

RELAY ADJUSTMENT CHART

UNIT AUTOMATIC No.5. (MARK237-8)
LINE CIRCUIT.




- ⓧ XT. 2896/2
- ⓧ XT. 3450
- ⓧ 18214



1 SHEET

DIAGRAM RA.60000*

Office of Engineer-in-Chief GPO

Drawn by	Checked by	Approved by	Date
AWC	P.O. [unclear]	P.O. [unclear]	11.6.32
JW	1929	1929	
Serial Particulars of Amendment			
A	Mark No. added.	None	
B	Substitution of [unclear]	11-2-32	
C	Relay adjustment altered.	11-6-32	

<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  <p>30 GRMS</p> </div> <div style="text-align: center; font-size: 2em;">L P</div> <div style="text-align: center;">  <p>30 GRMS</p> </div> <div style="text-align: center;">  <p>30 GRMS</p> </div> </div>									
RM46					RM47				
Res. a-c	4.00	Op. Lag	Max	Min	Res. a-e	7.500	Op. Lag	Max	Min
Res.		Rel. Lag	Max	Min	Res.		Rel. Lag	Max	Min
Res.		Travel	31	Residual 12	Res.		Travel	31	Residual 16
Currents		Test	Readjust	Test	Readjust	Currents		Test	Readjust
Saturate	FULL					Saturate	FULL		
Hold						Hold	3-5		
Release	6					Release	2-3		
Non-Operate						Non-Operate			
Operate	20					Operate	6-0		
Guide Res.	2.100					Guide Res.	8.00		
Test Points & Remarks	EARTH; P.21.				Test Points & Remarks	EARTH; K.23. INSULATE K 4 & 5			

<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  <p>30 GRMS</p> </div> <div style="text-align: center; font-size: 2em;">K</div> <div style="text-align: center;">  <p>30 GRMS</p> </div> </div>									
RM48									
Res. a-e	2.300	Op. Lag	Max	Min	Res.		Op. Lag	Max	Min
Res.		Rel. Lag	Max	Min	Res.		Rel. Lag	Max	Min
Res.		Travel	31	Residual 4	Res.		Travel		Residual
Currents		Test	Readjust	Test	Readjust	Currents		Test	Readjust
Saturate	FULL					Saturate			
Hold						Hold			
Release						Release			
Non-Operate	4-5					Non-Operate			
Operate	10					Operate			
Guide Res.	2.700					Guide Res.			
Test Points & Remarks	-EARTH; P.1.				Test Points & Remarks				

RELAY ADJUSTMENT CHART

DIAGRAM RA.60001B

UNIT AUTOMATIC No.5 (Mark 237-B)

Office of Engineer-in-Chief GPO			
Drawn by #95	Checked by R.G. [initials]	Approved by P.D. [initials]	Date 11-1-55
Particulars of Amendments: A Mark Nos added to title. 12-22-55 [initials] B Test points amended & Diag. No. added. 12-22-55 [initials]			

ASSIGNMENT SELECTOR & START RELAYS

© XT.2860/2

© XT.3452

© 18216

1 SHEET

Res. 4-c 600 Op. Lag: Max Min Res. Rel. Lag: Max Min Res. Travel 3 Residual 4				Res. 4-c 555 Op. Lag: Max Min Res. Rel. Lag: Max Min Res. Travel 3 Residual 4			
Currents: Test A Residual Test Residual Saturate: FULL Hold: 4 Release: 1 Non-Operate: Operate: 10 Guide Res.: 4200				Currents: Test A Residual Test Residual Saturate: FULL Hold: 3 Release: 0.6 Non-Operate: Operate: 10 Guide Res.: 4665			
Test Points & Remarks EARTH; U5 (On connecting link)				Test Points & Remarks EARTH; DM CONTACT INSULATE AX 21-22.			
Res. 4-c 600 Op. Lag: Max Min Res. Rel. Lag: Max Min Res. Travel 3 Residual 4				Res. 4-c 560 Op. Lag: Max Min Res. Rel. Lag: Max Min Res. Travel 3 Residual 20			
Currents: Test A Residual Test Residual Saturate: FULL Hold: Release: 3 Non-Operate: Operate: 13 Guide Res.: 2540				Currents: Test A Residual Test Residual Saturate: FULL Hold: Release: 3 Non-Operate: Operate: 13 Guide Res.: 2540			
Test Points & Remarks EARTH; L3 (COMMON START LEAD LINE)				Test Points & Remarks AS FOR 5B.			

