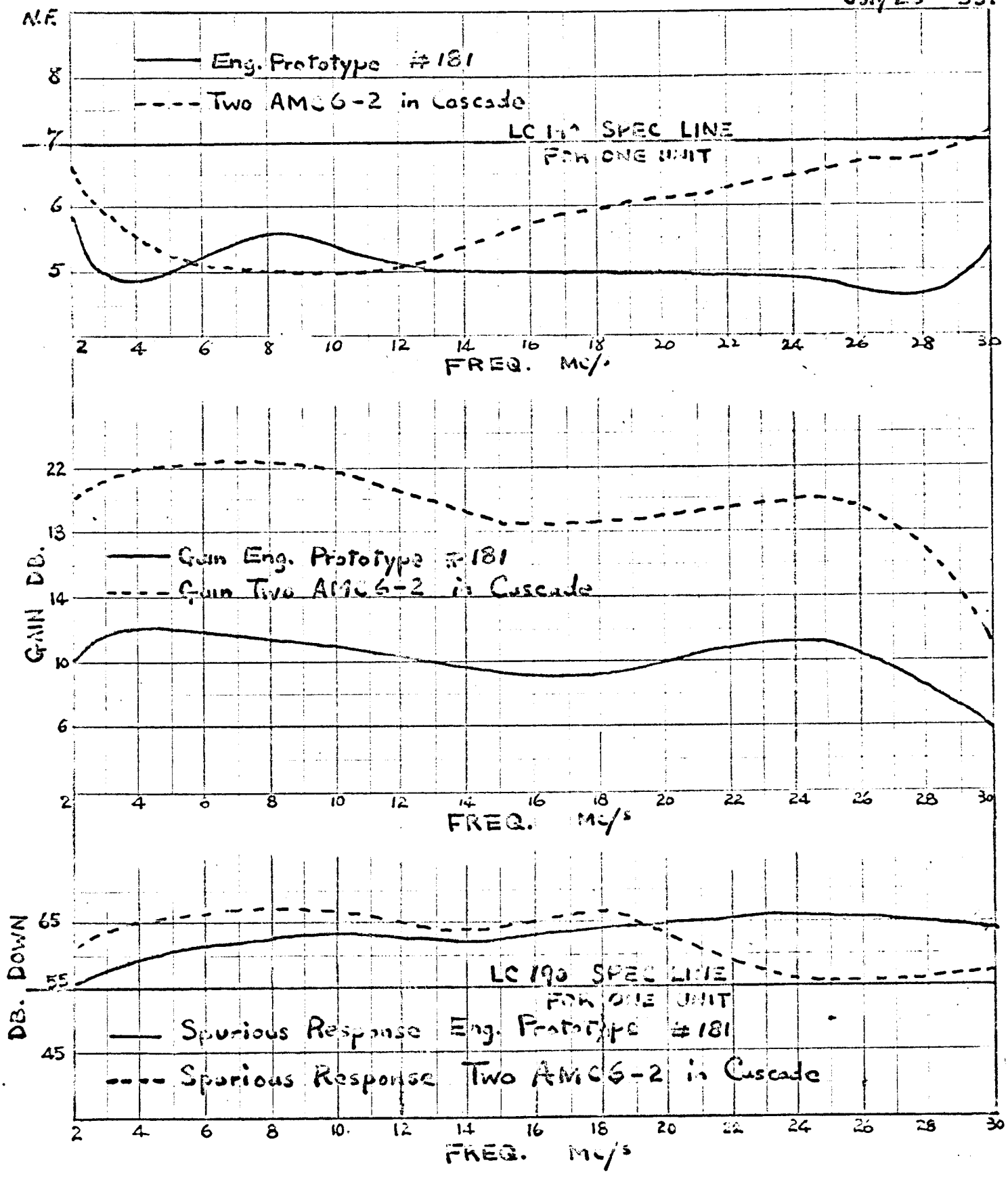
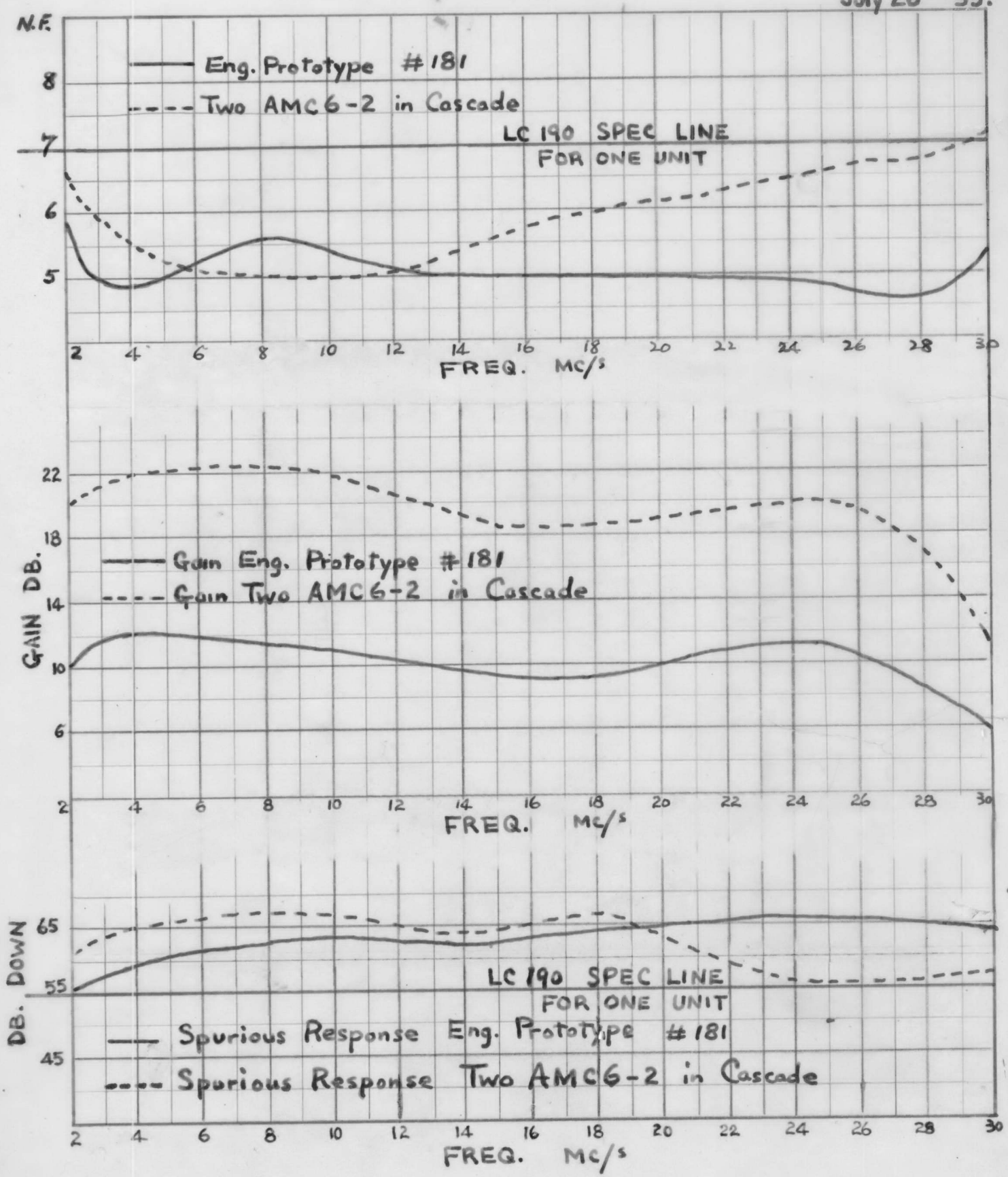
July 26th '55.



ELECTRICAL CHARACTERISTICS OF AMC 6-2
WHEN OPERATED IN CASCADE

CH-10002

July 26th. '55.



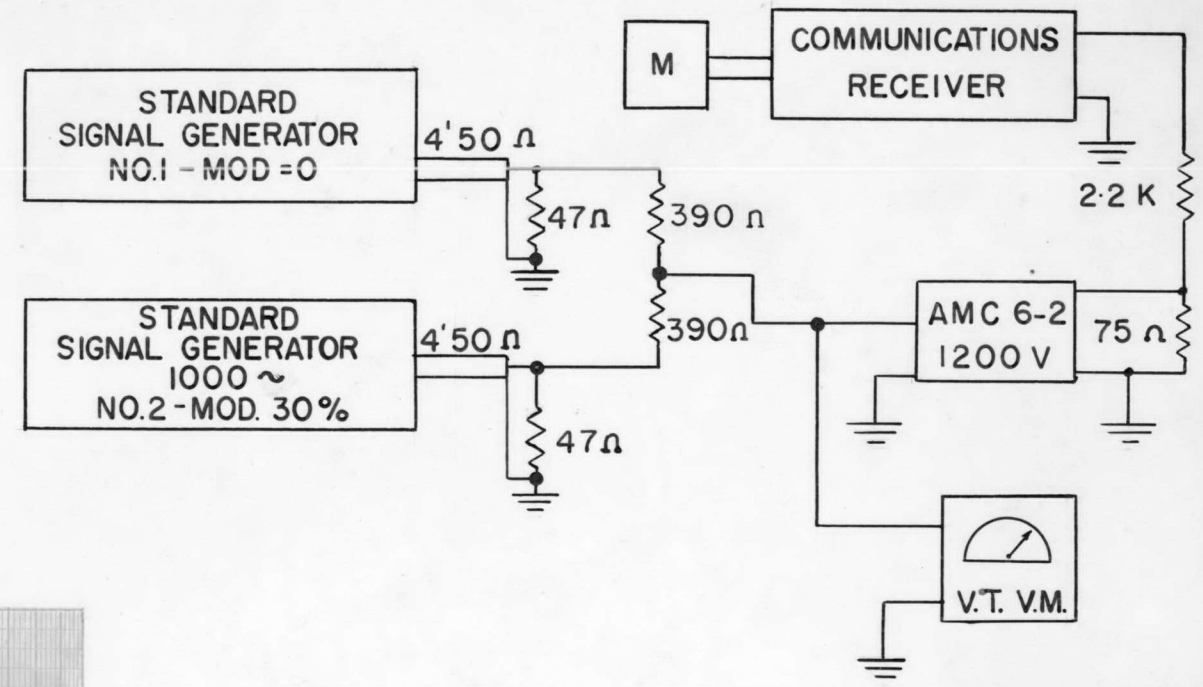
ELECTRICAL CHARACTERISTICS OF AMC6-2
WHEN OPERATED IN CASCADE

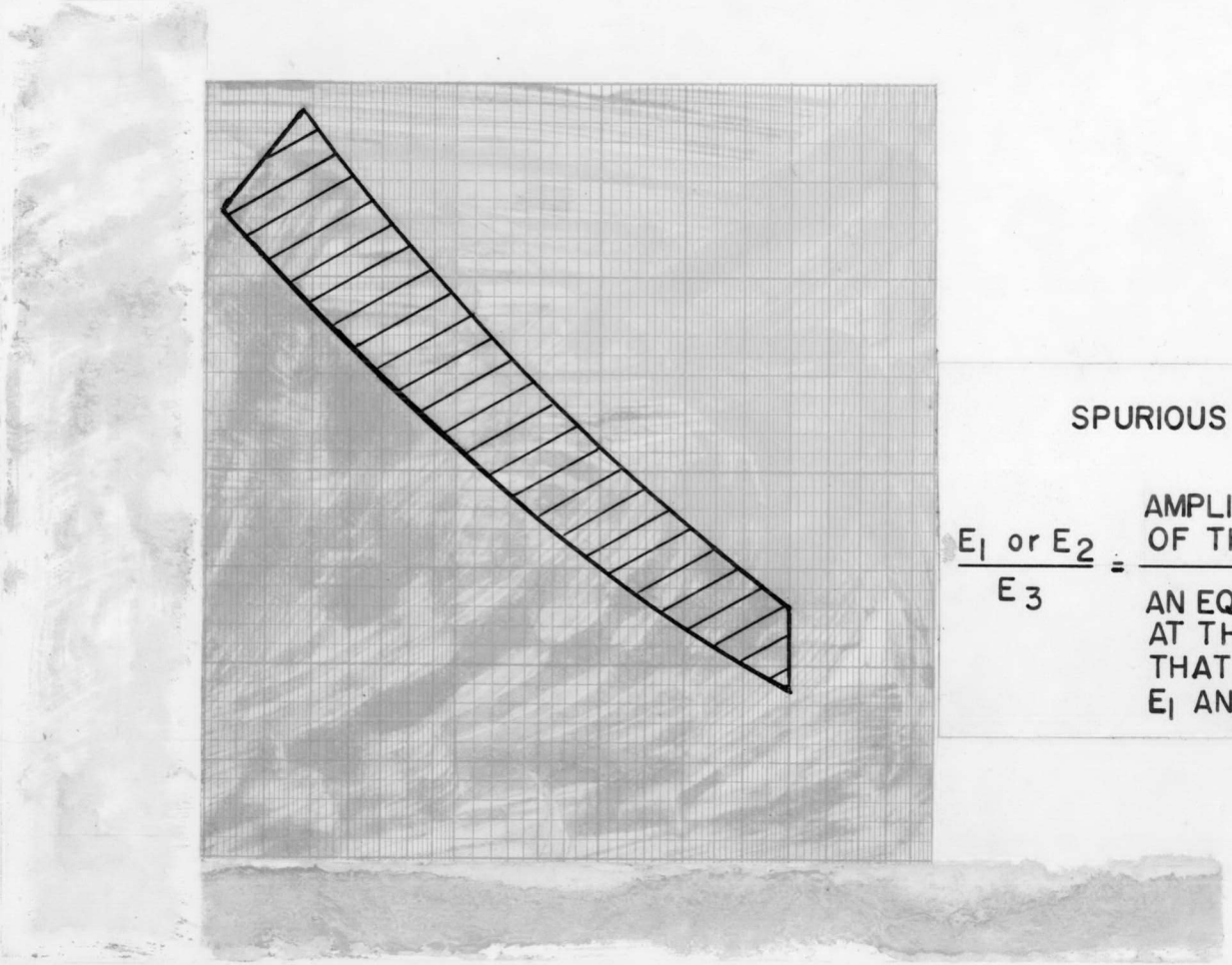
CH-10002

CH-10002

HIGH LEVEL SPURIOUS RESPONSE OF A SYSTEM EMPLOYING THE AMC 6-2/200U

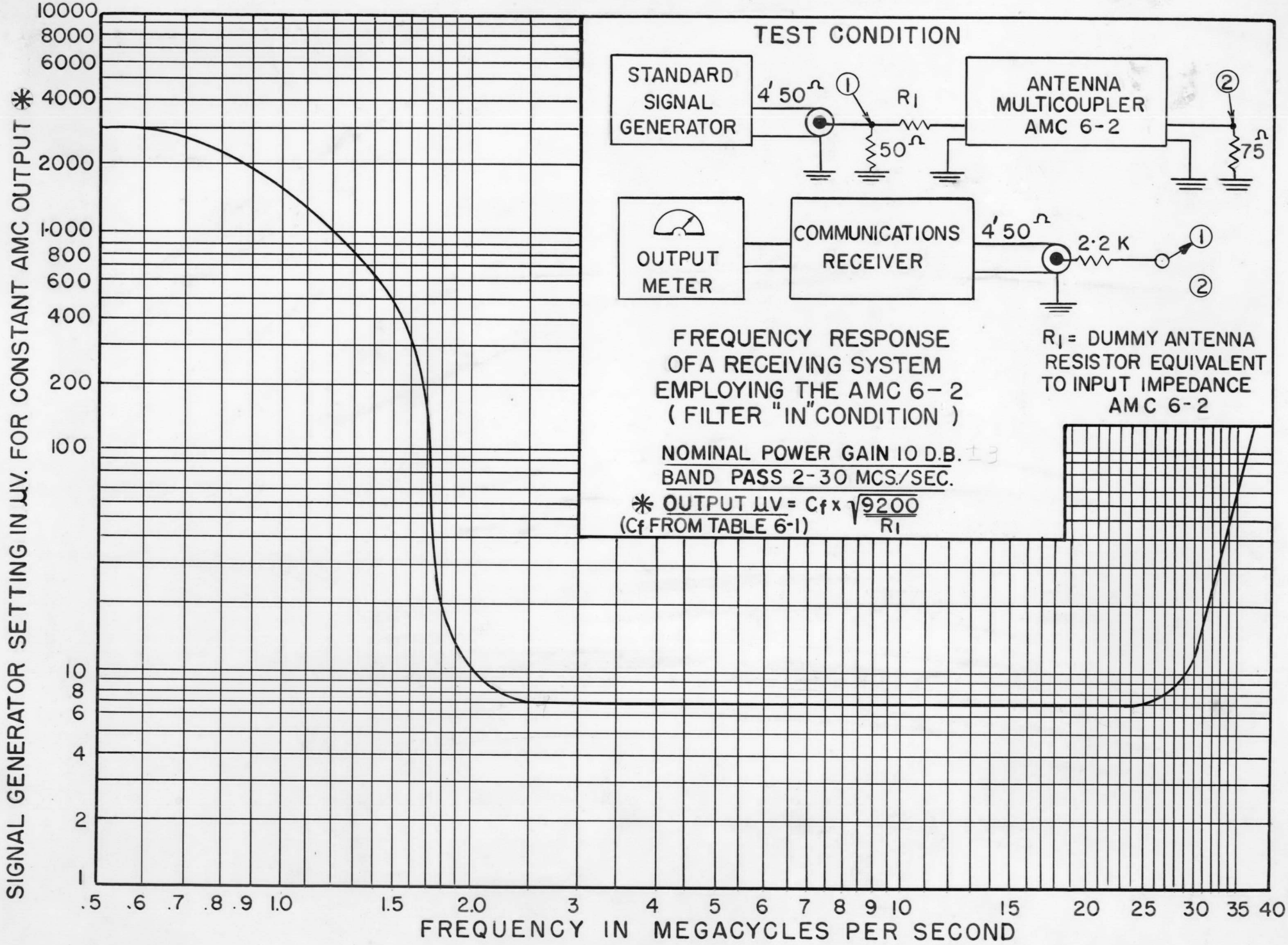
TEST CONDITION



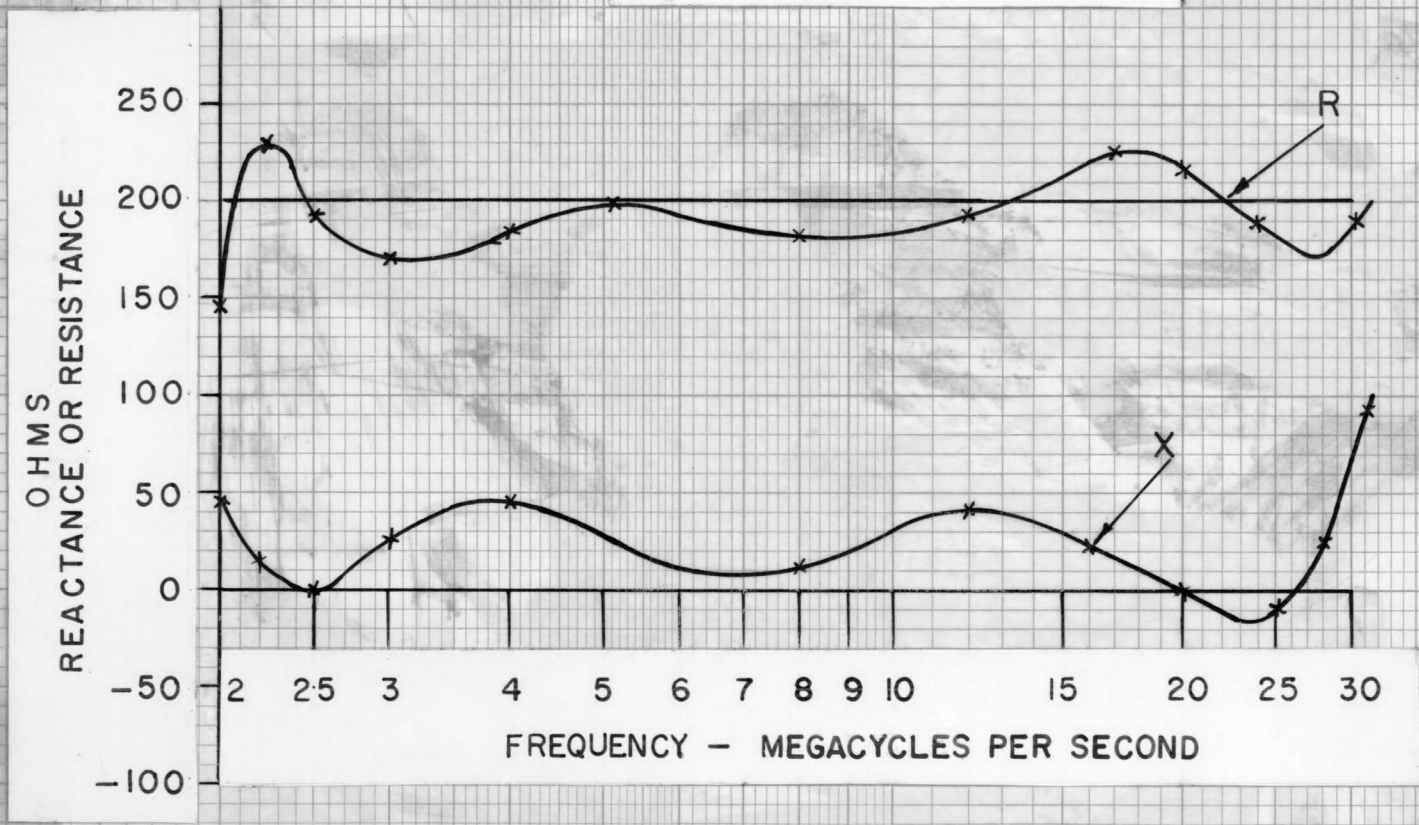


SPURIOUS RESPONSE DB = 20 $\log_{10} \frac{E_1 \text{ or } E_2}{E_3}$

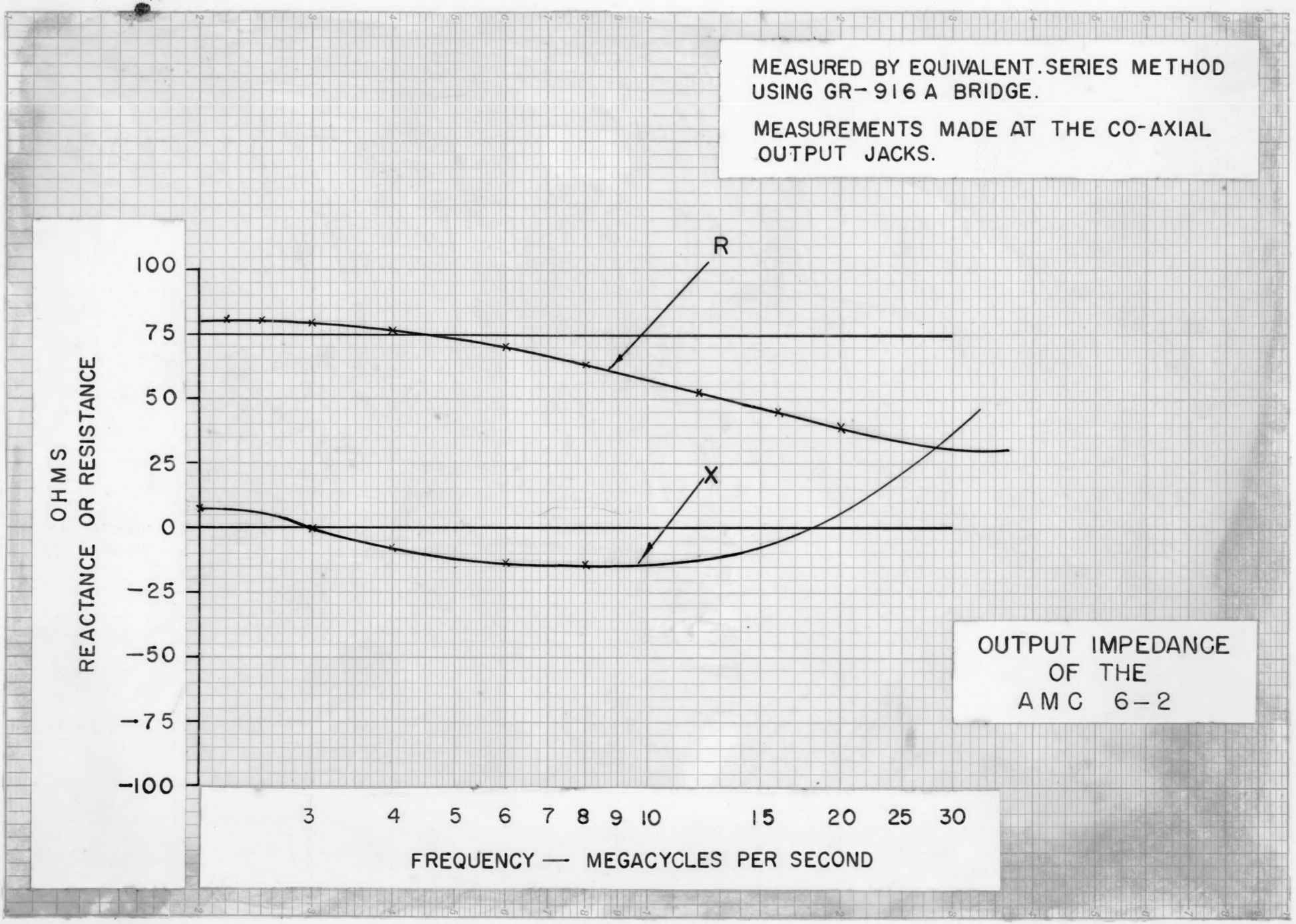
$\frac{E_1 \text{ or } E_2}{E_3}$ = AMPLITUDE OF f_1 OR f_2 AT THE ANTENNA JACK OF THE AMC 6-2 / AN EQUIVALENT VOLTAGE OF FREQUENCY ($f_1 - f_2$) AT THE ANTENNA JACK OF THE AMC 6-2 THAT WILL PRODUCE THE SAME OUTPUT AS WHEN E_1 AND E_2 ARE SIMULTANEOUSLY APPLIED TO THE INPUT.


