amps	30	Amps
Watts	6K	Watts
Volts	238	Volts
Frequency	60	cps
~~Tachometer Reading~~		~~RPM~~

DATE 17 July 1963

TESTER [signature]

SUPERVISOR [signature]

QUALITY ASSURANCE [signature]

GEEIA [signature]

8-65

Security Classification

DOCUMENT CONTROL DATA - R&D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

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Federal Electric Corporation, ITT
Paramus, New Jersey

2a. REPORT SECURITY CLASSIFICATION

UNCLASSIFIED

2b. GROUP

N/A

3. REPORT TITLE

Big Rally II Communication System Test Data, Phase I

4. DESCRIPTIVE NOTES *(Type of report and inclusive dates)*

Vol IV

5. AUTHOR(S) *(Last name, first name, initial)*

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6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
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10. AVAILABILITY/LIMITATION NOTICES

Qualified Requesters May Obtain Copies from DDC.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
	486L SPO ESD L.G. Hanscom Field, Bedford, Mass.

13. ABSTRACT

Test Procedures For MC-50

DD FORM 1 JAN 64 1473

Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Communications Systems Big Rally II Tests Multiplex Communication Test Equipment Radio Equipment Performance Data Documentation						

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1. ORIGINATING ACTIVITY: Enter the name and address of the contractor, aubcontractor, grantee, Department of Defense activity or other organization *(corporate author)* issuing the report.

2*a*. REPORT SECURITY CLASSIFICATION: Enter the overall security classification of the report. Indicate whether "Restricted Data" is included. Marking is to be in accordance with appropriate security regulations.

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