RELAY ADJUSTMENT CHART

UNIT AUTOMATIC No.5 (Mark 237-8)
CONNECTING LINK

- ⊙ XT. 2859/3
- ⊙ XT. 3451
- ⊙ 18218/B

SELECTOR Y32

DIAGRAM RA. 600025

Office of Engineer-in-Chief GPO

Drawn by	Checked by	Approved by	Date
AM	BO	PO	11-1-32
1864	1865	1878	
Serial Particulars of Amendment			Date
A	Rel. C Residual was 4	1878	11-1-32
B	Mark No. added to table	1880	11-1-32
C	Test points amended & Disc. Nos. added	1881	11-1-32

4 SHEETS 60002 TO 60005

B A											
20 GRMS					15 GRMS						
Res. B - b	Op. Lag	Max	Min	Rel. Lag	Max	Min	Res. B - b	Op. Lag	Max	Min	
Res. d - e	Rel. Lag	Max	400	Min	200		Res. d - e	Rel. Lag	Max	Min	
Res.	Travel	31	Residual	4			Res.	Travel	31	Residual	15
Currents		B - b				A - b		C - b			
	Test	Residual	Test	Residual	Test	Residual	Test	Residual	Test	Residual	
Saturate	FULL				Saturate	FULL					
Hold					Hold						
Release	DIS				Release	5-5					
Non Operate					Non Operate						
Operate	12				Operate	13-5					
Guide Res.	2900				Guide Res.	3300					
Test Points & Remarks	B - b - EARTH; A 25 INSULATE T.M. 1-2					⊙ T3-T4 ⊙ T3-T5					

J C											
20 GRMS					15 GRMS						
Res. B - b	Op. Lag	Max	Min	Rel. Lag	Max	Min	Res. B - b	Op. Lag	Max	Min	
Res. d - e	Rel. Lag	Max	500	Min	200		Res. d - e	Rel. Lag	Max	180	
Res.	Travel	31	Residual	4			Res.	Travel	31	Residual	12
Currents		B - b				A - b		C - b			
	Test	Residual	Test	Residual	Test	Residual	Test	Residual	Test	Residual	
Saturate	FULL				Saturate	FULL					
Hold					Hold						
Release	DIS				Release	DIS					
Non Operate					Non Operate						
Operate	12				Operate	20					
Guide Res.	2850				Guide Res.	2200					
Test Points & Remarks	EARTH; N P I MIDDLE SPRING					EARTH; NS BACK SPRING					

RELAY ADJUSTMENT CHART

DIAGRAM RA.60010^a

Office of Engineer-in-Chief GPO

UNIT AUTOMATIC No.5 (Mark 237-8) RINGING & TONE CIRCUIT

① XT.2861/4 RELAY SET AUXILIARY APPARATUS Y108

② 3453

③ 18221

3 SHEETS 60008-60010

Drawn by J.W.	Checked by P.O. (Date) P.G. (Date)	Approved by J.S. (Date)	Date 11-4-32
Date Particulars of Amendment			Date
A. Mark No. added to title sheet			11-4-32
B. Test points amended & Diag. No. added			11-4-32

XXX									
30 OHMS					30 OHMS				
RNG6					RNG2				
Res. A - E 800					Res. A - E 2300				
Op. Lag Max. Min.					Op. Lag Max. Min.				
Rel. Lag Max. 500 Min. 400					Rel. Lag Max. Min.				
Res. Travel 31 Residual 6					Res. Travel 31 Residual 12				
Currents Test Readjust Test Readjust					Currents Test Readjust Test Readjust				
Saturate FULL					Saturate FULL				
Hold					Hold				
Release DIS					Release DIS				
Non-Operate					Non-Operate				
Operate 8					Operate 13				
Guide Res. 5450					Guide Res. 2550				
Test Points A		EARTH; Y1. REMOVE BATTERY FROM XX COIL INSULATE Y1-2			Test Points A		EARTH; Y1. REMOVE BATTERY FROM X COIL INSULATE Y1-2		
Remarks:					Remarks:				
MSBY									
30 OHMS					30 OHMS				
RNG5					RNG3				
Res. A - E 1300					Res. A - E 2000				
Op. Lag Max. Min.					Op. Lag Max. Min.				
Rel. Lag Max. 600 Min. 400					Rel. Lag Max. Min.				
Res. Travel 31 Residual 4					Res. Travel 31 Residual 20				
Currents Test Readjust Test Readjust					Currents Test Readjust Test Readjust				
Saturate FULL					Saturate FULL				
Hold					Hold				
Release DIS					Release DIS				
Non-Operate					Non-Operate				
Operate 9					Operate 20				
Guide Res. 4200					Guide Res. 500				
Test Points A		EARTH; U16.			Test Points A		EARTH; U23		
Remarks:					Remarks:				