TEST CONDITION
STANDARD SIGNAL GENERATOR
4' 50Ω
1
R1
50Ω
ANTENNA MULTICOUPLER AMC 6-2
2
75Ω
OUTPUT METER
COMMUNICATIONS RECEIVER
4' 50Ω
2·2 K
1
2
FREQUENCY RESPONSE OF A RECEIVING SYSTEM EMPLOYING THE AMC 6-2 (FILTER "IN" CONDITION)
NOMINAL POWER GAIN 10 D.B.
BAND PASS 2-30 MCS./SEC.
* OUTPUT μV = Cf x √(9200/R1)
(Cf FROM TABLE 6-1)
R1 = DUMMY ANTENNA RESISTOR EQUIVALENT TO INPUT IMPEDANCE AMC 6-2
SIGNAL GENERATOR SETTING IN μV. FOR CONSTANT AMC OUTPUT *
10000
8000
6000
4000
2000
1000
800
600
400
200
100
10
8
6
4
2
1
.5 .6 .7 .8 .9 1.0 1.5 2.0 3 4 5 6 7 8 9 10 15 20 25 30 35 40
FREQUENCY IN MEGACYCLES PER SECOND

INPUT IMPEDANCE OF THE A.M.C 6-2/200 U.



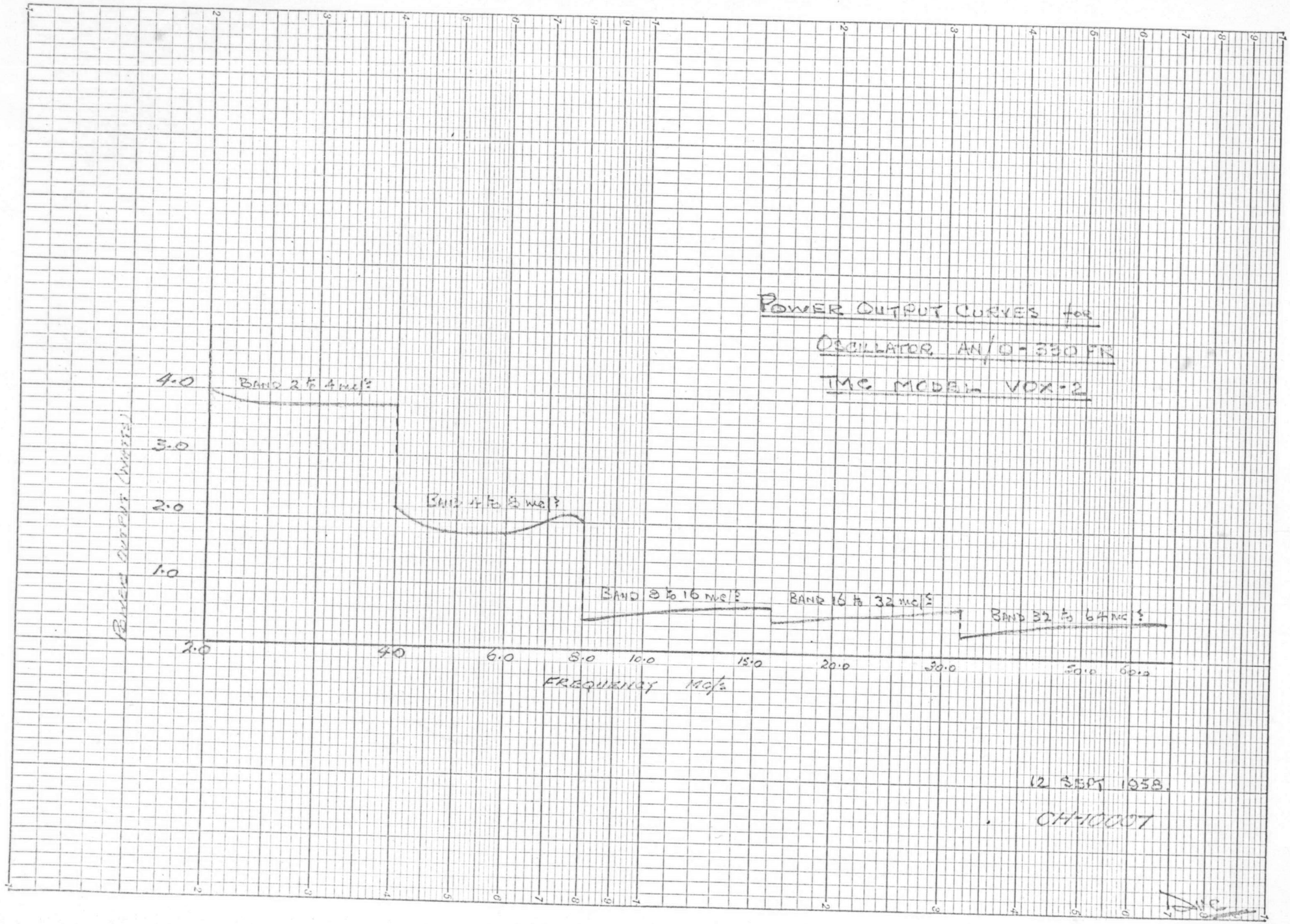
MEASUREMENTS BY EQUIVALENT SERIES METHOD
GR. 916-A BRIDGE AT CO-AXIAL RECEPTACLE
MEASUREMENTS MADE WITH THE FILTER SWITCH
ON THE "IN" POSITION.


MEASURED BY EQUIVALENT SERIES METHOD USING GR-916A BRIDGE.
MEASUREMENTS MADE AT THE CO-AXIAL OUTPUT JACKS.
OHMS
REACTANCE OR RESISTANCE
100
75
50
25
0
-25
-50
-75
-100
R
X
3
4
5
6
7
8
9
10
15
20
25
30
FREQUENCY — MEGACYCLES PER SECOND
OUTPUT IMPEDANCE OF THE AMC 6-2

NO. 31,286. 10 DIVISIONS PER INCH (70 DIVISIONS) BY TWO 5-INCH CYCLES RATIO RULING.

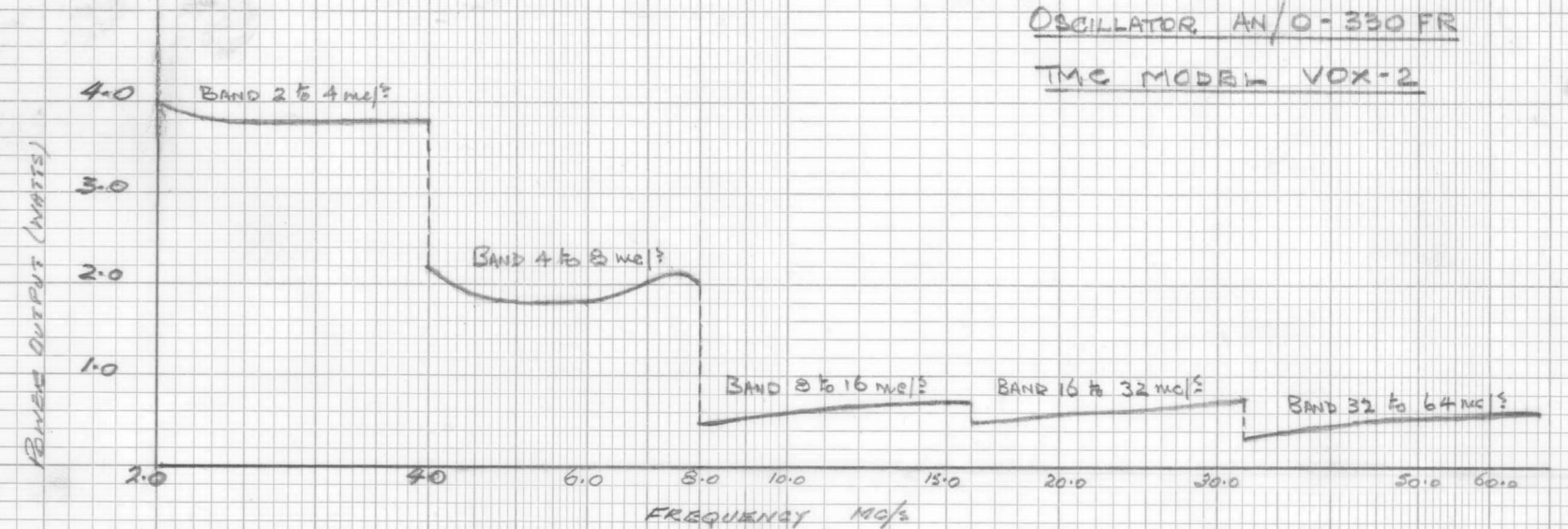
CODEX BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS.
PRINTED IN U. S. A.

CH-10007



CH-10007

POWER OUTPUT CURVES for OSCILLATOR AN/O-350 FR TMC MODEL VOX-2

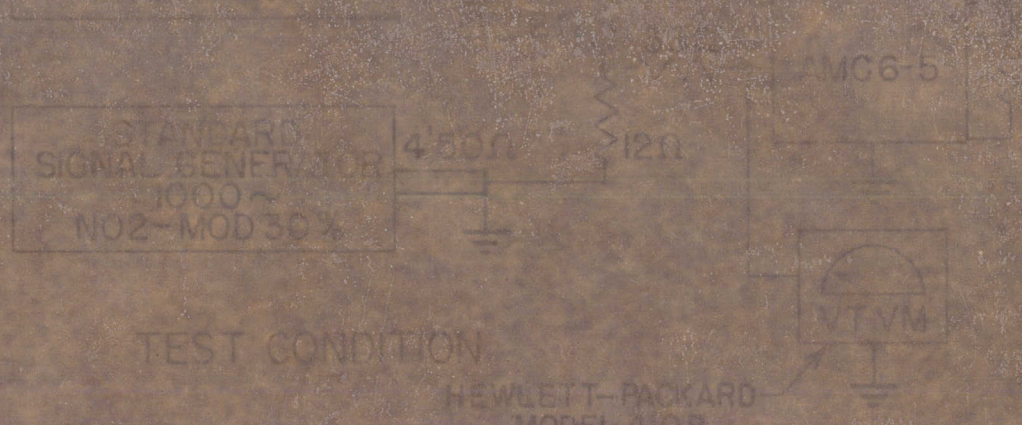


12 SEPT 1958.

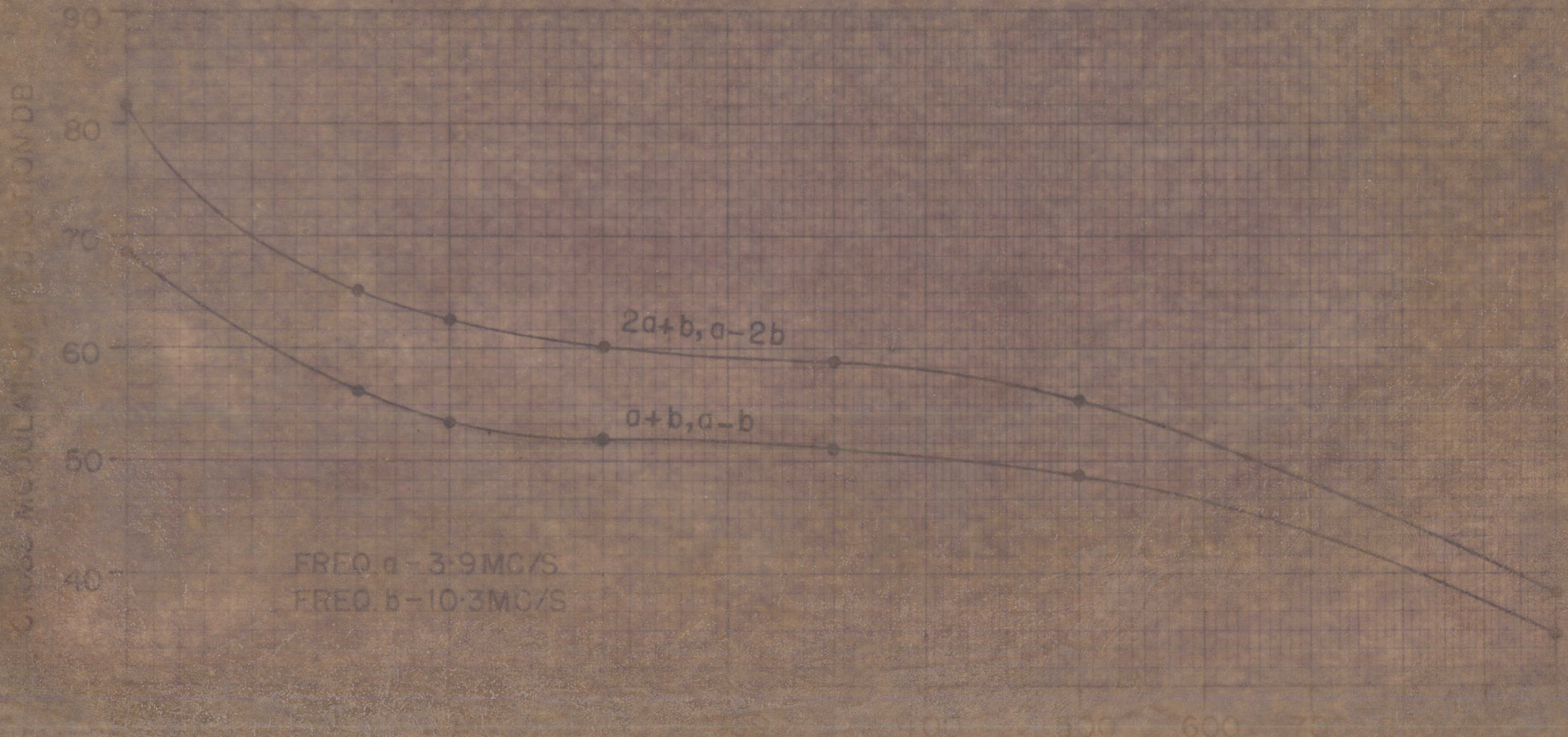
CH-10007

E_1 AMPLITUDE OF f1 OR f2 AT THE ANTENNA JACK OF THE AMC6-5

E_2 AN EQUIVALENT VOLTAGE OF FREQUENCIES (f_1, f_2) AT THE ANTENNA JACK OF THE AMC6-5 THAT WILL PRODUCE THE SAME OUTPUT AS WHEN E_1 AND E_2 ARE SIMULTANEOUSLY APPLIED TO THE INPUT



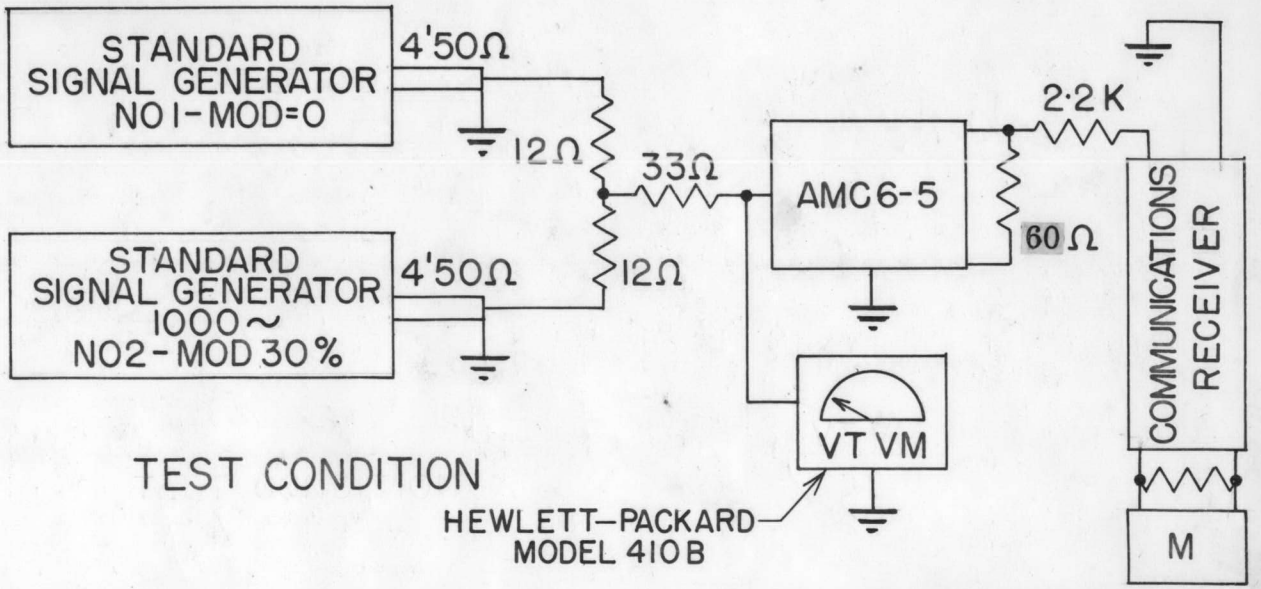
TEST CONDITION



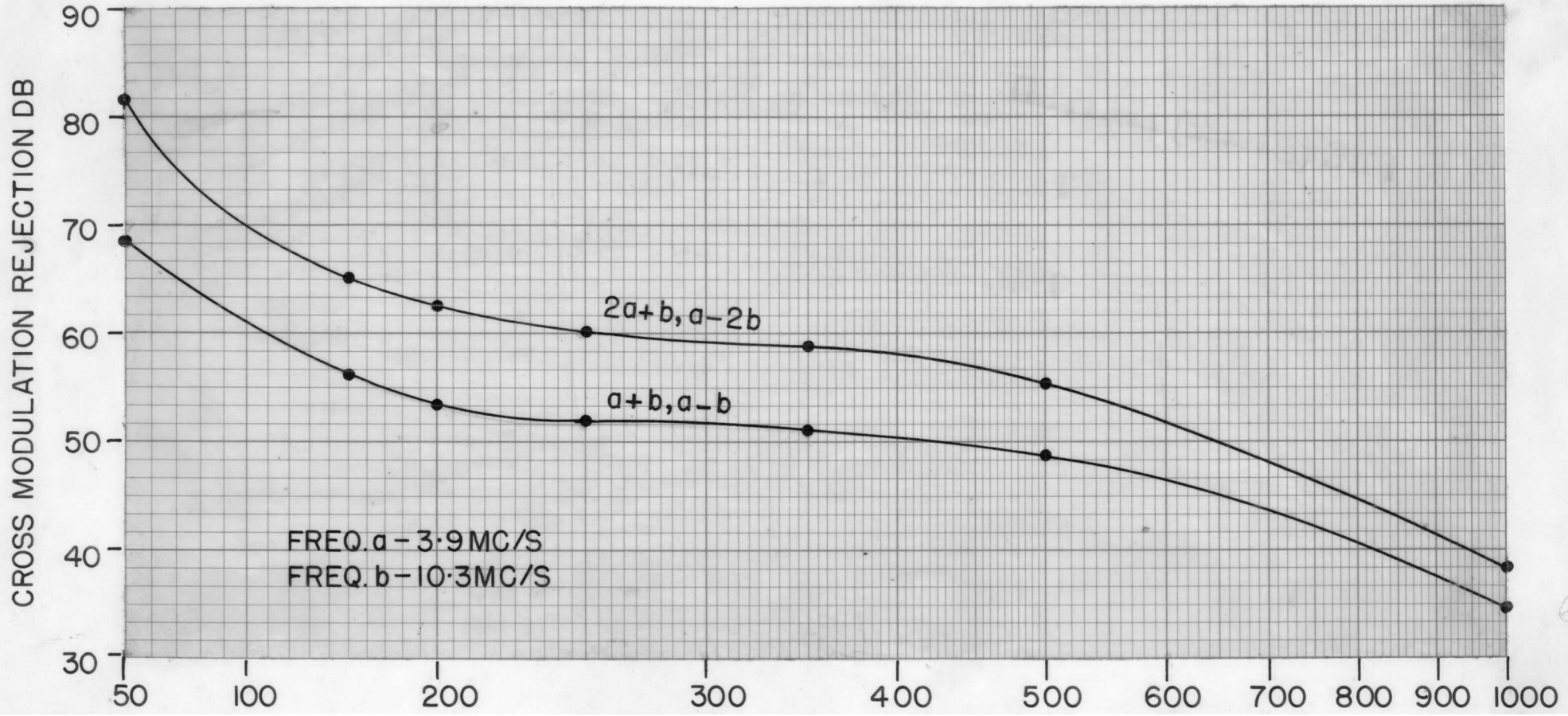
HIGH LEVEL SPURIOUS RESPONSE OF A SYSTEM EMPLOYING THE AMC 6-5/70U

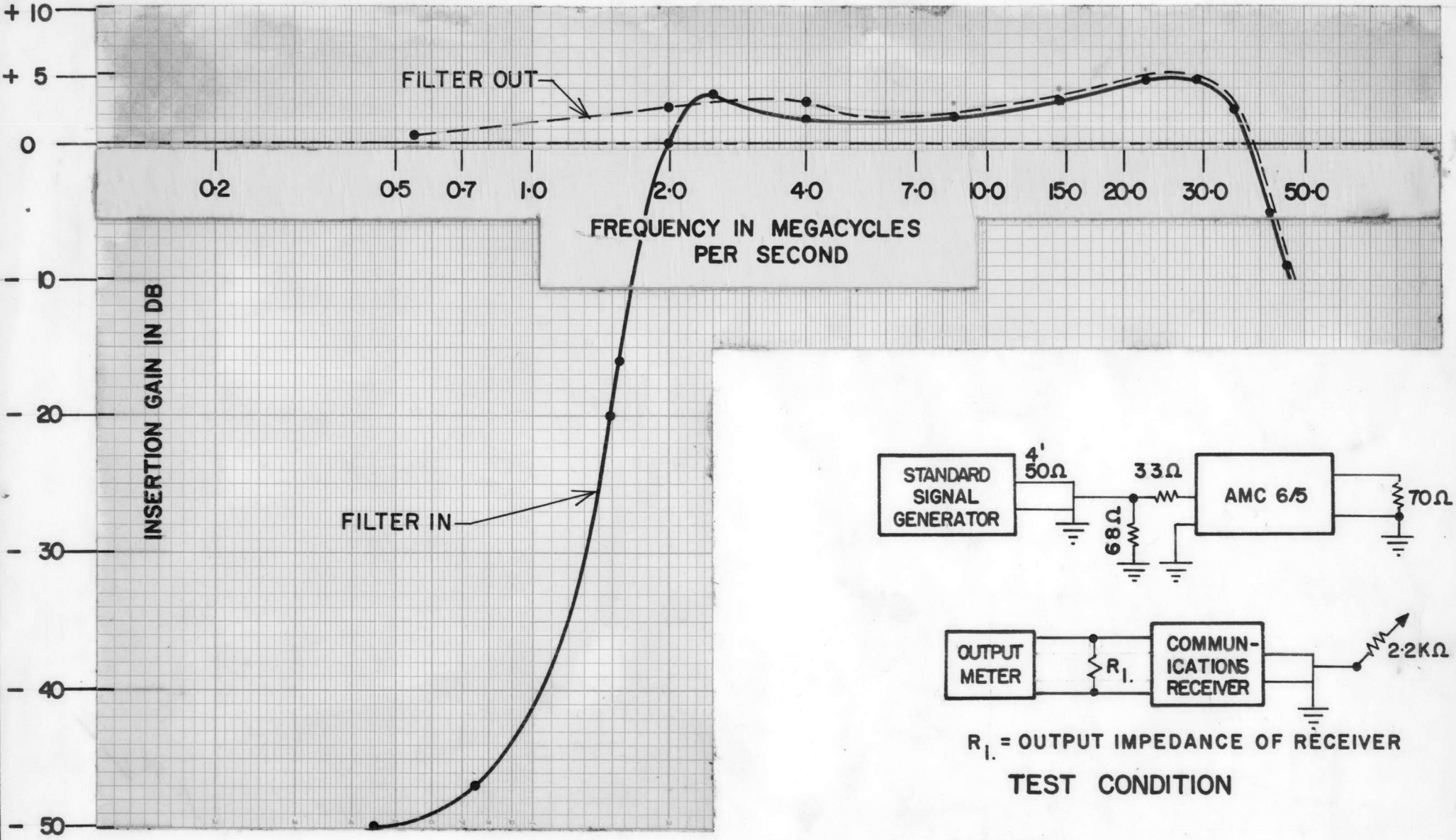
SPURIOUS RESPONSE DB = 20 $\log_{10} \frac{E_1 \text{ or } E_2}{E_3}$

$\frac{E_1 \text{ or } E_2}{E_3}$ = $\frac{\text{AMPLITUDE OF } f_1 \text{ OR } f_2 \text{ AT THE ANTENNA JACK OF THE AMC6-5}}{\text{AN EQUIVALENT VOLTAGE OF FREQUENCIES } (f_1, f_2) \text{ AT THE ANTENNA JACK OF THE AMC6-5 THAT WILL PRODUCE THE SAME OUTPUT AS WHEN } E_1 \text{ AND } E_2 \text{ ARE SIMULTANEOUSLY APPLIED TO THE INPUT}}$



TEST CONDITION

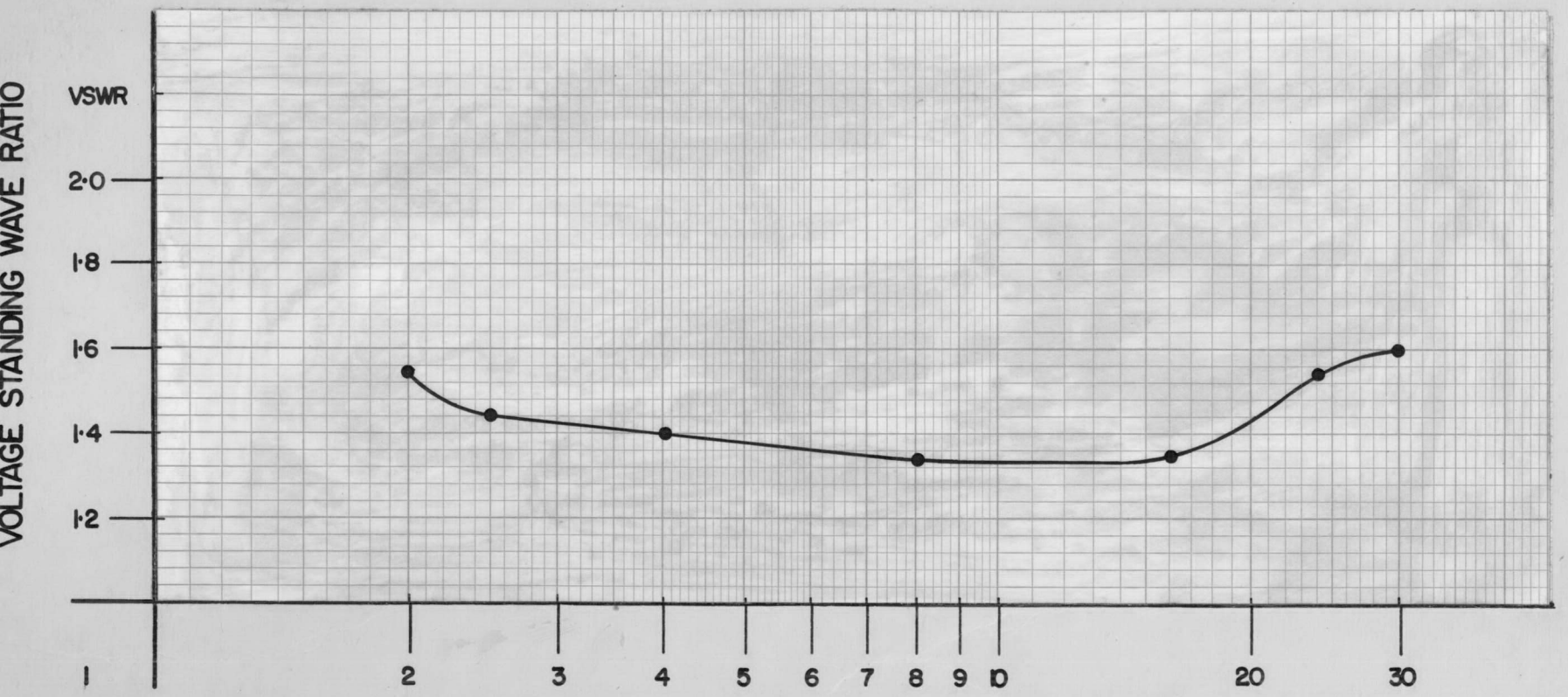




INSERTION GAIN CHARACTERISTICS OF ANTENNA MULTICOUPLER

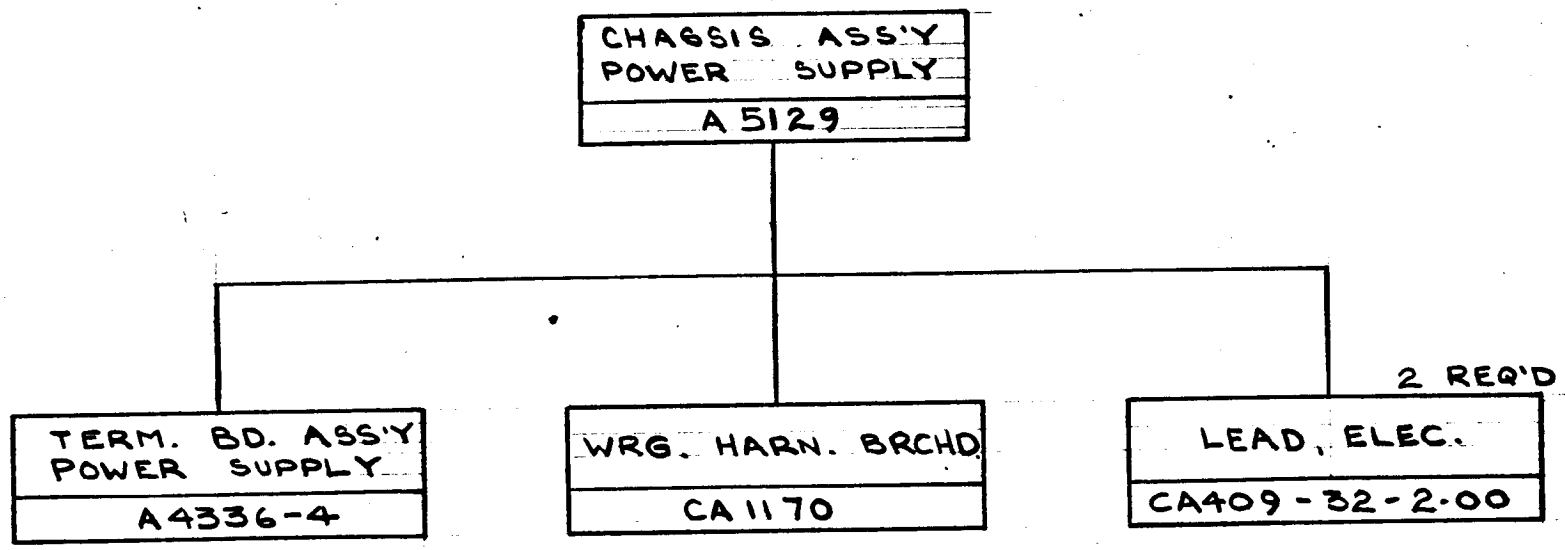
MODEL AMC- 6/5

INPUT CHARACTERISTIC OF THE AMC — 6/5



ISSUE	ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
Ø		ORIGINAL RELEASE FOR ~~PRODUCTION~~	10/31/66	Ø	CV		

REQ.	ITEM	PART NO.	DESCRIPTION	SYMBOL



RASB		A 5131	
RARB	027/66	A 5124	MARCH 21/66
MODEL	PROJECT NO.	ASS'Y. NO.	DATE

USED ON

MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.

TOLERANCES

ALL OTHERS
DEC. DIM. ±
FRAC. DIM. ±
ANGULAR DIM. ±

SCALE

DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

STOCK SIZE

MATERIAL | WEIGHT PER PC.

TYPE & TEMPER

HEAT TREAT. SPEC.

FINISH & SPEC. NO.

TMC (Canada) LIMITED
OTTAWA ONTARIO

CHASSIS ASS'Y POWER SUPPLY

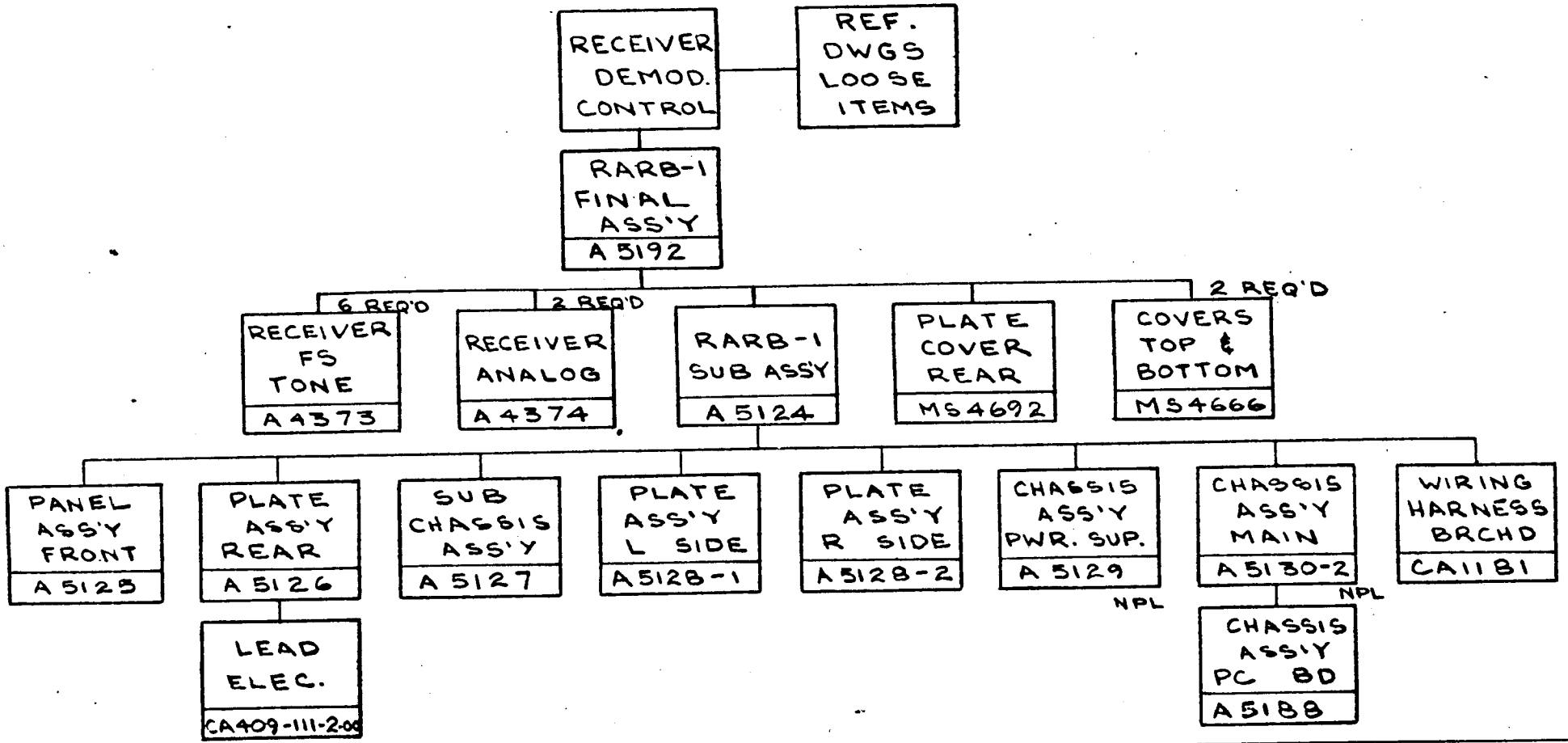
CHART, UNIT BREAKDOWD

DRAWN	ELEC. DES. APP.	MECH. DES. APP.
R PL		
CHECKED	FINAL APPROVAL	
JOHNSTON		

CH10125 Ø

ISSUE	ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
Ø		ORIGINAL RELEASE FOR PRODUCTION	10/31/66	Ø	CV		

REQ.	ITEM	PART NO.	DESCRIPTION	SYMBOL



MODEL	PROJECT NO.	ASS'Y. NO.	DATE
RARB-1	027/66	A 5192	MAR. 21/66

USED ON

MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION REMOVE ALL BURRS AND SHARP EDGES

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.

TOLERANCES

ALL OTHERS
DEC. DIM. ±.
FRAC. DIM. ±
ANGULAR DIM. ±

SCALE

DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

STOCK SIZE

MATERIAL | WEIGHT PER PC.

TYPE & TEMPER

HEAT TREAT. SPEC.

FINISH & SPEC. NO.

TMC (Canada) LIMITED
OTTAWA ONTARIO

RECEIVER, DEMODULATER CONTROL

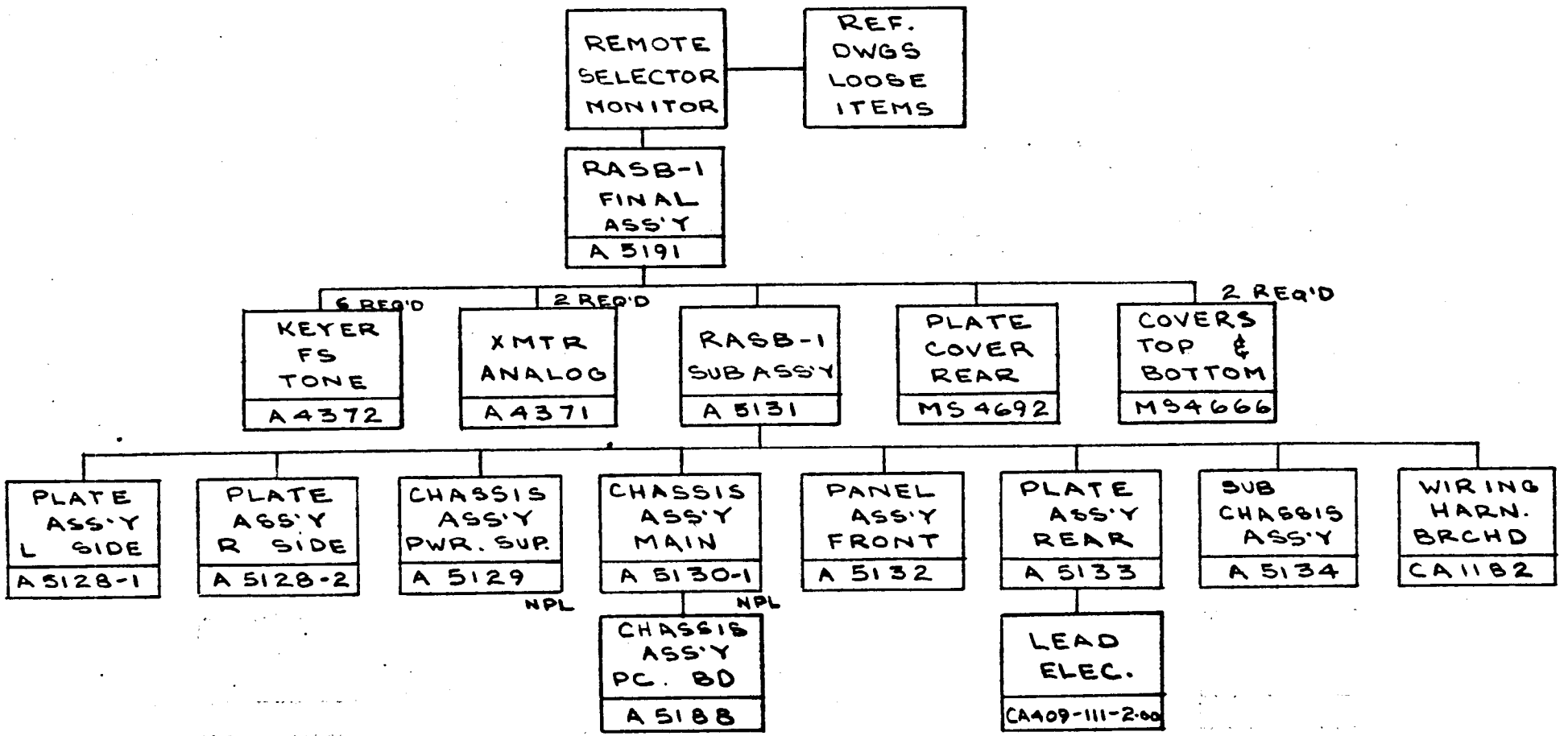
CHART, UNIT BREAKDOWN

DRAWN	ELEC. DES. APP.	MECH. DES. APP.
RPL		
CHECKED	FINAL APPROVAL	
JOHNSTON		

CH 10126 Ø

ISSUE	ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
Ø		ORIGINAL RELEASE FOR PRODUCTION	10/31/66	Ø	CV		

REQ.	ITEM	PART NO.	DESCRIPTION	SYMBOL



RASB-1	027/66	A 5191	MAR. 21/66
MODEL	PROJECT NO.	ASS'Y. NO.	DATE

USED ON

MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION REMOVE ALL BURRS AND SHARP EDGES

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.

TOLERANCES

ALL OTHERS
DEC. DIM. ±
FRAC. DIM. ±
ANGULAR DIM. ±

SCALE

DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

DRILL PUNCH. COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

STOCK SIZE

MATERIAL | WEIGHT PER PC.

TYPE & TEMPER

HEAT TREAT. SPEC.

FINISH & SPEC. NO.

TMC (Canada) LIMITED
OTTAWA ONTARIO

REMOTE SELECTOR/MONITOR

CHART, UNIT BREAKDOWN

RPL		
DRAWN	ELEC. DES. APP.	MECH. DES. APP.
CHECKED	FINAL APPROVAL	
JOHNSTON	CH10127	Ø

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.

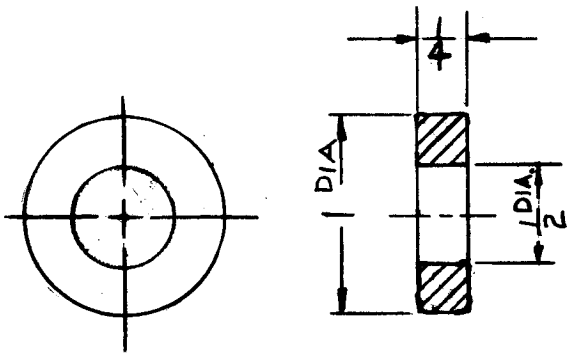
MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

STANDARD DRAWING

CI-10001-E

USED ON			
MODEL	PROJECT NO.	ASS'Y. NO.	DATE
AMC-6-5CE-646.			JUNE 18 1959

T.M.C. NO.	MFRS. NO.	GRADE	COL. CODE
CI-10001-1	TC-3B	3 B	OBSOLETE
CI-10001-2	203F-250-103	103	GREEN
CI-10001-3	203F250-3C	3C	YELLOW



NOTE: CHECK TOLERANCE OF CORE BEFORE WINDING

ISSUE	ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
E	1	CLERICAL CHANGE	9.2.64	+	WB		
D	2	ON CI-10001-1 (CHART) GRADE WAS 4B	2-10-63	8268			
	1	ON CHART, CI-10001-2 MFRS No WAS 203F-250-4B					
C	1	ON CI-10001-2 MFR. NO. WAS 250-103-4B	4-2-62	6566			
B		Compl t ly r vis d and sup rcedes CI-10002					

REQ.	ITEM	PART NO.	DESCRIPTION	SYMBOL

STOCK SIZE

MATERIAL | WEIGHT PER PC.

TYPE & TEMPER

HEAT TREAT. SPEC.

FINISH & SPEC. NO.

TMC (Canada) LIMITED
OTTAWA ONTARIO

CORE TRANSFORMER

DRAWN	ELEC. DES. APP.	MECH. DES. APP.
J.P.C.		M. Kr.

CHECKED	FINAL APPROVAL
WCM	

CH10001 E

TOLERANCES

SCALE 1:1 (S-10045-1)

ALL OTHERS
DEC. DIM. ± 0.015
FRAC. DIM. ±
ANGULAR DIM. ±

DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

FORM — 127

ENGINEERING MODIFICATION NOTICE

DATE. _____ NO. _____

TO ALL DEPARTMENTS CHECKED *APPROVED:* _____

Sales				Production Planning				Metal Shop			
Tech/ Services				Production Control				Stock Room			
Purchasing				Inspection Dept.				Drafting (File Copy)			
Chief Engineer				Test Dept.				Production Director			
Mech. Eng.											