RELAY ADJUSTMENT CHART

DIAGRAM RA. 60003P







Office of Engineer-in-Chief GPO

UNIT AUTOMATIC No. 5 (Mark 231-B)
CONNECTING LINK

Drawn by D.S. A.W.R.	Checked by R.O. Sgt. P.O.	Approved by P.O. Sgt. P.O.	Date 11-4-52
Initial Notations of Amendment Over Initials			
A	Mark Nos added to title	2202	201
B	Test points amended & Dist. Nos. added	1815	1815

- Ⓐ XT. 2859/3 SELECTOR Y32
- Ⓑ XT. 3451
- Ⓒ 18216/B

(4 SHEETS 60002 - 60005)

 				 			
<p>Res. a-c 1300 Op. Lag Max Min</p> <p>Res. Rel. Lag Max Min</p> <p>Res. Travel 31 Residual 4</p>				<p>Res. a-c 335 Op. Lag Max Min</p> <p>Res. Rel. Lag Max 160 Min 80</p> <p>Res. Travel 31 Residual 4</p>			
<p>Currents: Test a-c</p> <p>Saturate FULL</p> <p>Hold</p> <p>Release D15</p> <p>Non-Operate 10</p> <p>Operate 19</p> <p>Guide Res. 1250</p>				<p>Currents: Test a-c</p> <p>Saturate FULL</p> <p>Hold</p> <p>Release D15</p> <p>Non-Operate</p> <p>Operate 17</p> <p>Guide Res. 2600</p>			
<p>Test Points A</p> <p>Remarks:</p>		<p>EARTH: DA 1</p> <p>SET FR UNISELECTOR ON POSN 3</p>		<p>Test Points A</p> <p>Remarks:</p>		<p>EARTH: C1</p> <p>DISCONNECT BATTERY FROM R. MAGNET</p>	
 				 			
<p>Res. a-c 800 Op. Lag Max Min</p> <p>Res. Rel. Lag Max 250 Min 50</p> <p>Res. Travel 31 Residual 4</p>				<p>Res. a-c 1000 Op. Lag Max Min</p> <p>Res. Rel. Lag Max Min</p> <p>Res. Travel 31 Residual 4</p>			
<p>Currents: Test a-c</p> <p>Saturate FULL</p> <p>Hold</p> <p>Release D15</p> <p>Non-Operate</p> <p>Operate 17</p> <p>Guide Res. 2150</p>				<p>Currents: Test a-c</p> <p>Saturate FULL</p> <p>Hold</p> <p>Release D15</p> <p>Non-Operate</p> <p>Operate 15</p> <p>Guide Res. 1800</p>			
<p>Test Points A</p> <p>Remarks:</p>		<p>EARTH: E 26</p> <p>INSULATE DAG-7</p>		<p>Test Points A</p> <p>Remarks:</p>		<p>EARTH: EG.</p>	

RELAY ADJUSTMENT CHART

UNIT AUTOMATIC No.5 (Mark 237-B)
CONNECTING LINK

- ⓐ XT 2859/3 SELECTOR Y32
- ⓑ XT 3451
- ⓒ 16216/B.

4 SHEETS 60002 to 60005

DIAGRAM RA. 60004^B

Office of Engineer-in-Chief GPO

Drawn by	Checked by	Approved by	Date
10/11/32	10/11/32	10/11/32	11/4/32
with Particulars			Assessment Date
A. Mark No. added to file.			10/11/32
B. Test points amended & Diag. Not added.			10/11/32

DA BA									
RN67					RN91				
Res. a-c	2.50	Op. Last	Max	Min	Res. a-c	2.300	Op. Last	Max	Min
Res.		Rel. Last	Max	Min	Res.		Rel. Last	Max	Min
Res.		Travel 31	Residual 12		Res.		Travel 31	Residual 12	
Currents	Test a-c	Residual	Test	Residual	Currents	Test a-c	Residual	Test	Residual
Saturate	12.5				Saturate	FULL			
Hold					Hold				
Release	6				Release	DIS			
Non Operate					Non Operate				
Operate	24				Operate	12			
Guide Res.	1700				Guide Res.	1850			
Test Points & Remarks	F1, F2 DB ALSO OPERATES				Test Points & Remarks	EARTH; B2			