MODIFICATION: MODEL _____ DWG. NO. _____ REV. ___

REASON:

Modification Effective—Date. _____ *Serial No.* _____

MFGR. NO. _____ JOB NO. _____

CH-1005

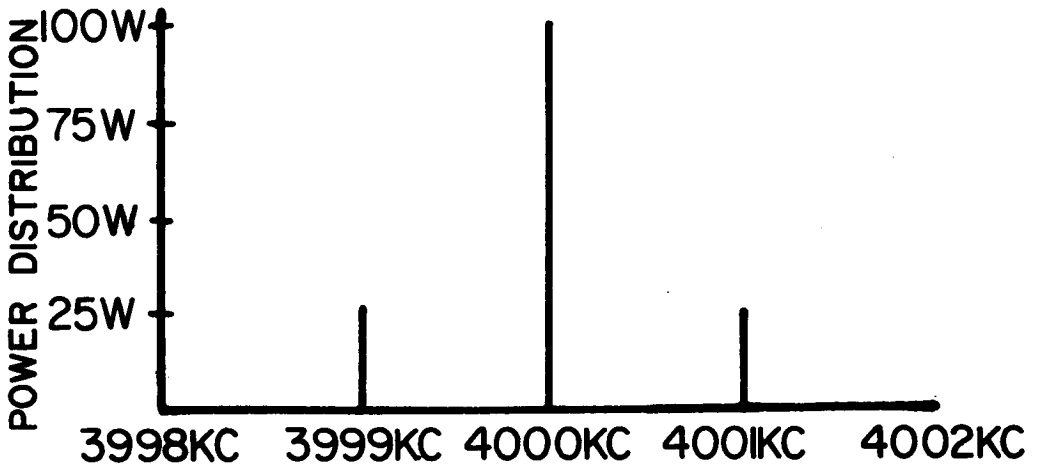
REVISION SHEET TMC (CANADA) LIMITED
OTTAWA ONTARIO

MODEL _ _ _ _ _ _ _ _ _ PROJECT NO. _ _ _ _ _ _ _ _ _

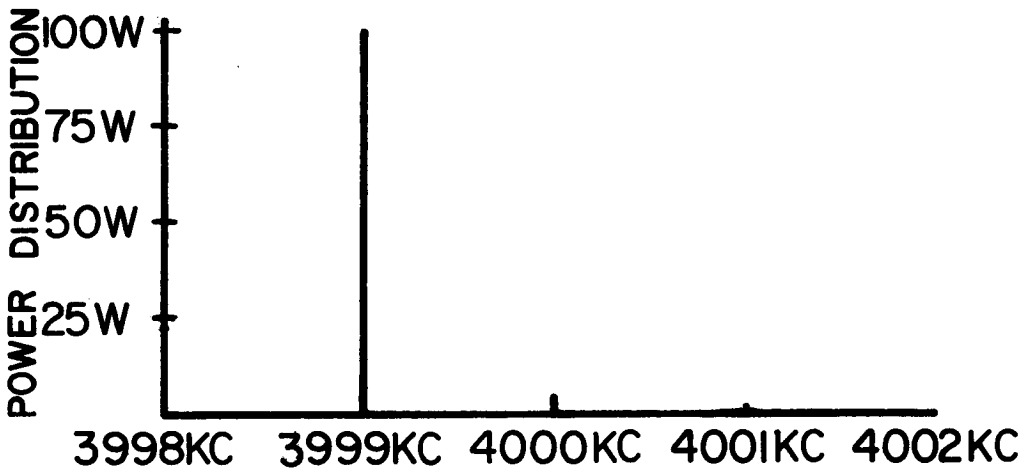
DATE	REV.	PAGE	ITEM	DESCRIPTION	REMARKS	CHK.	APP.

CH10017

b-DSB, 100% MODULATION;



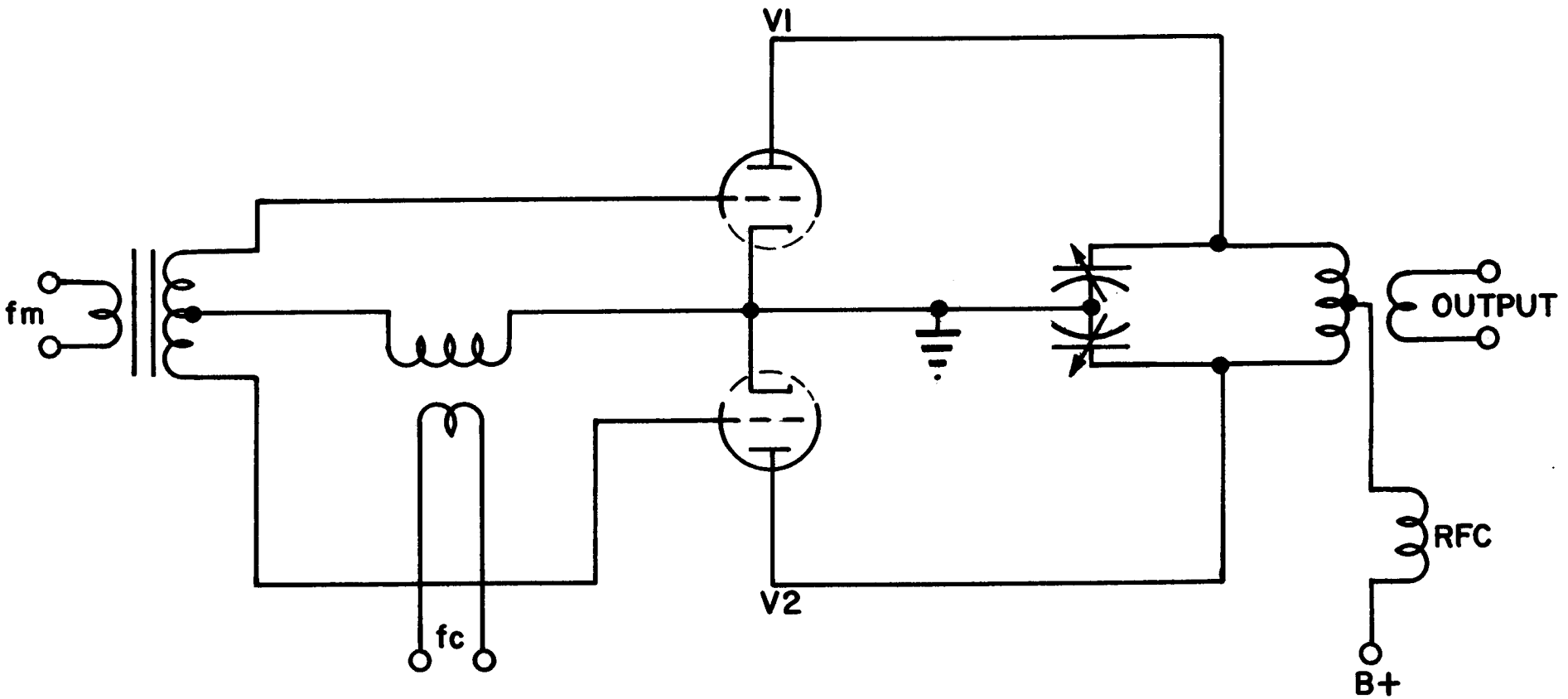
a-AM, 100% MODULATION;



c-SSB RADIATING THE LOWER SIDEBAND

FIG. 1

THE BASIC PUSH-PULL BALANCED MODULATOR CIRCUIT



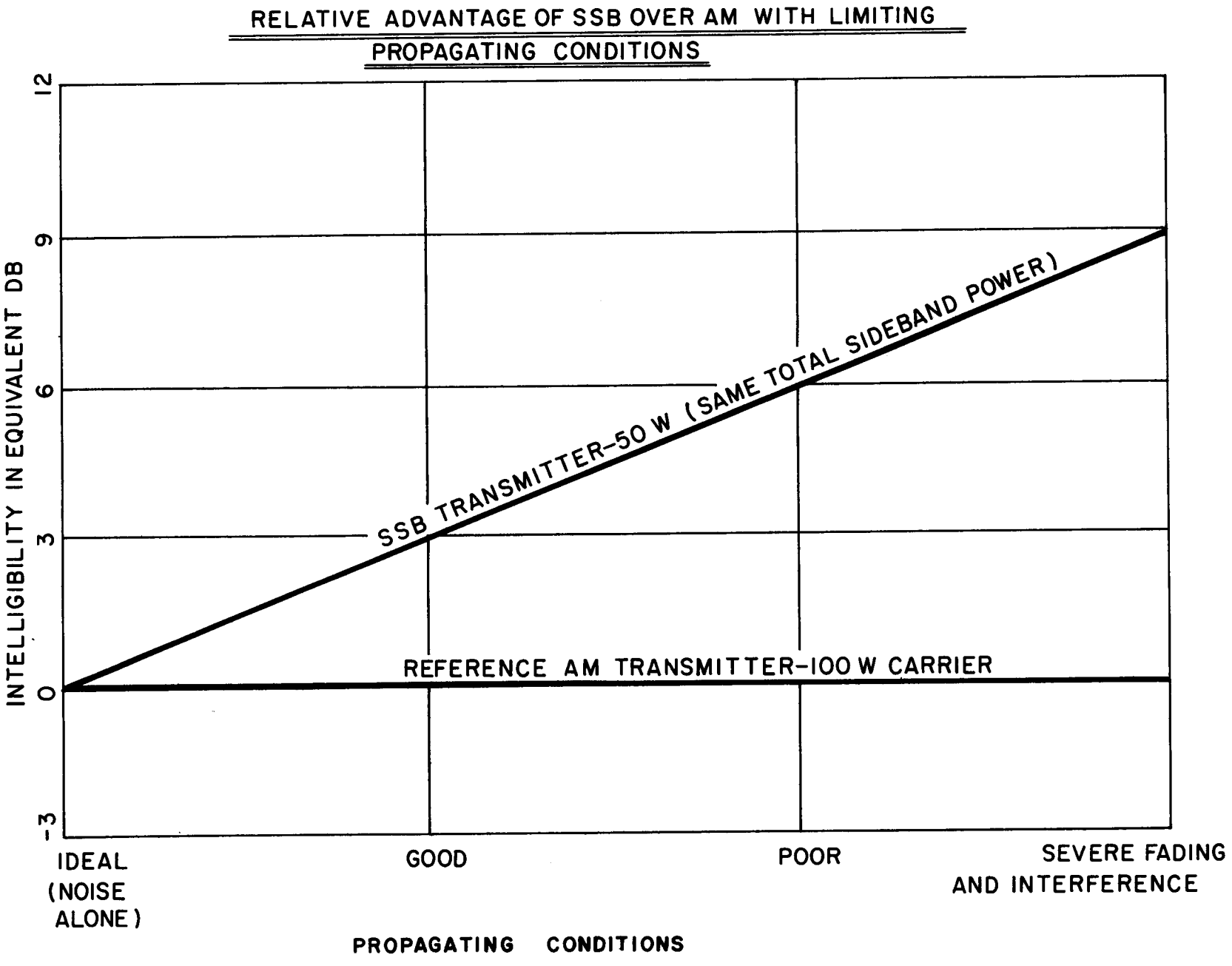
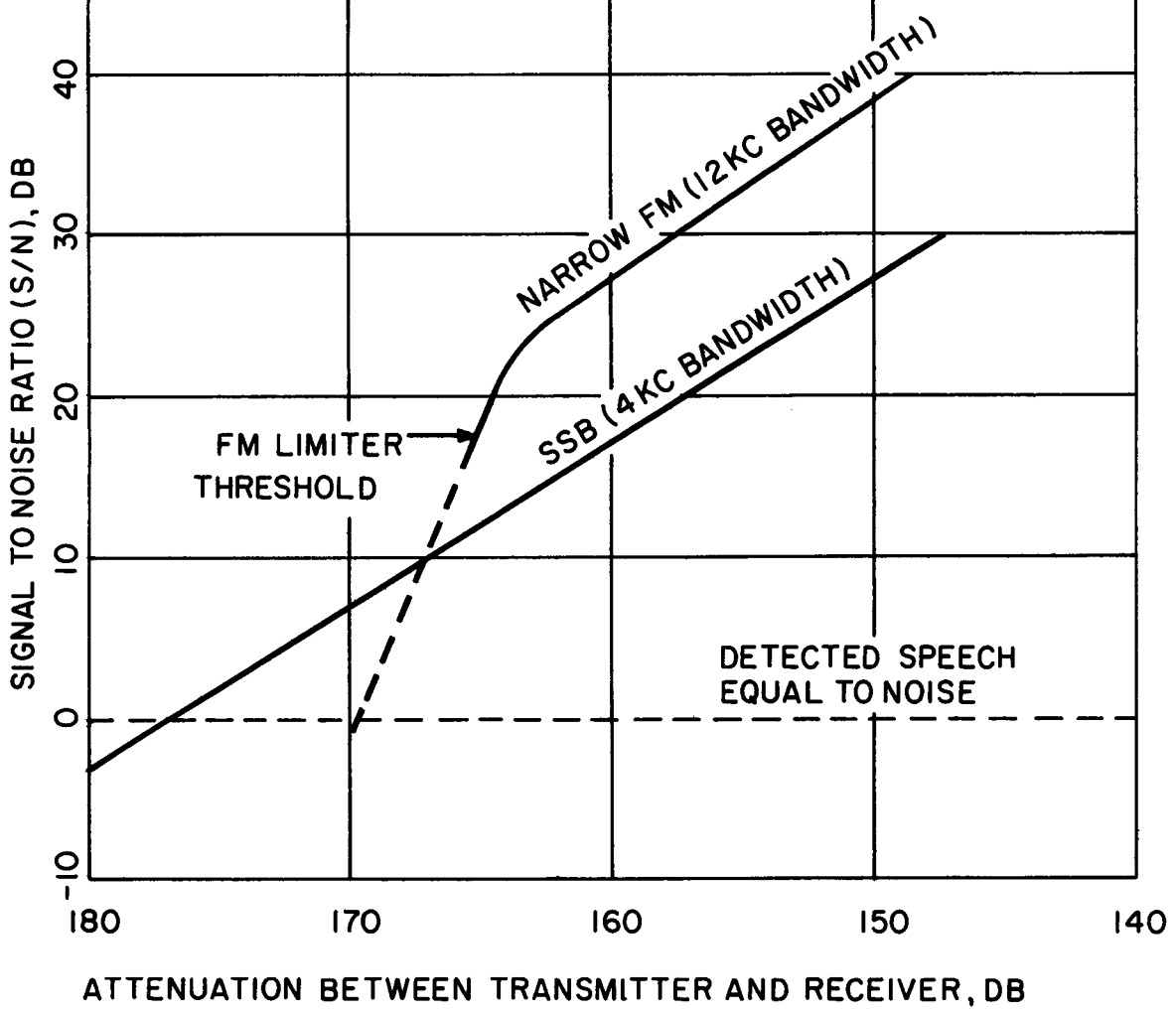
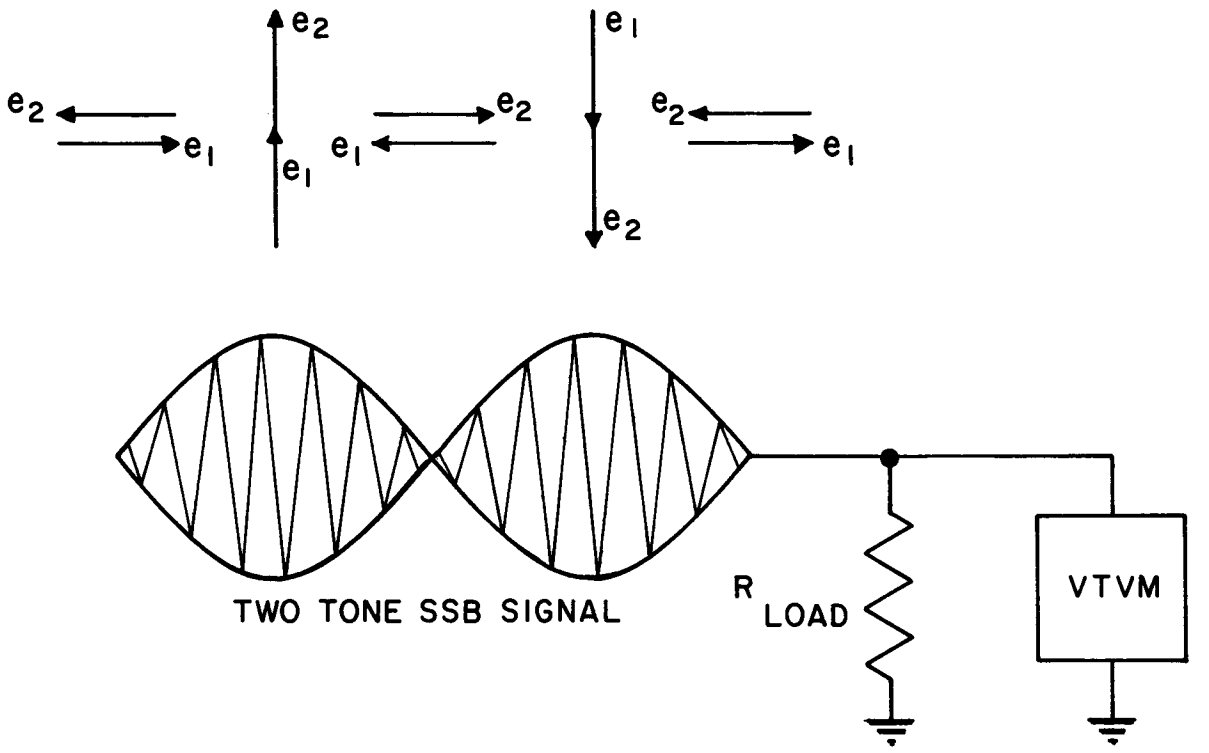

RELATIVE ADVANTAGE OF SSB OVER AM WITH LIMITING PROPAGATING CONDITIONS
INTELLIGIBILITY IN EQUIVALENT DB
12
9
6
3
0
-3
SSB TRANSMITTER-50 W (SAME TOTAL SIDEBAND POWER)
REFERENCE AM TRANSMITTER-100 W CARRIER
IDEAL (NOISE ALONE)
GOOD
POOR
SEVERE FADING AND INTERFERENCE
PROPAGATING CONDITIONS

FIG. 3



SSB PERFORMANCE COMPARED WITH FM

FIGURE 3



$V_{vtvm} = (e_1 + e_2)$,

with e_1 and e_2 in phase and rms values

$PEP = V^2_{vtvm}/R_{load} = 4e_1^2/R$ or $4e_2^2/R$, where $e_1 = e_2$

$P_{average} = e_1^2/R + e_2^2/R = 2e_1^2/R$ or $2e_2^2/R$

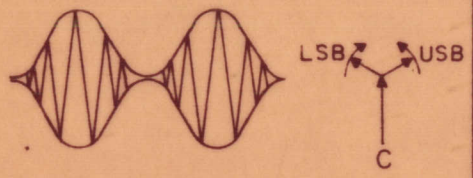
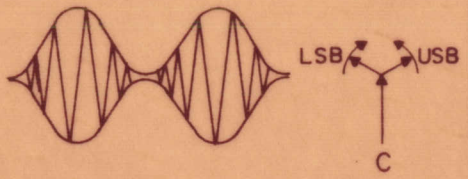
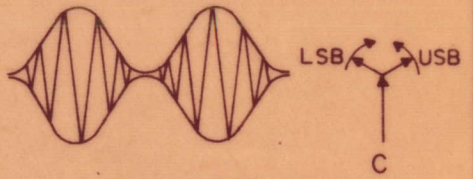
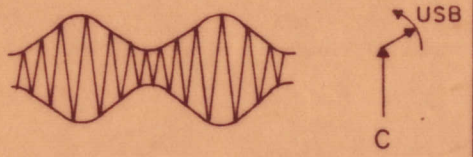
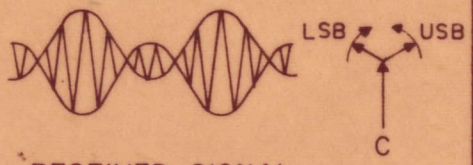
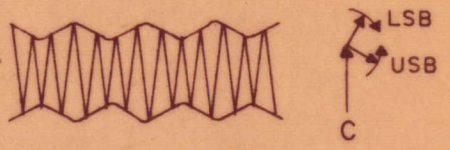
Therefore: (1) $PEP = V^2_{vtvm}/R$

(2) $P_{average} = 1/2\ PEP$

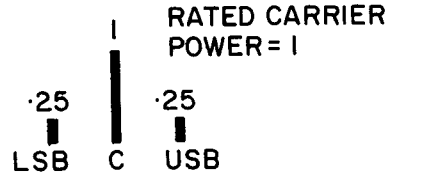
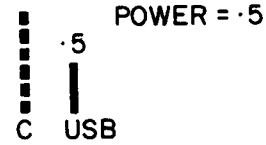
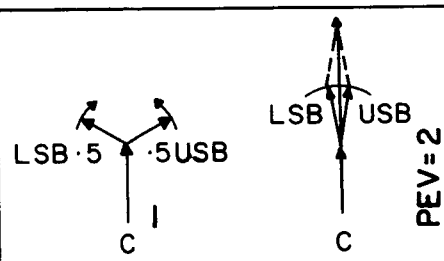
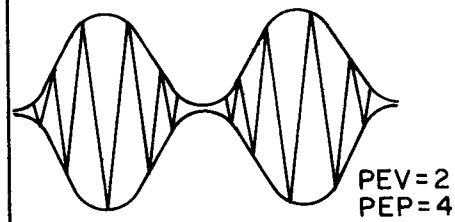
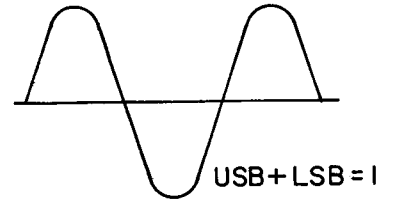
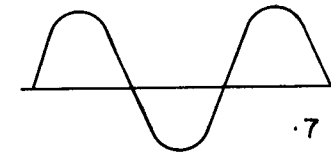
(3) $P_{tone\ 1}$ or $P_{tone\ 2} = 1/4\ PEP$

POWER MEASUREMENTS FROM TWO-TONE SSB TEST SIGNAL

FIG. 6

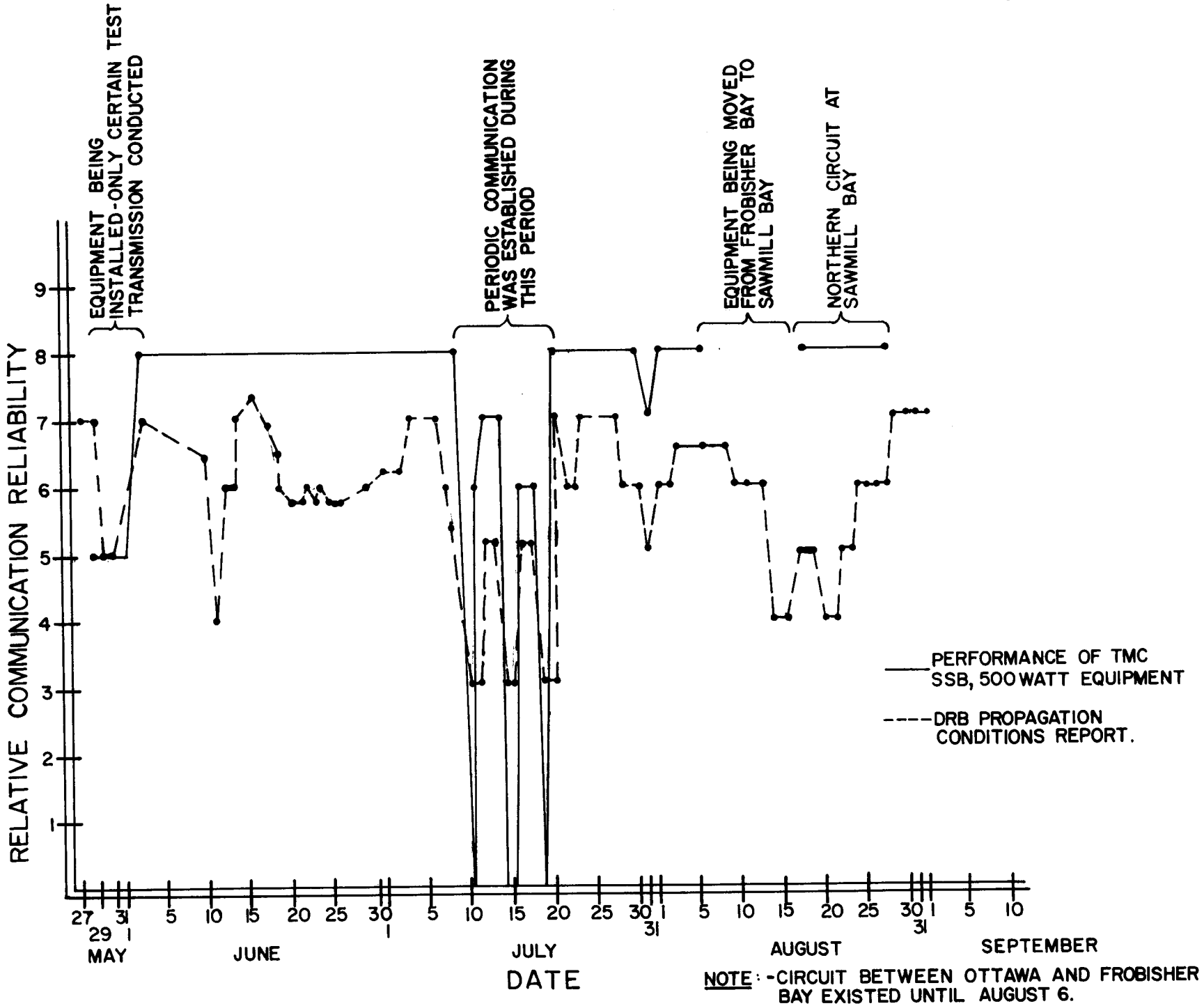
SIDEBAND FADING	CARRIER FADING	CARRIER PHASE SHIFT
 TRANSMITTED SIGNAL	 TRANSMITTED SIGNAL	 TRANSMITTED SIGNAL
 RECEIVED SIGNAL (ONE SIDEBAND LOST)	 RECEIVED SIGNAL (CARRIER REDUCED BY 1/2)	 RECEIVED SIGNAL (CARRIER SHIFTED 90°)
 DEMODULATED SIGNAL	 DEMODULATED SIGNAL	 DEMODULATED SIGNAL

DETERIORATION OF AN AM. SIGNAL WITH SELECTIVE FADING

	AM SINGLE TONE, SINE-WAVE MODULATION	SSB SINGLE TONE, SINE-WAVE MODULATION	
RATED POWER			(a)
VOLTAGE VECTORS 100% MODULATION			(b)
RF ENVELOPE			(c)
RCVR AUDIO SIGNAL VOLTAGE			(d)
NOISE VOLTAGE [ARBITRARY NOISE POWER PER KC OF BW EQUAL IN AM AND SSB; i.e., $(.1)^2/6 = (.07)^2/3$]	VOLTAGE = .1 PER 6 KC BANDWIDTH	VOLTAGE = .07 PER 3 KC BANDWIDTH	(e)
S/N RATIO	$20 \log \frac{1}{.1} = 20$ DB	$20 \log \frac{.7}{.07} = 20$ DB	(f)

SSB AND AM. COMPARISON WITH EQUAL SIGNAL-TO-NOISE RATIO

FIG. 2



NOTE: -CIRCUIT BETWEEN OTTAWA AND FROBISHER BAY EXISTED UNTIL AUGUST 6.

-CIRCUIT BETWEEN OTTAWA AND SAWMILL BAY ESTABLISHED AUGUST 17 AND CARRIED ON TILL AUGUST 27.

RELATIVE RELIABILITY OF SSB COMMUNICATION IN NORTHERN CANADA

REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

TMC (Canada) LIMITED OTTAWA, ONTARIO

BILL OF MATERIAL	MODEL PAL-350	PROJ. NO.	LIST NO. CH-10040
	ISSUE		SHEET 1 OF 5 SHEETS

PART INDEX TMCNY DWG. NO.	QUANTITY PER ONE UNIT	CANADIAN DWG. NO.	DESCRIPTION	REMARKS COMPLETED	DATE
		SECTION 1 RFA-1			
CL-100-5		CL-100-5	COIL: RF, 750 uh	standard dwg.	
HI-105		HI-10001	HINGE:		
MS-202-4-7.00		MS-10393-1-7.00	LEAD: connecting, 7/16 x 7		
MS-202-5-1.37		MS-10393-2-1.37	LEAD: connecting, 7/16 x 1-3/8		
MS-202-5-2.00		MS-10393-2-2.00	LEAD: connecting, 7/16 x 2		
MS-202-5-2.37		MS-10393-2-2.37	LEAD: connecting, 7/16 x 2-3/8		
MS-202-5-2.56		MS-10393-2-2.56	LEAD: connecting, 7/16 x 2-9/16		
MS-202-5-4.50		MS-10393-2-4.50	LEAD: connecting, 7/16 x 4½		
MS-203-1-2.00		MS-10394-1-2.00	LEAD: connecting, 1/4 x 2		
MS-203-2-1.87		MS-10394-2-1.87	LEAD: connecting, 1/4 x 1-7/8		
MS-203-1-0.62		MS-10394-1-0.62	LEAD: connecting, 1/4 x 5/8		
MS-973-1B4.00		MS-10395-1A4.00	BLANK SIZE: perforated		
MS-973-1B8.87		MS-10395-1A8.87	BLANK SIZE: perforated		
MS-1201		MS-10396	FRONT PANEL:		
MS-1234		MS-10397	CHASSIS: driver		
MS-1235		MS-10398	CHASSIS: pi network		
MS-1236		MS-10399	CHASSIS: filament trans.		
MS-1237		MS-10400	CHASSIS: RF section		
MS-1238		MS-10401	WRAPAROUND:		
MS-1239		MS-10402	BRACKET: side, driver chas.		
MS-1240		MS-10403	BRACKET: capacitor mtg. for C276		
MS-1242		MS-10404	BRACKET: trimmer mounting		
MS-1243		MS-10405	BRACKET: transf. mtg. PA bandswitch		
MS-1244		MS-10406	BRACKET: connector mtg. for J201		
MS-1245		MS-10407	BRACKET: switch mounting for S201A		
MS-1246		MS-10408	BRACKET: terminal strip mounting		

APPLICABLE SPECIFICATIONS, LAST PAGE | CHECKED | APPROVED

FORM 131

REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

TMC (Canada) LIMITED OTTAWA, ONTARIO

~~BILL OF MATERIAL~~ | MODEL PAL-350 | PROJ. NO. | LIST NO. CH-10040 | SHEET 2 OF 5 SHEETS | ISSUE

~~PART NO.~~ TMCNY DWG. NO.	~~XXXX XXXX XXXX XXXX~~	CANADIAN DWG. NO.	DESCRIPTION	COMPLETED	REMARKS	DATE
MS-1247		MS-10409	BASE: transf. mtg. PA bandswitch			
MS-1248		MS-10410	COVER: air filter			
MS-1249		MS-10411	COVER: RF section			
MS-1250		MS-10412	COVER: top			
MS-1251		MS-10413	COVER: bottom			
MS-1253		MS-10414	PLATE: driver tube mtg.			
MS-1254		MS-10415	PLATE: air baffle			
MS-1255		MS-10416	SHIELD: capacitor			
MS-1256		MS-10417	SHIELD: fil. transformer			
MS-1257		MS-10418	SHIELD: side, fil. transf.			
MS-1258		MS-10419	SPACER: capacitor			
MS-1259		MS-10420	VENT: left side, wraparound			
MS-1260		MS-10421	VENT: right side, "			
MS-1261		MS-10422	BRACKET: PA coil			
MS-1262		MS-10423	BRACKET: neutralizing capacitor mtg.			
MS-1264		MS-10424	PLATE: capacitor mounting			
MS-1265		MS-10425	PLATE: connector locking			
MS-1269		MS-10426	COVER: driver chassis			
MS-1270		MS-10427	PLATE: tube clamp mtg.			
MS-1272		MS-10428	PLATE: fixed, neutralizing capacitor			
MS-1274-1		MS-10429-1	STRAP: screen retaining, 3-7/16" lg.			
MS-1274-2		MS-10429-2	STRAP: screen retaining, 6-1/4" lg.			
MS-1290		MS-10430	BLANK SIZE: top cover			
MS-1314		MS-10431	BRACKET: coil mtg., CL-137 (L212)			
NP-102-20		NP-10052	NAMEPLATE: ident. comm.			
NP-102-21		NP-10053	NAMEPLATE: ident. comm.			
PM-459-7.25BC		PM-10075-7.25BN	SHAFT: ¼" dia.			
PM-489		PM-10069	BAR NUT: connector mtg.			
PM-491		PM-10070	BUSHING: transformer			
PM-492		PM-10071	ROTOR: neut. capacitor			
PM-493		PM-10072	STOP: capacitor			

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FORM 131

REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

TMC (Canada) LIMITED OTTAWA, ONTARIO

~~BILL OF MATERIAL~~

MODEL PAL-350 | PROJ. NO. | LIST NO. CH-10040

ISSUE | SHEET 3 OF 5 SHEETS

~~PART~~ TMCNY DWG. NO.	~~QUAN PER ONE EQUIP~~	CANADIAN DWG. NO.	DESCRIPTION	REMARKS COMPLETED	DATE
PX-408		PX-10004	BASE: capacitor mtg.		
PX-409		PX-10005	PLATE: PA bandswitch		
PX-410		PX-10006	POINTER: knob, vernier dr.		
SN-101		SN-10003	SCREEN: top cover		
TU-101		TU-10001	SHIELD: main cable		
A-1615		A-10254	RF COIL ASSEMBLY: fixed, 1.1 uh (prod. dwg.)		
A-1045		A-10255	COIL: RF, 128 uh		
A-1076		A-10256	COIL: RF 26 uh		
A-1126		A-10257	COIL: RF, 185 uh		
A-1453		A-10258	SUPPRESSOR: parasitic		
A-1543-2		A-10259-1	SUPPRESSOR: parasitic		
A-1546-1		A-10260-1	SUPPRESSOR: parasitic		
A-1538		A-10261	AIR FILTER cover assembly		
A-1545		A-10262	TERMINAL BOARD: all stages		
A-1614-1		A-10263-1	COIL ASSEMBLY: RF, tuned 2-4 MC		
A-1614-2		A-10263-2	COIL ASSEMBLY: RF, tuned, 4-8 MC		
A-1614-3		A-10263-3	COIL ASSEMBLY: RF, tuned, 8-16 MC		
A-1619-1		A-10264-1	COIL ASSEMBLY: RF, fixed, 4.5 uh		
A-1619-2		A-10264-2	COIL ASSEMBLY: RF, fixed, 8.5 uh		
CA-378		CA-10109	CABLE ASSEMBLY: main		
CA-379-1		CA-10110-1	CABLE ASSEMBLY: RF, C214 to C209		
CA-379-2		CA-10110-2	CABLE ASSEMBLY: RF, C216 to C220		
CA-379-3		CA-10110-3	CABLE ASSEMBLY: RF, C276 to J205		
CA-380		CA-10111	CABLE ASSEMBLY: RF, C215 to C233		
CA-381		CA-10112	CABLE ASSEMBLY: RF, blower power, E201 to T210		
CA-383		CA-10113	CABLE ASSEMBLY:		

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FORM 131

REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

TMC (Canada) LIMITED OTTAWA, ONTARIO

MODEL	PAL-350	PROJ. NO.		LIST NO.	CH-10040
ISSUE				SHEET	4 OF 5 SHEETS

TMCNY DWG. NO.	QUANTITY PER ONE	CANADIAN DWG. NO.	DESCRIPTION	REMARKS COMPLETED	DATE
CK-359		CK-10359	SCHEMATIC DIAGRAM:		
CL-134-1		CL-10010-1	COIL: RF, 4.5 uh (cust.dwg		
CL-134-2		CL-10010-2	COIL: RF, 8.5 uh (cust.dwg		
CL-136		CL-10011	COIL: RF, tuned, 16-32 MC		
CL-137		CL-10012	COIL: RF, PA plate, 50 uh		
CL-138		CL-10013	COIL: RF, PA output, 50 uh		
CL-139		CL-10014	COIL: RF, 1.1 uh,(cust.dwg		
LD-386		LD-10089	ENGRAVING: front panel		
LD-407		LD-10090	LETTERING: wraparound		
LD-419		LD-10091	LETTERING: driver chassis		
LD-420		LD-10092	LETTERING: pi net. chassis		
LD-421		LD-10093	LETTERING: fil. trans.chas		
LD-422		LD-10094	LETTERING: RF chassis		
LD-423		LD-10095	LETTERING: driver chassis side bracket		
LD-424		LD-10096	LETTERING: switch mtg. bracket		
LD-425		LD-10097	LETTERING: terminal strip bracket		
LD-426		LD-10098	LETTERING: top cover		
LD-427		LD-10099	LETTERING: driver tube mtg. plate		
LD-428		LD-10100	LETTERING: cap. shield		
LD-429		LD-10101	LETTERING: filament transf shield		
LD-430		LD-10102	LETTERING: filament transf side shield		
LD-431		LD-10103	LETTERING: cap. mtg. plate		
TF-185		TF-10018	TRANSFORMER: RF, tuned, 16-32 MC		
TF-187		TF-10019	TRANSFORMER: RF, fixed,		
TF-188		TF-10020	TRANSFORMER: RF, fixed, 16-32 MC		

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REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

TMC (Canada) LIMITED OTTAWA, ONTARIO

BILL OF MATERIALS | MODEL PAL-350 | PROJ. NO. | LIST NO. ML-10040 | ISSUE | SHEET 5 OF 5 SHEETS

PART NO. TMCNY DWG. NO.	QUANTITY	CANADIAN DWG. NO.	DESCRIPTION	REMARKS COMPLETED	DATE
CL-149		CL-10015 CL-10020	COIL: RF, tuned, 2-4 MC (Cust. dwg.)		
CL-150		CL-10016 CL-10021	COIL: RF, tuned, 4-8 MC (Cust. dwg.)		
CL-151		CL-10017 CL-10022	COIL: RF, tuned, 8-16 MC (Cust. dwg.)		

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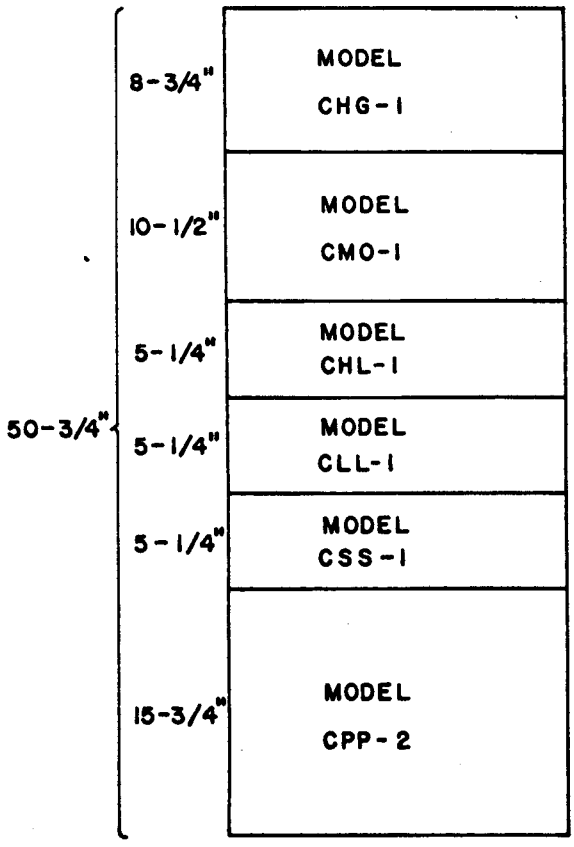
FORM 131



PHASED LOCKED OSCILLATOR
CONVERTS BASIC 2-4 MC OUT TO 32 MC.

BASIC CONTROLLED OSCILLATOR(PMO TYPE)
2-4 MC

COMBINED H/F LOOP (DIVIDER CHAIN) & COMPARITOR — 500 KC, 100 KC, 10 KC, 1 KC

L/F LOOP — 100 ~

FREQUENCY STANDARD
1 MC - 10^8

POWER SUPPLY

NOTE 1. MODEL CSS-1 CAN BE INSTALLED EXTERNAL TO THE SYSTEM.

2. MODEL CPP-2 CAN BE INSTALLED SEPERATELY.

3. WITH 1 & 2 ABOVE INSTALLED SEPERATELY THE RACK SPACE REQUIREMENTS ARE REDUCED TO 29-3/4".

LAYOUT DIAGRAM FOR CONTROLLED PRECISION OSCILLATOR.
MODEL CPO-1..

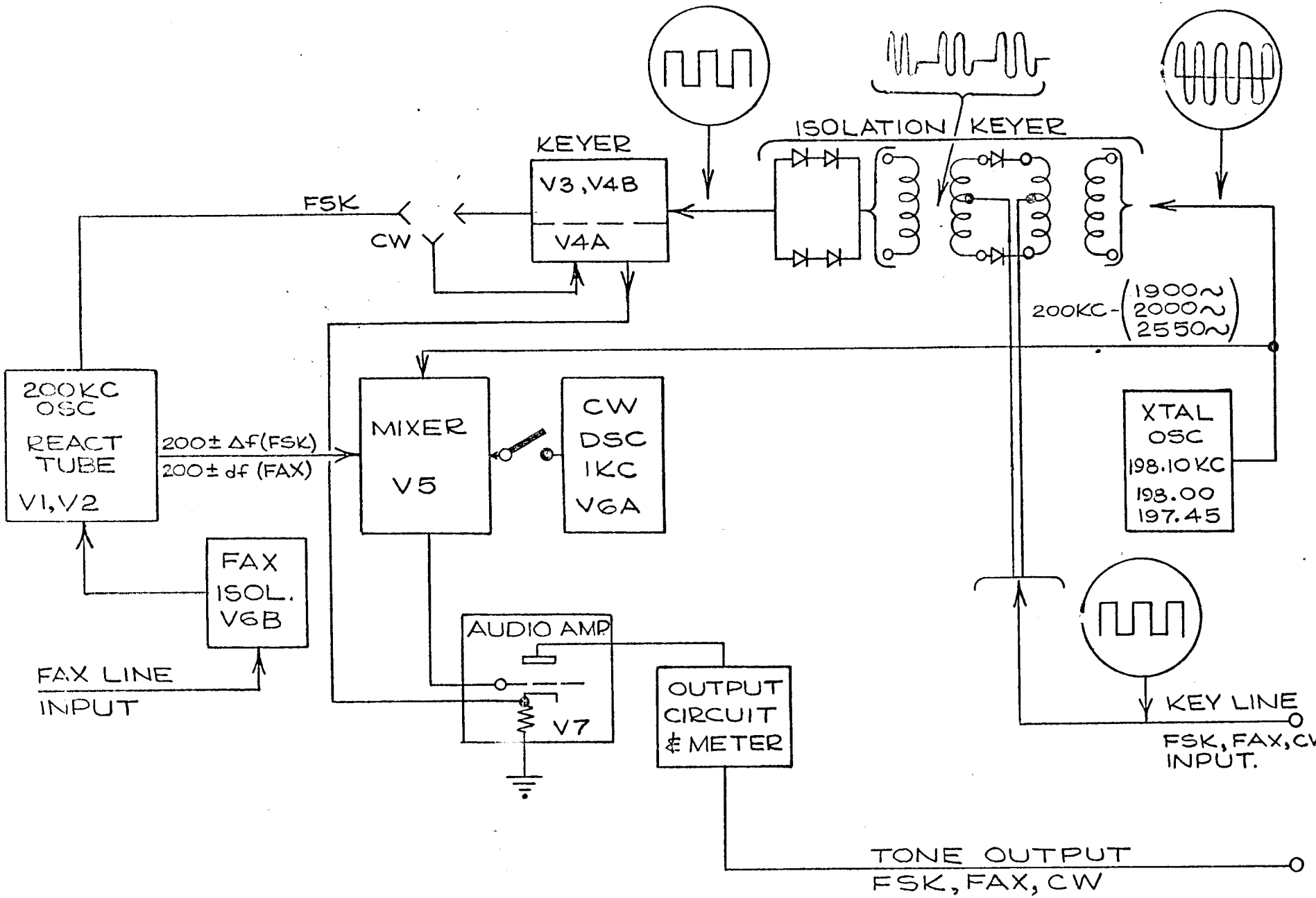


FIGURE III-4-1 FUNCTIONAL BLOCK DIAGRAM OF TONE INTELLIGENCE SYST. MODEL TIS-3, A COMPONENT OF SBG-1

CH10058

REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

TMC (Canada) LIMITED OTTAWA, ONTARIO

MODEL PAL-350 | PROJ. NO. | LIST NO. CH-10040 | SHEET 1 OF 5 SHEETS

ISSUE

PART NO. TMCNY DWG. NO.	[illegible]	CANADIAN DWG. NO.	DESCRIPTION	REMARKS COMPLETED	DATE
		SECTION 1 RFA-1			
CL-100-5		CL-100-5	COIL: RF, 750 uh	standard dwg.	
HI-105		HI-10001	HINGE:		
MS-202-4-7.00		MS-10393-1-7.00	LEAD: connecting, 7/16 x 7		
MS-202-5-1.37		MS-10393-2-1.37	LEAD: connecting, 7/16 x 1-3/8		
MS-202-5-2.00		MS-10393-2-2.00	LEAD: connecting, 7/16 x 2		
MS-202-5-2.37		MS-10393-2-2.37	LEAD: connecting, 7/16 x 2-3/8		
MS-202-5-2.56		MS-10393-2-2.56	LEAD: connecting, 7/16 x 2-9/16		
MS-202-5-4.50		MS-10393-2-4.50	LEAD: connecting, 7/16 x 4½		
MS-203-1-2.00		MS-10394-1-2.00	LEAD: connecting, 1/4 x 2		
MS-203-2-1.87		MS-10394-2-1.87	LEAD: connecting, 1/4 x 1-7/8		
MS-203-1-0.62		MS-10394-1-0.62	LEAD: connecting, 1/4 x 5/8		
MS-973-1B4.00		MS-10395-1A4.00	BLANK SIZE: perforated		
MS-973-1B8.87		MS-10395-1A8.87	BLANK SIZE: perforated		
MS-1201		MS-10396	FRONT PANEL:		
MS-1234		MS-10397	CHASSIS: driver		
MS-1235		MS-10398	CHASSIS: pi network		
MS-1236		MS-10399	CHASSIS: filament trans.		
MS-1237		MS-10400	CHASSIS: RF section		
MS-1238		MS-10401	WRAPAROUND:		
MS-1239		MS-10402	BRACKET: side, driver chas.		
MS-1240		MS-10403	BRACKET: capacitor mtg. for C276		
MS-1242		MS-10404	BRACKET: trimmer mounting		
MS-1243		MS-10405	BRACKET: transf. mtg. PA bandswitch		
MS-1244		MS-10406	BRACKET: connector mtg. for J201		
MS-1245		MS-10407	BRACKET: switch mounting for S201A		
MS-1246		MS-10408	BRACKET: terminal strip mounting		

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REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

TMC (Canada) LIMITED OTTAWA, ONTARIO

MODEL PAL-350 | PROJ. NO. | LIST NO. CH-10040 | SHEET 2 OF 5 SHEETS

ISSUE

PART NO. TMCNY DWG. NO.		CANADIAN DWG. NO.	DESCRIPTION	COMPLETED	REMARKS DATE
MS-1247		MS-10409	BASE: transf. mtg. PA bandswitch		
MS-1248		MS-10410	COVER: air filter		
MS-1249		MS-10411	COVER: RF section		
MS-1250		MS-10412	COVER: top		
MS-1251		MS-10413	COVER: bottom		
MS-1253		MS-10414	PLATE: driver tube mtg.		
MS-1254		MS-10415	PLATE: air baffle		
MS-1255		MS-10416	SHIELD: capacitor		
MS-1256		MS-10417	SHIELD: fil. transformer		
MS-1257		MS-10418	SHIELD: side, fil. transf.		
MS-1258		MS-10419	SPACER: capacitor		
MS-1259		MS-10420	VENT: left side, wraparound		
MS-1260		MS-10421	VENT: right side, "		
MS-1261		MS-10422	BRACKET: PA coil		
MS-1262		MS-10423	BRACKET: neutralizing capacitor mtg.		
MS-1264		MS-10424	PLATE: capacitor mounting		
MS-1265		MS-10425	PLATE: connector locking		
MS-1269		MS-10426	COVER: driver chassis		
MS-1270		MS-10427	PLATE: tube clamp mtg.		
MS-1272		MS-10428	PLATE: fixed, neutralizing capacitor		
MS-1274-1		MS-10429-1	STRAP: screen retaining, 3-7/16" lg.		
MS-1274-2		MS-10429-2	STRAP: screen retaining, 6-1/4" lg.		
MS-1290		MS-10430	BLANK SIZE: top cover		
MS-1314		MS-10431	BRACKET: coil mtg., CL-137 (L212)		
NP-102-20		NP-10052	NAMEPLATE: ident. comm.		
NP-102-21		NP-10053	NAMEPLATE: ident. comm.		
PM-459-7.25BC		PM-10075-7.25BN	SHAFT: ¼" dia.		
PM-489		PM-10069	BAR NUT: connector mtg.		
PM-491		PM-10070	BUSHING: transformer		
PM-492		PM-10071	ROTOR: neut. capacitor		
PM-493		PM-10072	STOP: capacitor		

APPLICABLE SPECIFICATIONS, LAST PAGE | CHECKED | APPROVED

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REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

TMC (Canada) LIMITED OTTAWA, ONTARIO

~~BILL OF MATERIAL~~ | MODEL PAL-350 | PROJ. NO. | LIST NO. CH-10040 | ISSUE | SHEET 3 OF 5 SHEETS

~~PART~~ TMCNY DWG. NO.	~~DESCRIPTION~~ EQUIP	CANADIAN DWG. NO.	DESCRIPTION	REMARKS COMPLETED	DATE
PX-408		PX-10004	BASE: capacitor mtg.		
PX-409		PX-10005	PLATE: PA bandswitch		
PX-410		PX-10006	POINTER: knob, vernier dr.		
SN-101		SN-10003	SCREEN: top cover		
TU-101		TU-10001	SHIELD: main cable		
A-1615		A-10254	RF COIL ASSEMBLY: fixed, 1.1 uh (prod. dwg.)		
A-1045		A-10255	COIL: RF, 128 uh		
A-1076		A-10256	COIL: RF 26 uh		
A-1126		A-10257	COIL: RF, 185 uh		
A-1453		A-10258	SUPPRESSOR: parasitic		
A-1543-2		A-10259-1	SUPPRESSOR: parasitic		
A-1546-1		A-10260-1	SUPPRESSOR: parasitic		
A-1538		A-10261	AIR FILTER cover assembly		
A-1545		A-10262	TERMINAL BOARD: all stages		
A-1614-1		A-10263-1	COIL ASSEMBLY: RF, tuned 2-4 MC		
A-1614-2		A-10263-2	COIL ASSEMBLY: RF, tuned, 4-8 MC		
A-1614-3		A-10263-3	COIL ASSEMBLY: RF, tuned, 8-16 MC		
A-1619-1		A-10264-1	COIL ASSEMBLY: RF, fixed, 4.5 uh		
A-1619-2		A-10264-2	COIL ASSEMBLY: RF, fixed, 8.5 uh		
CA-376		CA-10109	CABLE ASSEMBLY: main		
CA-379-1		CA-10110-1	CABLE ASSEMBLY: RF, C214 to C209		
CA-379-2		CA-10110-2	CABLE ASSEMBLY: RF, C216 to C220		
CA-379-3		CA-10110-3	CABLE ASSEMBLY: RF, C276 to J205		
CA-380		CA-10111	CABLE ASSEMBLY: RF, C215 to C233		
CA-381		CA-10112	CABLE ASSEMBLY: RF, blower power, E201 to T210		
CA-383		CA-10113	CABLE ASSEMBLY:		

APPLICABLE SPECIFICATIONS, LAST PAGE | CHECKED | APPROVED

FORM 131

REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

TMC (Canada) LIMITED OTTAWA, ONTARIO

MODEL PAL-350 | PROJ. NO. | LIST NO. CH-10040 | SHEET 4 OF 5 SHEETS

TMCNY DWG. NO.		CANADIAN DWG. NO.	DESCRIPTION	REMARKS COMPLETED	DATE
CK-359		CK-10359	SCHEMATIC DIAGRAM:		
CL-134-1		CL-10010-1	COIL: RF, 4.5 uh (cust.dwg		
CL-134-2		CL-10010-2	COIL: RF, 8.5 uh (cust.dwg		
CL-136		CL-10011	COIL: RF, tuned, 16-32 MC		
CL-137		CL-10012	COIL: RF, PA plate, 50 uh		
CL-138		CL-10013	COIL: RF, PA output, 50 uh		
CL-139		CL-10014	COIL: RF, 1.1 uh,(cust.dwg		
LD-386		LD-10089	ENGRAVING: front panel		
LD-407		LD-10090	LETTERING: wraparound		
LD-419		LD-10091	LETTERING: driver chassis		
LD-420		LD-10092	LETTERING: pi net. chassis		
LD-421		LD-10093	LETTERING: fil. trans.chas		
LD-422		LD-10094	LETTERING: RF chassis		
LD-423		LD-10095	LETTERING: driver chassis side bracket		
LD-424		LD-10096	LETTERING: switch mtg. bracket		
LD-425		LD-10097	LETTERING: terminal strip bracket		
LD-426		LD-10098	LETTERING: top cover		
LD-427		LD-10099	LETTERING: driver tube mtg. plate		
LD-428		LD-10100	LETTERING: cap. shield		
LD-429		LD-10101	LETTERING: filament transf shield		
LD-430		LD-10102	LETTERING: filament transf side shield		
LD-431		LD-10103	LETTERING: cap. mtg. plate		
TF-185		TF-10018	TRANSFORMER: RF, tuned, 16-32 MC		
TF-187		TF-10019	TRANSFORMER: RF, fixed,		
TF-188		TF-10020	TRANSFORMER: RF, fixed, 16-32 MC		

APPLICABLE SPECIFICATIONS, LAST PAGE | CHECKED | APPROVED

FORM 131

REVISION OF TMCNY DRAWINGS TO TMC (Canada) DRAWINGS

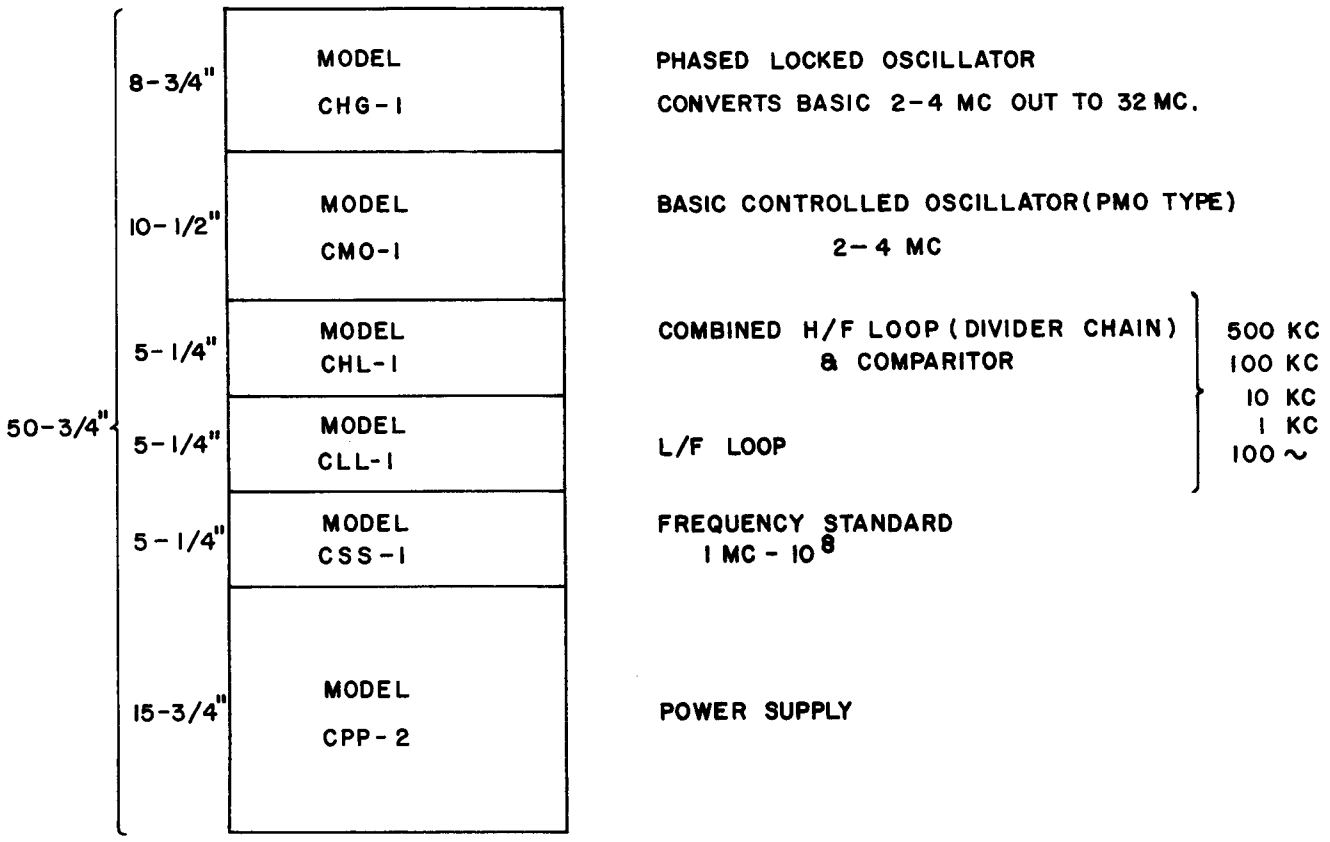
TMC (Canada) LIMITED OTTAWA, ONTARIO

~~BILL OF MATERIAL~~ | MODEL PAL-350 | PROJ. NO. | LIST NO. ML-10040 | ISSUE | SHEET 5 OF 5 SHEETS

~~PART~~ TMCNY DWG. NO.	~~PART~~	CANADIAN DWG. NO.	DESCRIPTION	REMARKS COMPLETED	DATE
CI-149		CL-10015 CL-10020	COIL: RF, tuned, 2-4 MC (Cust. dwg.)		
CI-150		CL-10016 CL-10021	COIL: RF, tuned, 4-8 MC (Cust. dwg.)		
CI-151		CL-10017 CL-10022	COIL: RF, tuned, 8-16 MC (Cust. dwg.)		

APPLICABLE SPECIFICATIONS, LAST PAGE | CHECKED | APPROVED

FORM 131



NOTE 1. MODEL CSS-1 CAN BE INSTALLED EXTERNAL TO THE SYSTEM.

2. MODEL CPP-2 CAN BE INSTALLED SEPERATELY.

3. WITH 1 & 2 ABOVE INSTALLED SEPERATELY THE RACK SPACE REQUIREMENTS ARE REDUCED TO 29-3/4".

LAYOUT DIAGRAM FOR CONTROLLED PRECISION OSCILLATOR.
MODEL CPO-1.

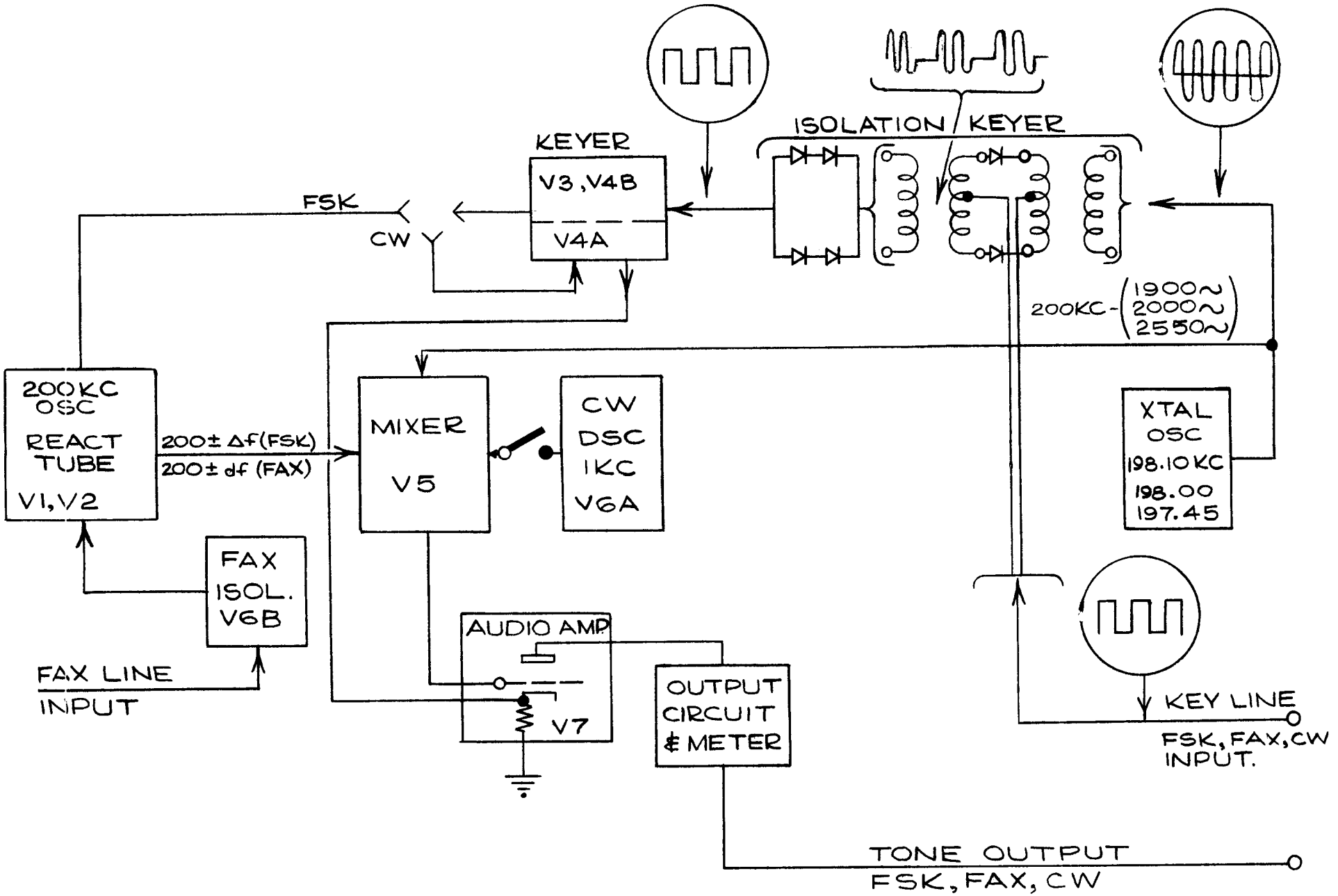


FIGURE III-4-1 FUNCTIONAL BLOCK DIAGRAM OF TONE INTELLIGENCE SYST. MODEL TIS-3, A COMPONENT OF SBG-1

CH10058

CH10061

ISSUE	ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.	REQ.	ITEM	PART NO.	DESCRIPTION	SYMBOL

VOLTAGE CHART RFD

PIN NO.	V201	V202	V203
1	0	NC	0
2	-5	6.3 AC	-100
3	+150	+210	0
4	0	0	0
5	6.3AC	-38	6.3AC
6	+575	NC	-100
7	0	0	0
8	+150	NC	
9	-5		
SCREEN			+300
PLATE CAP			+3000

VOLTAGE CHART PS-4

V301	V302	V303	V304	V305	V306
		+150	+210	0	+300
+600	-200	0	0	-150	0
	AC				
AC	AC	0	0	-150	0
		+150	+210	0	+300
AC	-200				
	AC	0	0	-150	0
+600					

PAL-1K			AUG.11,1961.
MODEL	PROJECT NO.	ASS'Y. NO.	DATE

USED ON

MAXIMUM ALLOWABLE TOLERANCES HAVE BEEN DETERMINED AND DEVIATIONS WILL BE CAUSE FOR REJECTION. REMOVE ALL BURRS AND SHARP EDGES

IF IT IS FOUND DESIRABLE TO CHANGE ANY TOLERANCE OR OTHER DETAIL SPECIFIED ON THIS DRAWING NOTIFY THE PURCHASER PROMPTLY.

TOLERANCES

ALL OTHERS
DEC. DIM. ±
FRAC. DIM. ±
ANGULAR DIM. ±

SCALE

DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

STOCK SIZE

MATERIAL | WEIGHT PER PC.

TYPE & TEMPER

HEAT TREAT. SPEC.

FINISH & SPEC. NO.

TMC (Canada) LIMITED
OTTAWA ONTARIO

RFD & PS-4 VOLTAGE CHART

FIGURE 5-1

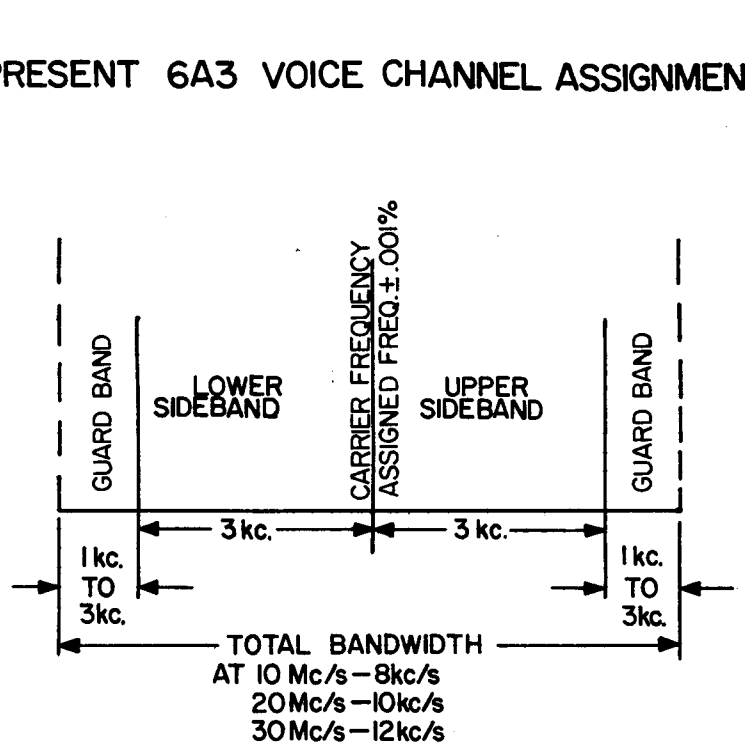
JPC	M. K.	
DRAWN	ELEC. DES. APP.	MECH. DES. APP.
CHECKED	FINAL APPROVAL	

CH10061

FORM—127

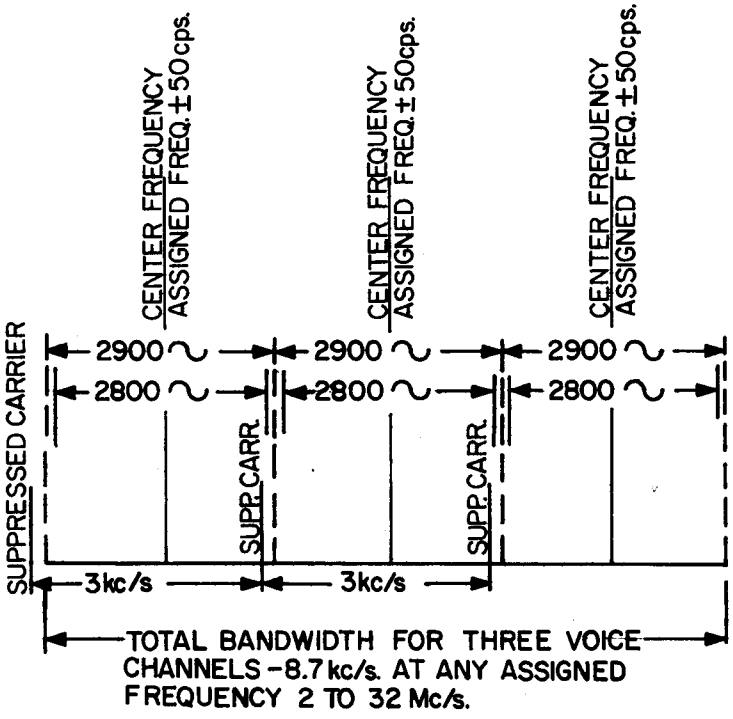
PRESENT 6A3 VOICE CHANNEL ASSIGNMENT

FIG. A



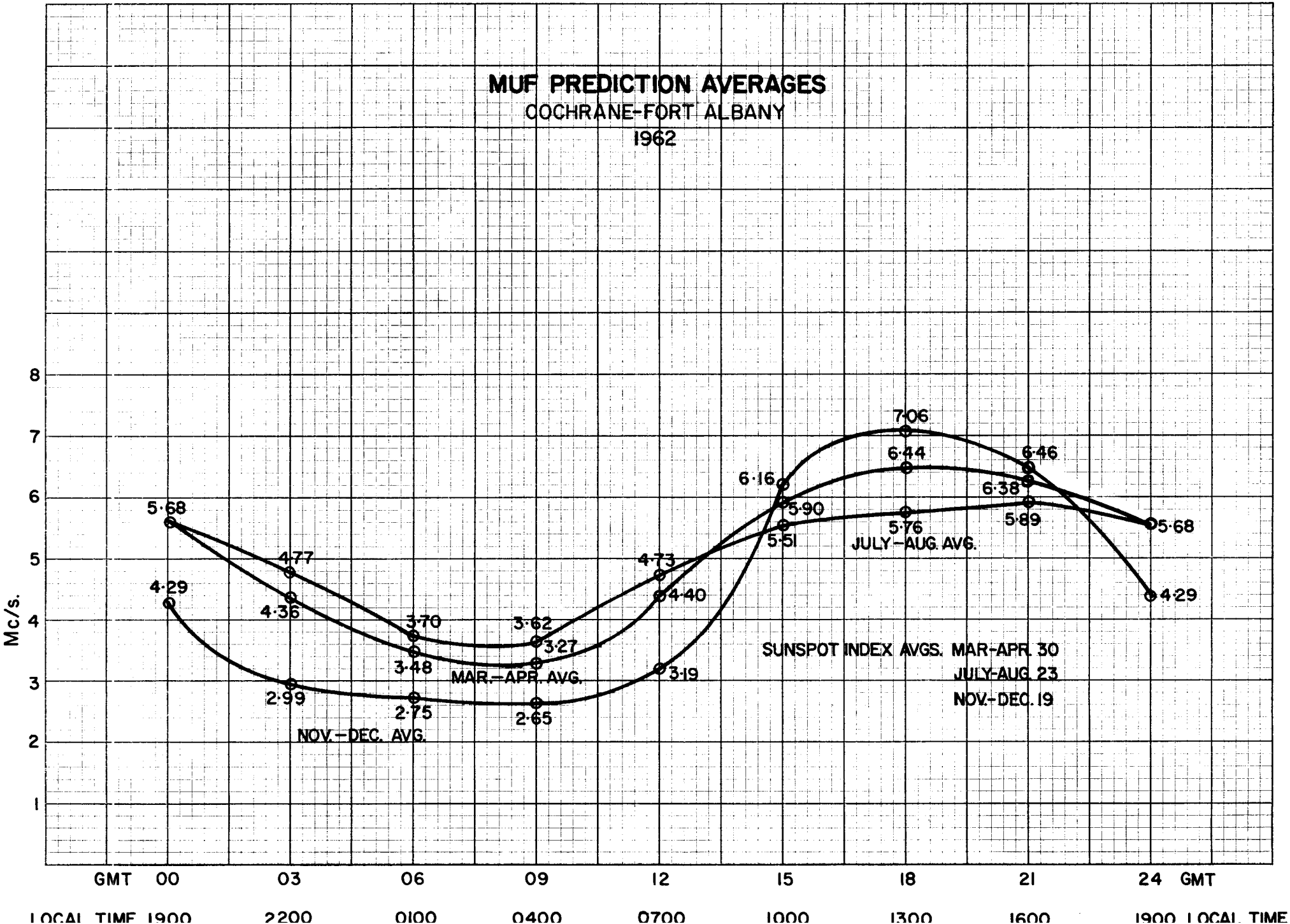
PROPOSED 3A3 (j) ASSIGNMENT (UPPER SIDEBAND ONLY)

FIG. B



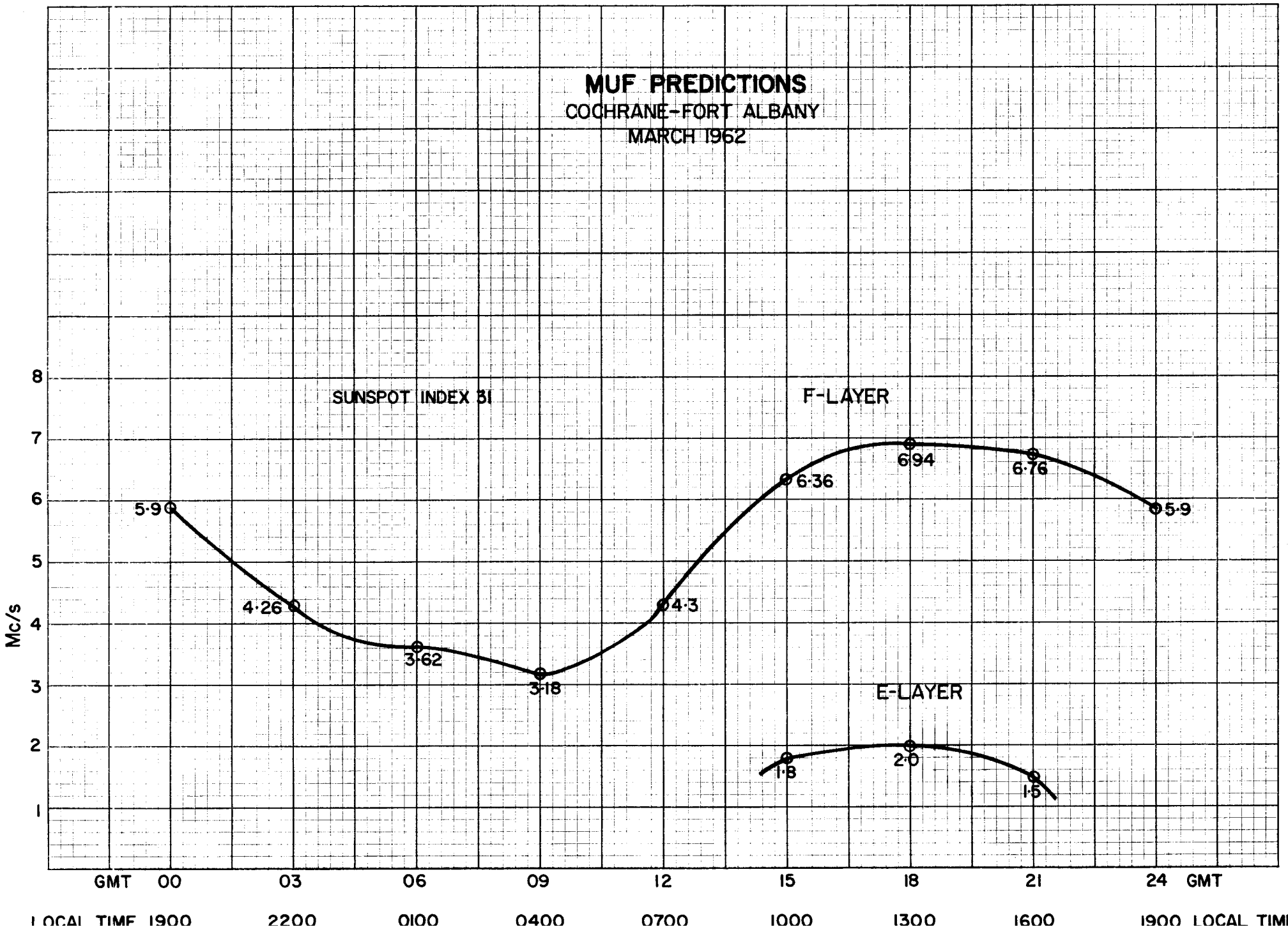
CH10062

CH1C065

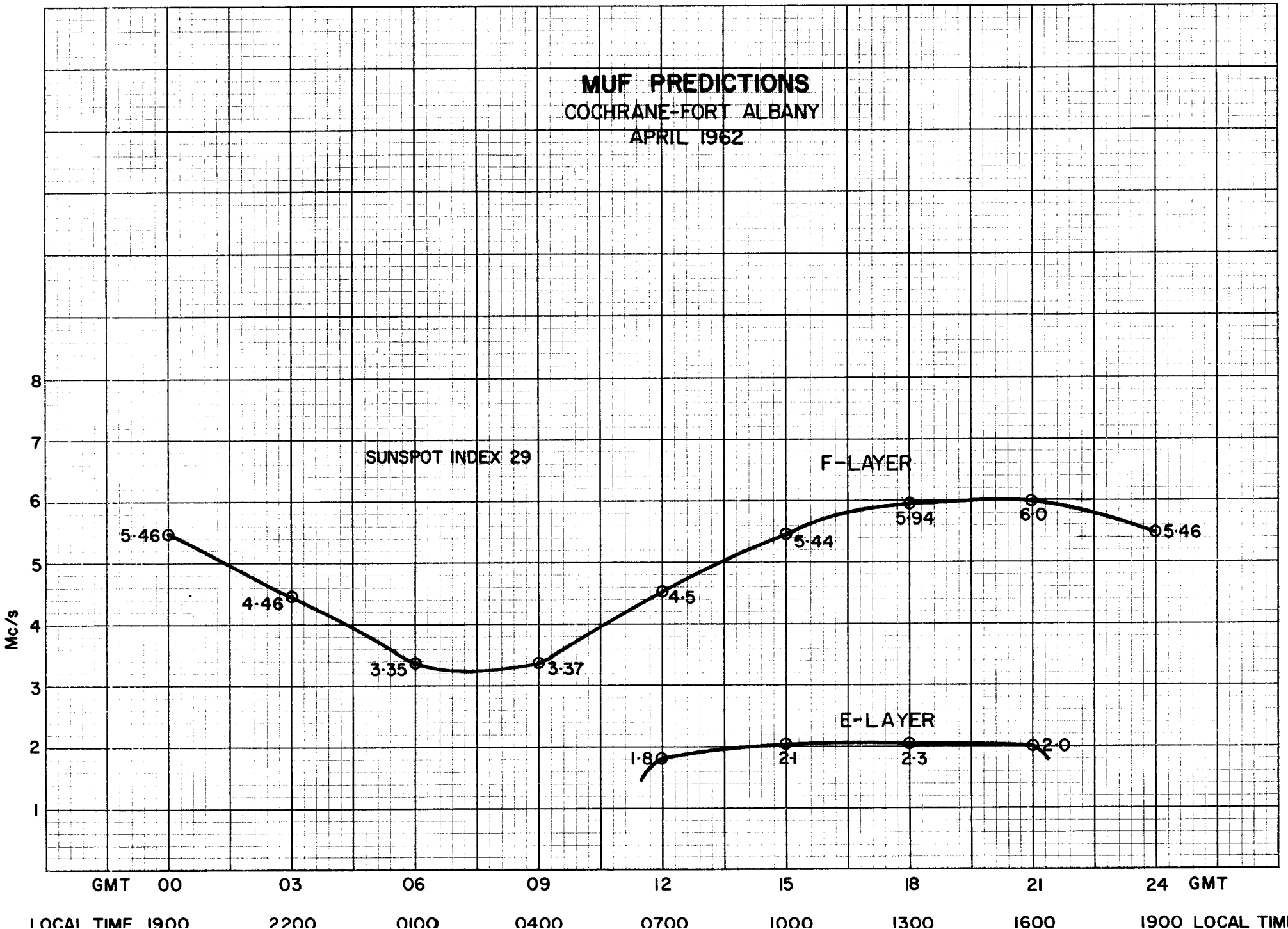


CH10066

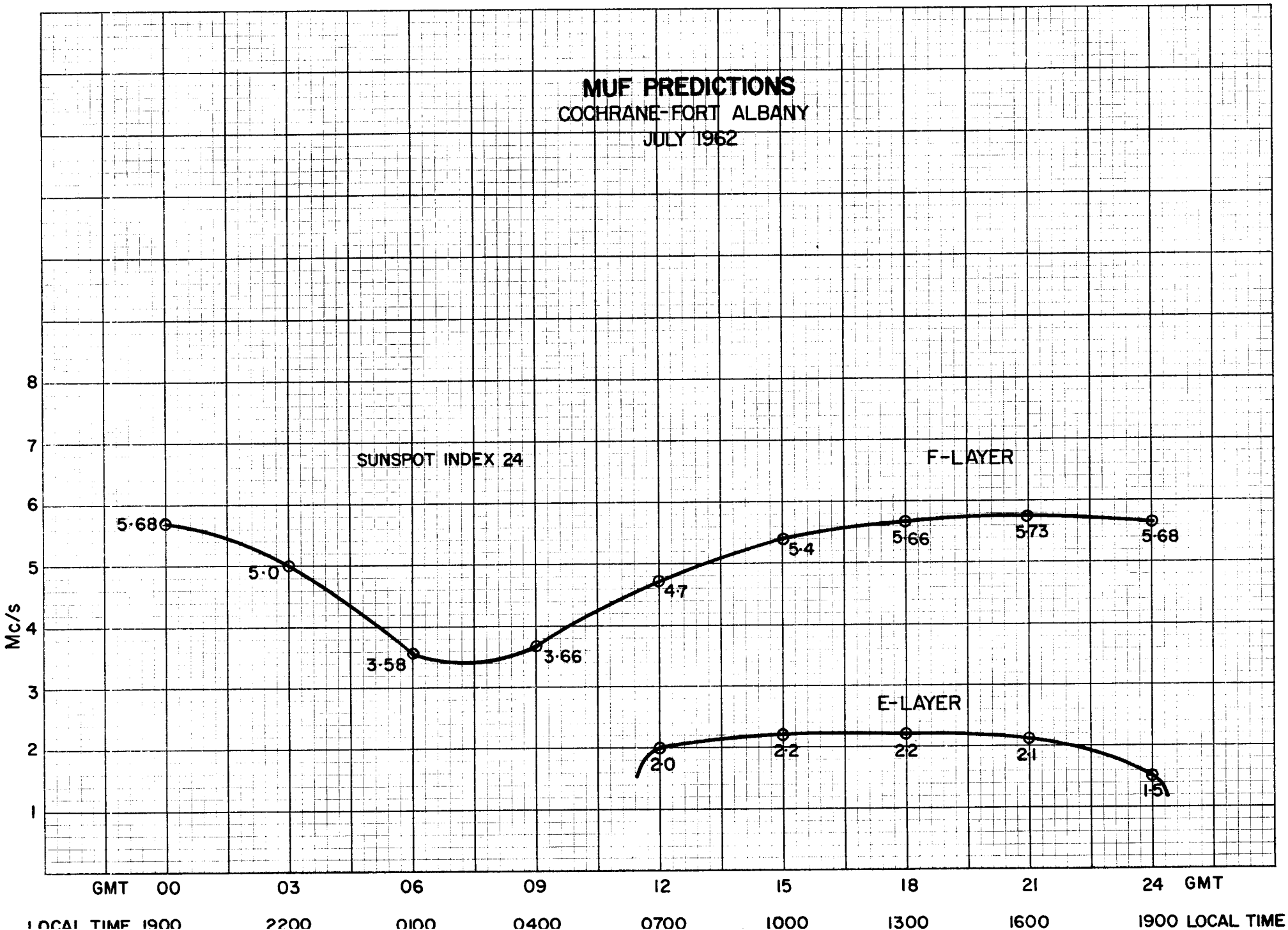
MUF PREDICTIONS
COCHRANE-FORT ALBANY
MARCH 1962



CH1CC67



CHICC68



CH1CC63

MUF PREDICTIONS
COCHRANE-FORT ALBANY
AUGUST 1962

SUNSPOT INDEX 22

F-LAYER

5·93 4·54 3·83 3·54 4·76 5·63 5·87 6·05 5·93

E-LAYER

1·7 2·3 2·3 2·0

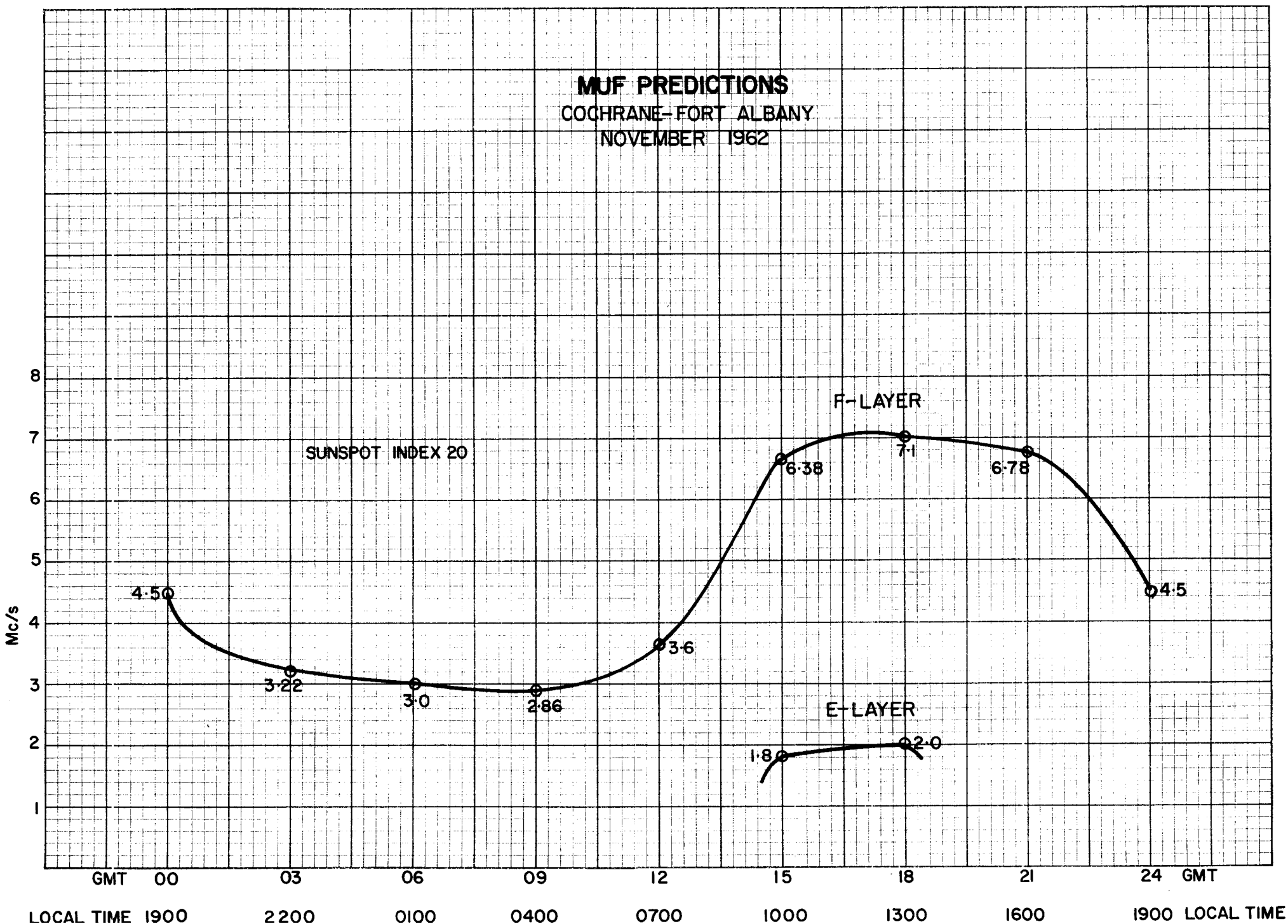
Mc/s

8 7 6 5 4 3 2 1

GMT 00 03 06 09 12 15 18 21 24 GMT

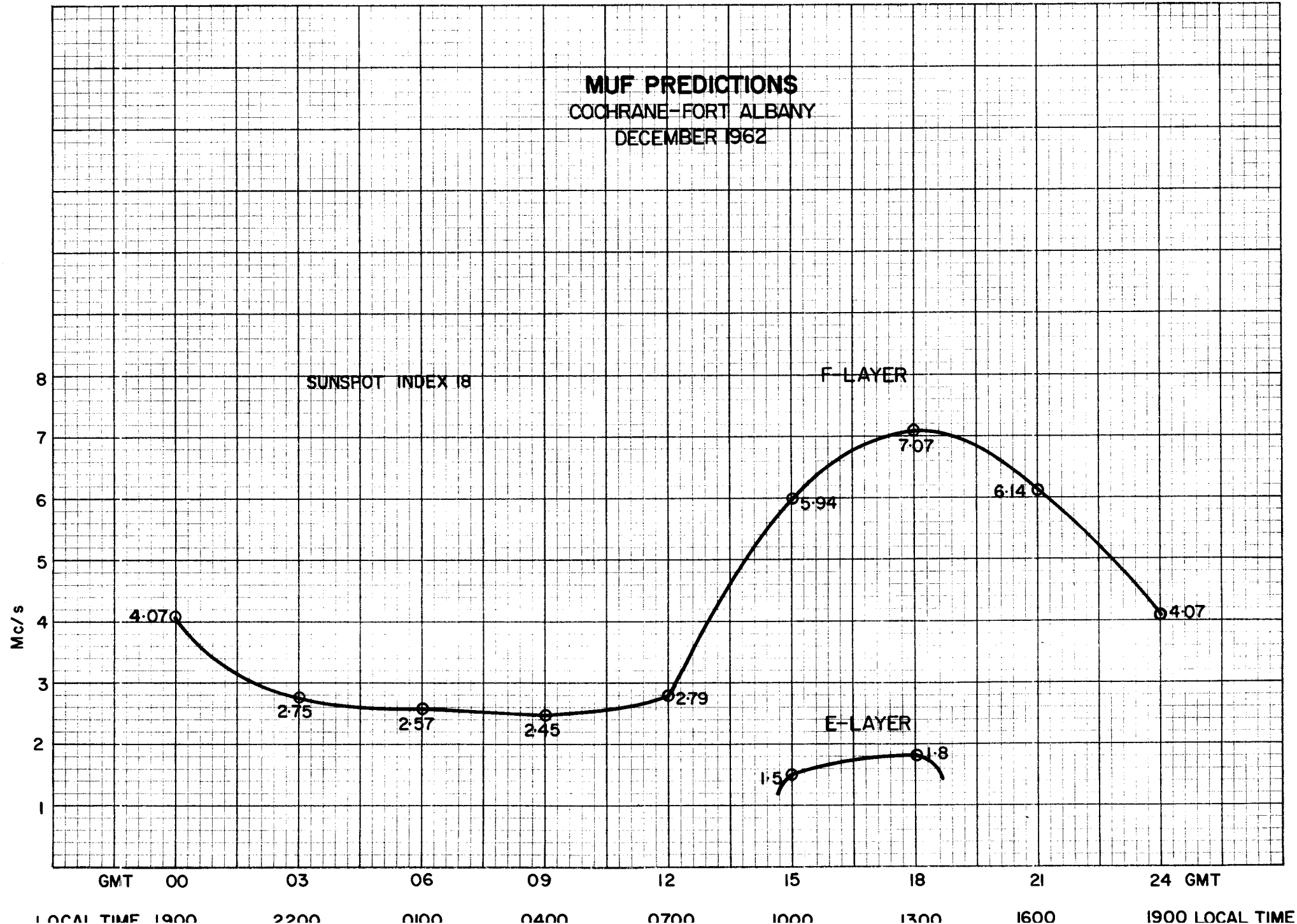
LOCAL TIME 1900 2200 0100 0400 0700 1000 1300 1600 1900 LOCAL TIME

CHICOTC



CH1CC71

MUF PREDICTIONS
COCHRANE–FORT ALBANY
DECEMBER 1962

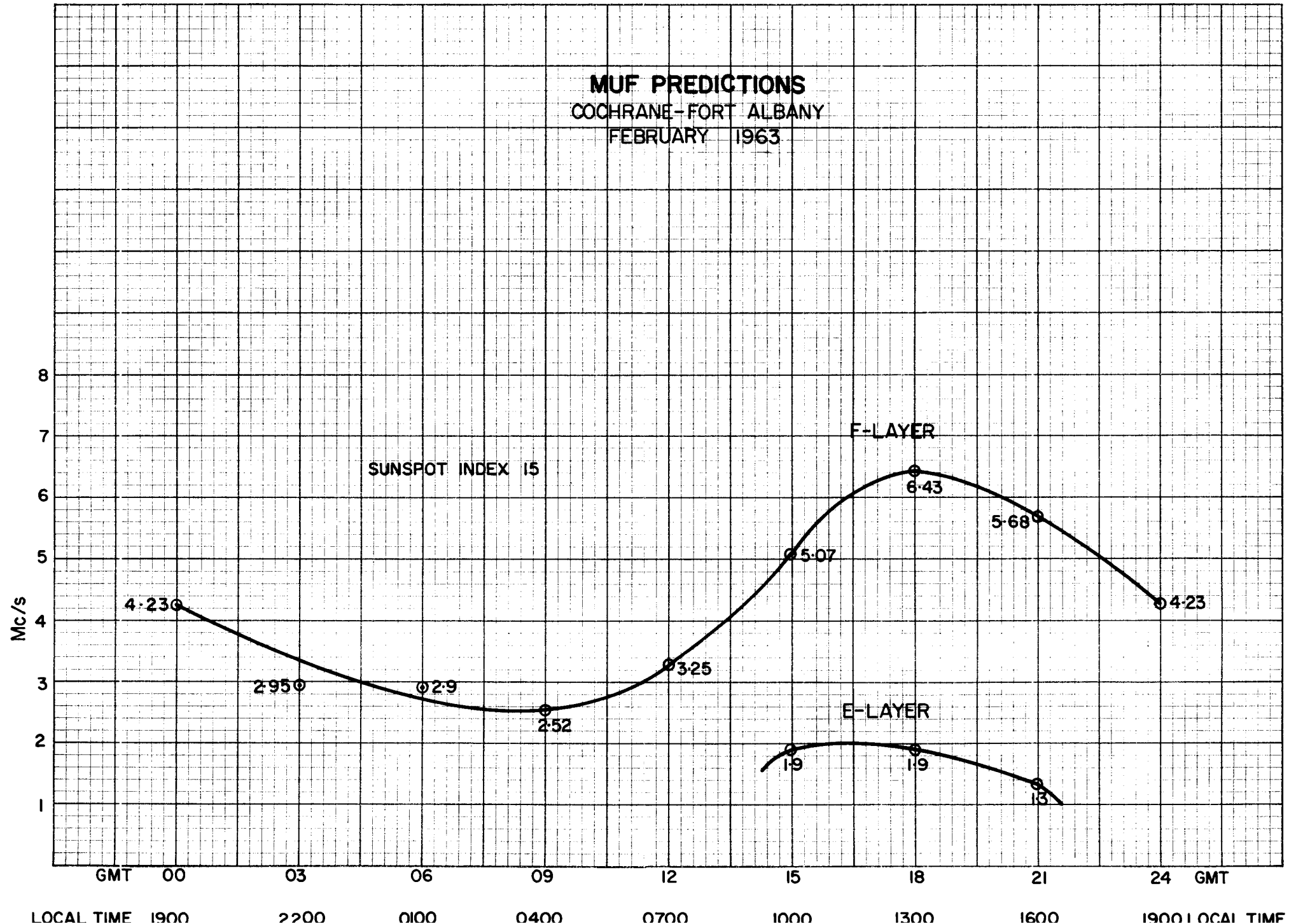


CH1CC72

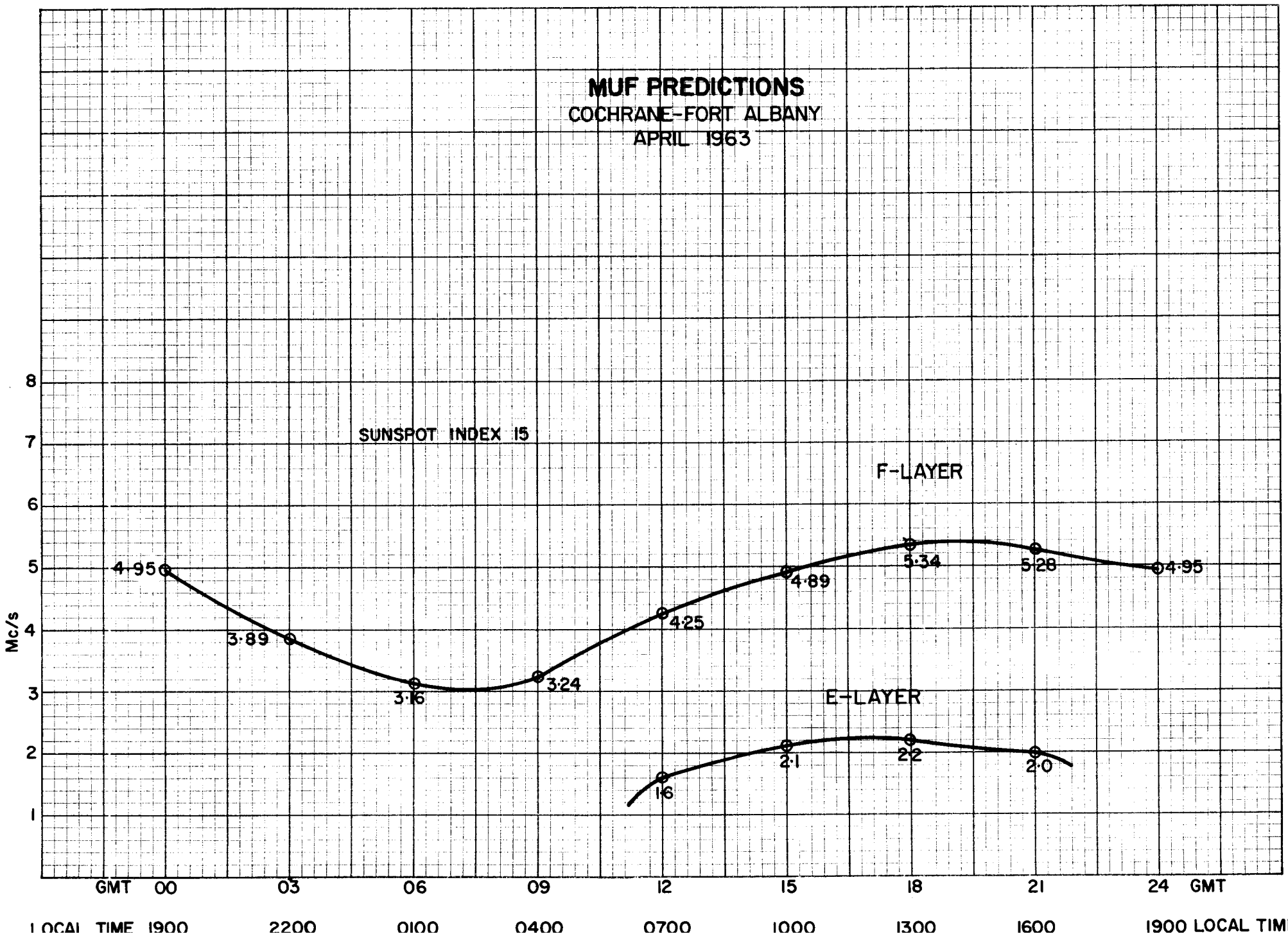
MUF PREDICTIONS

COCHRANE-FORT ALBANY

FEBRUARY 1963

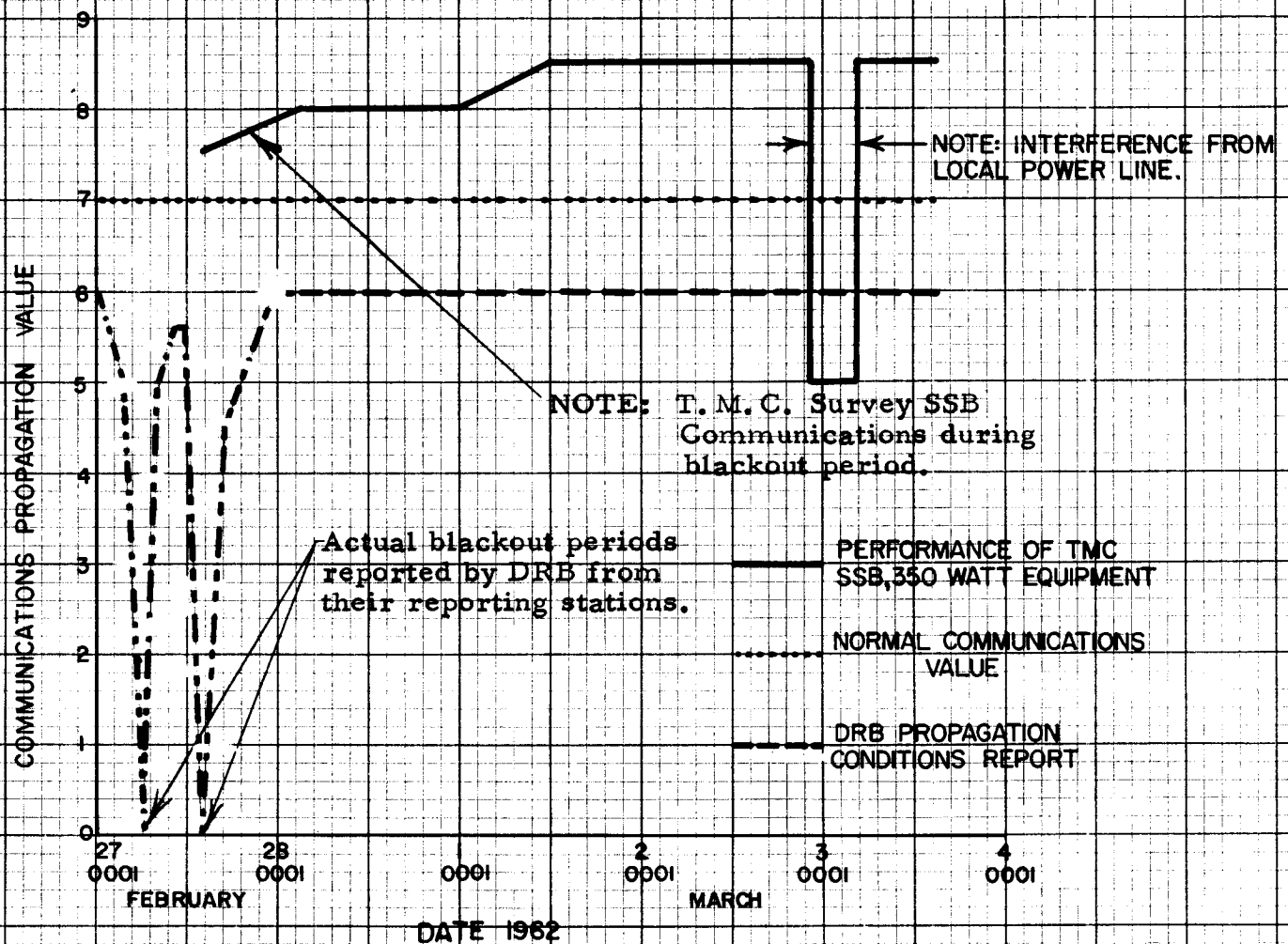


CH10073



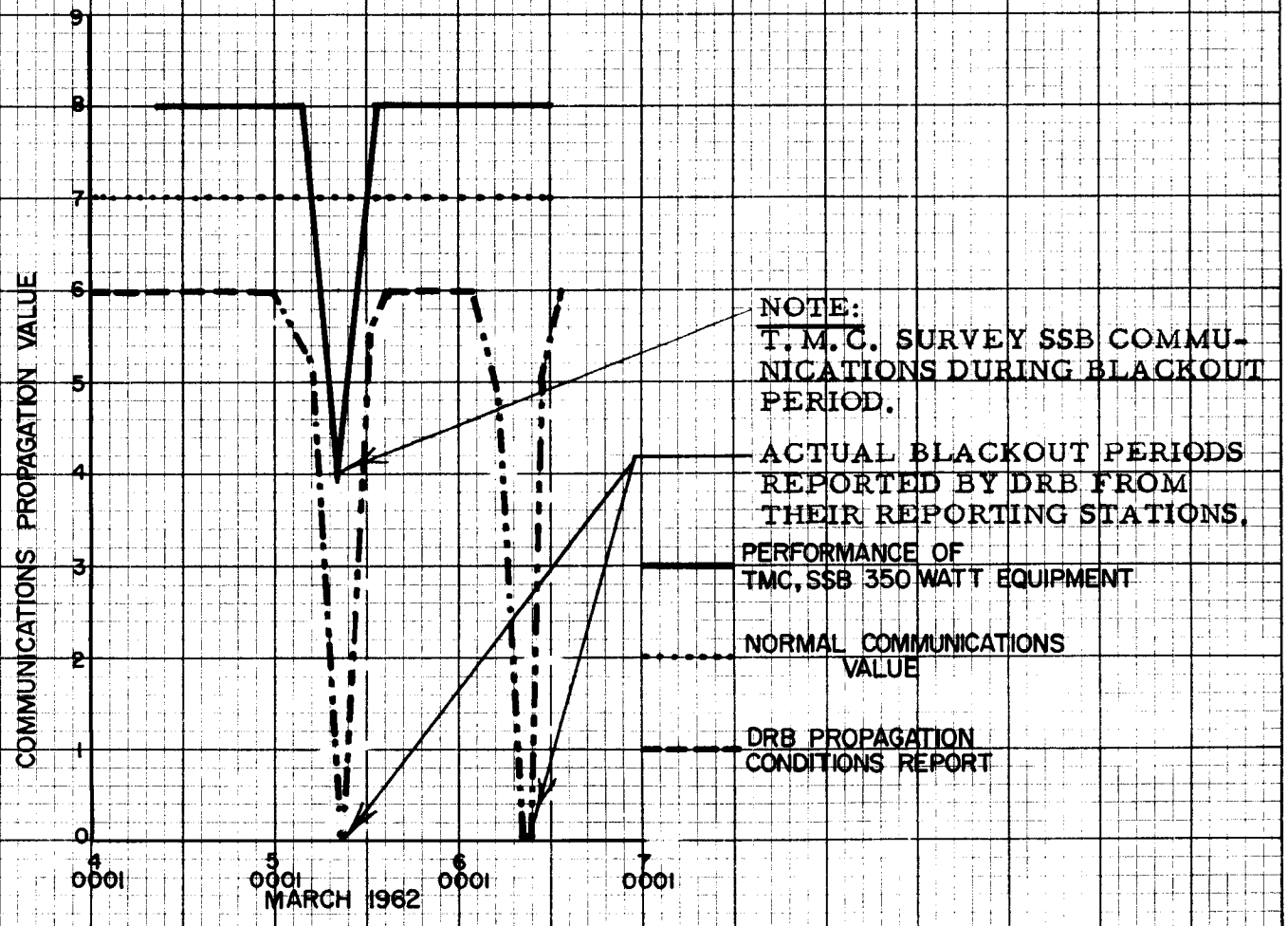
CH 10074

RELATIVE RELIABILITY OF COMMUNICATIONS
JAMES BAY–COCHRANE AREA
COCHRANE TO MOOSONEE



CH 10075

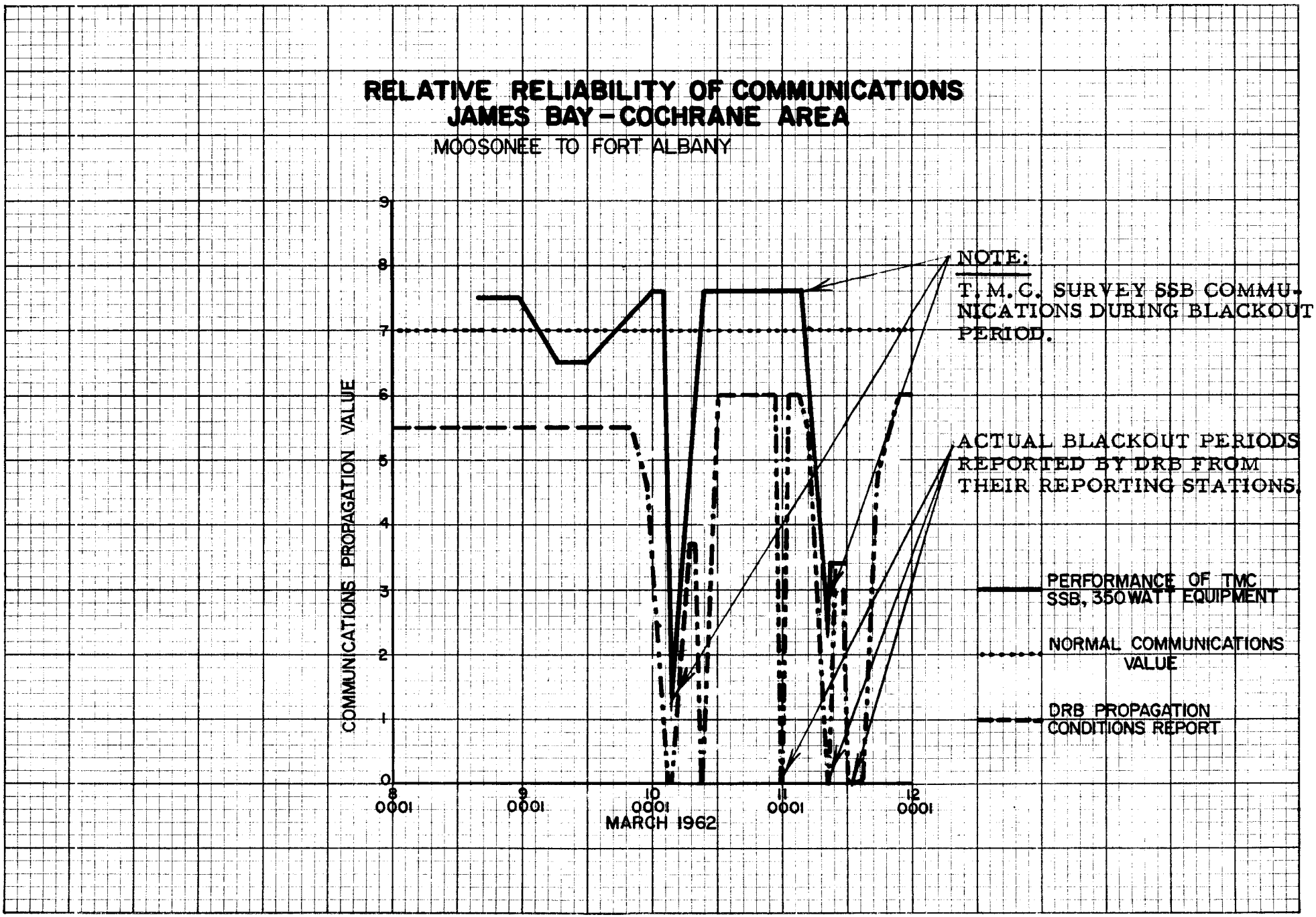
RELATIVE RELIABILITY OF COMMUNICATIONS
JAMES BAY-COCHRANE AREA
COCHRANE TO FORT ALBANY



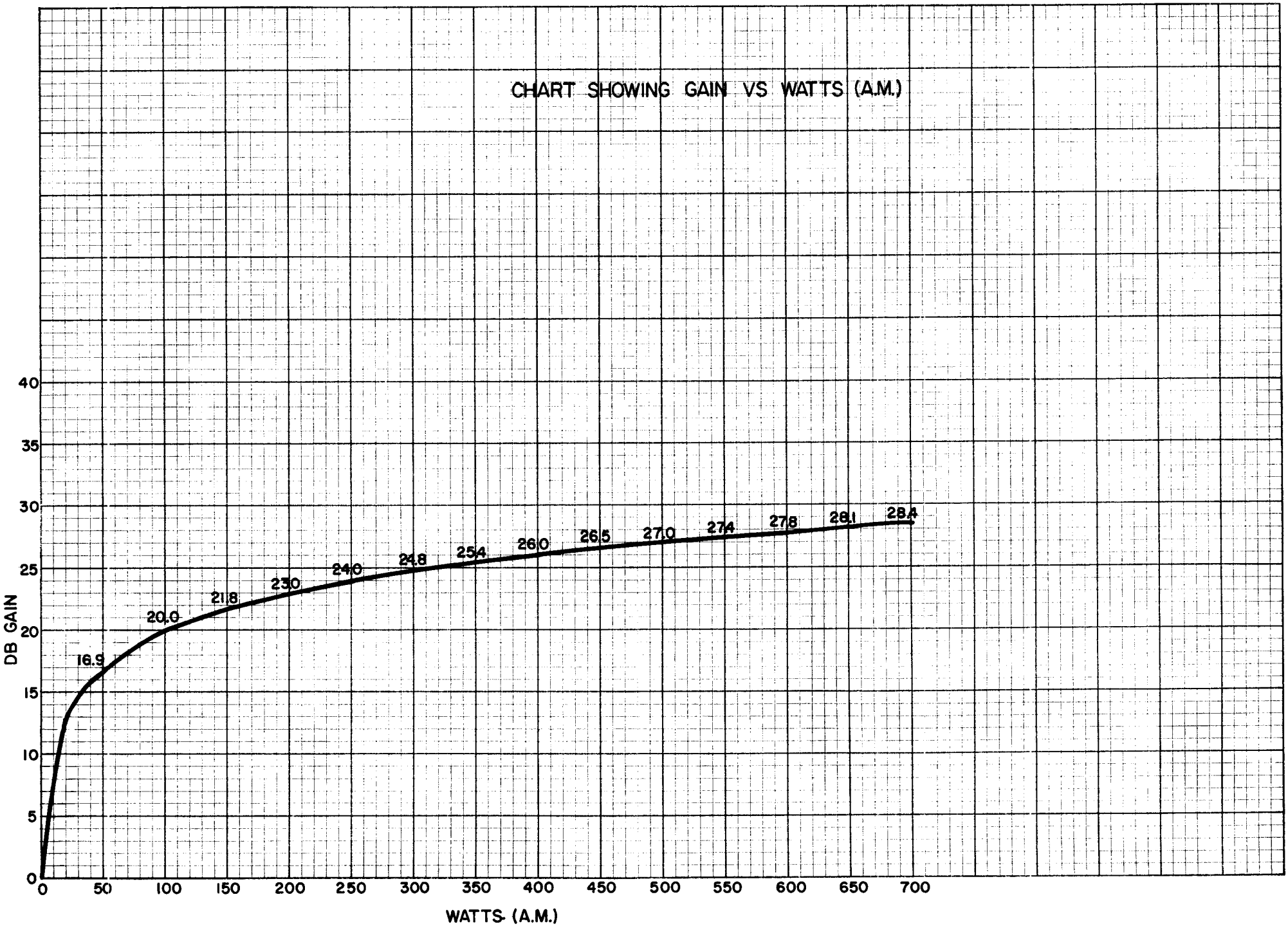
CH 10076

RELATIVE RELIABILITY OF COMMUNICATIONS JAMES BAY – COCHRANE AREA

MOOSONEE TO FORT ALBANY



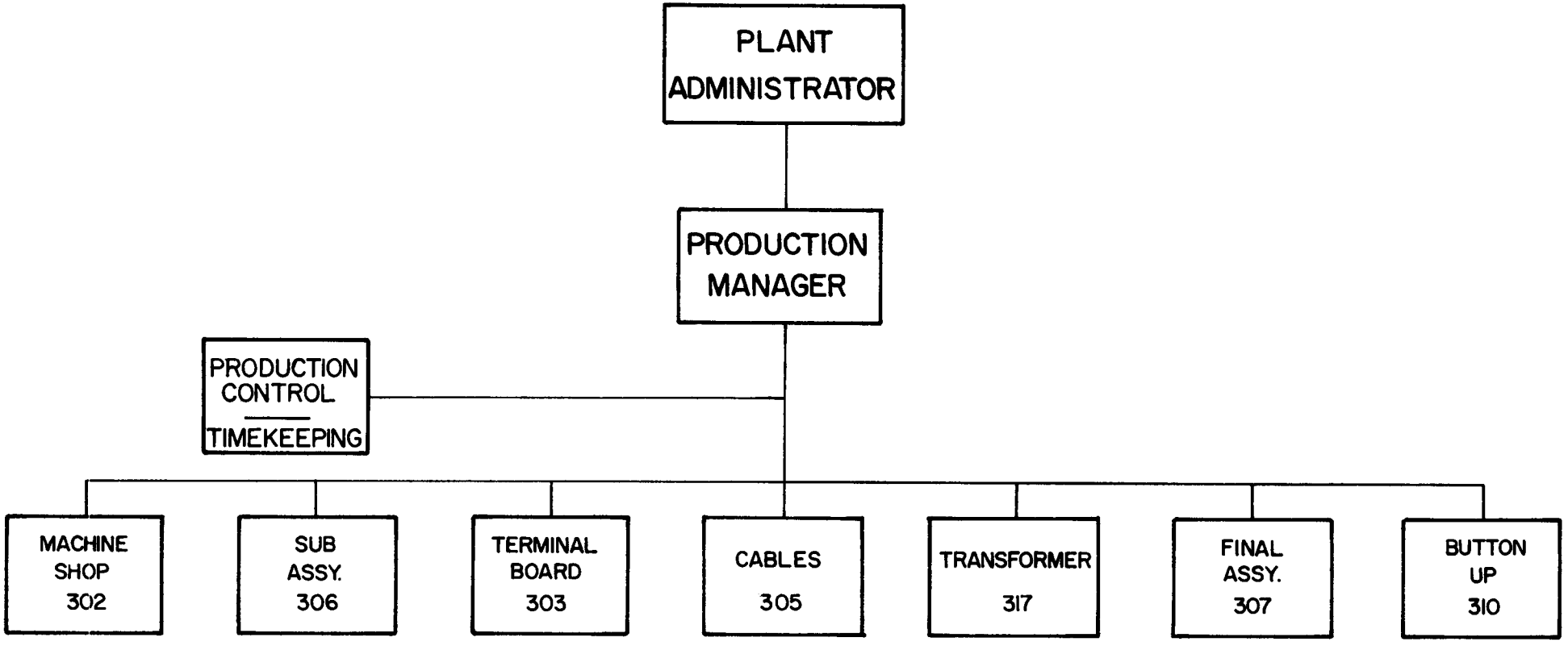
CH10077



CH 10080

ISSUE	ITEM	CHANGED FROM	DATE	CN. NO.	DRAFTS	CHECKER	ENG. APP.
A		REVISED & REDRAWN FROM SIZE 2	6-9-63		RD		

REQ.	ITEM	PART NO.	DESCRIPTION	SYMBOL



MODEL	PROJECT NO.	ASS'Y. NO.	DATE

USED ON

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TOLERANCES

ALL OTHERS
DEC. DIM. ±
FRAC. DIM. ±
ANGULAR DIM. ±

SCALE

DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

DRILL, PUNCH, COMMERCIAL STOCK SIZES AND MANUFACTURERS TOLERANCES ARE NOT INCLUDED.

STOCK SIZE

MATERIAL | WEIGHT PER PC.

TYPE & TEMPER

HEAT TREAT. SPEC.

FINISH & SPEC. NO.

TMC (Canada) LIMITED
OTTAWA ONTARIO

PRODUCTION DEPARTMENT
ORGANIZATION

DRAWN	ELEC. DES. APP.	MECH. DES. APP.
R. D.		
CHECKED	FINAL APPROVAL	

CH 10080 A

FORM—127