DB H									
RN68					RN71				
Res. a-c	2.50	Op. Last	Max	Min	Res. a-c	1300	Op. Last	Max	Min
Res.		Rel. Last	Max	Min	Res.		Rel. Last	Max	Min
Res.		Travel 31	Residual 12		Res.		Travel 31	Residual 12	
Currents	Test a-c	Residual	Test	Residual	Currents	Test a-c	Residual	Test	Residual
Saturate	12.5				Saturate	FULL			
Hold					Hold				
Release	6				Release	DIS			
Non Operate					Non Operate				
Operate	22				Operate	11			
Guide Res.	1900				Guide Res.	3250			
Test Points & Remarks	F1, F2 DA ALSO OPERATES				Test Points & Remarks	EARTH; G2			

RELAY ADJUSTMENT CHART

DIAGRAM RA.60005^B

Office of Engineer-in-Chief GPO

UNIT AUTOMATIC No.5 (Mark 237-8)

CONNECTING LINK

- ③ XT 2859/3 SELECTOR Y32
- ③ XT 3451
- ③ 18218/B.

4 SHEETS 60002-60005

Drawn by	Checked by	Approved by	Date
W.P.S.	P.D. Cook	P.D. Cook	11-2-32
Initials of Amendment			Date
A	Mark No added to title.	11-2-32	W.P.S.
B	Test points amended & Diag. No. added.	11-11-32	W.P.S.

20 GRMS				20 GRMS				30 GRMS				30 GRMS			
SF				F				SF				F			
RN73				RN50				RN73				RN50			
Res. a-c 600				Op. Lag Max Min				Res. a-b 1000				Op. Lag Max Min			
Rel. Lag Max Min				Travel 2 1				Res. d-e 1500				Op. Lag Max Min			
Res. Travel 2 1				Residual 4				Res. Travel 2 1				Residual 4			
Currents				Test Readjust Test Readjust				Currents				Test Readjust Test Readjust			
Saturate FULL				Saturate FULL				Saturate FULL				Saturate FULL			
Hold				Hold				Hold				Hold			
Release DIS				Release DIS				Release DIS				Release DIS			
Non-Operate				Non-Operate				Non-Operate				Non-Operate			
Operate 12				Operate 11				Operate 15				Operate 15			
Guide Res. 3350				Guide Res.				Guide Res. 3450				Guide Res. 2550			
Test Points & Remarks				EARTH; U4 X ACTION EARLY MAKE.				Test Points & Remarks				d-c:- EARTH; HD5. a-b:- U4 BATT. HOLD OPERATE RELAY SO IN ADJUSTER.			
30 GRMS				30 GRMS				30 GRMS				30 GRMS			
KF				KF				KF				KF			
RN77				RN77				RN77				RN77			
Res. a-c 2500				Op. Lag Max Min				Res. a-c 2500				Op. Lag Max Min			
Rel. Lag Max Min				Travel 2 1				Rel. Lag Max Min				Travel 2 1			
Res. Travel 2 1				Residual 12				Res. Travel 2 1				Residual 12			
Currents				Test Readjust Test Readjust				Currents				Test Readjust Test Readjust			
Saturate FULL				Saturate FULL				Saturate FULL				Saturate FULL			
Hold				Hold				Hold				Hold			
Release DIS				Release DIS				Release DIS				Release DIS			
Non-Operate				Non-Operate				Non-Operate				Non-Operate			
Operate 8				Operate 5				Operate 1000				Operate 1000			
Guide Res.				Guide Res.				Guide Res.				Guide Res.			
Test Points & Remarks				EARTH; SF 4				Test Points & Remarks				EARTH; SF 4			

RELAY ADJUSTMENT CHART

UNIT AUTOMATIC No. 5 (Mark 2378)

MISCELLANEOUS COMMON CIRCUITS

- ① XT. 2861/4. RELAY SET AUXILIARY APPARATUS Y. 108
- ② 3453
- ③ 18221/A.

(2 SHEETS 60006 - 60007)

DIAGRAM RA. 60007^B

Office of Engineer-in-Chief GPO

Drawn by J.W.	Checked by R.O. (Spec. P.O. 10/15/52)	Approved by W.C. (Spec. P.O. 11/4/52)	Date
Serial Particulars of Amendments			Date
A. Mark Nos. added to title.			11/15/52
B. Test points amended & diag. Nos. added.			11/15/52

RARC									
20 OHMS					20 OHMS				
Res. a - b	1500	Op. Lag.	Max.	Min.	Res. a - b	3	Op. Lag.	Max.	Min.
Res. d - e	1500	Rel. Lag.	Max.	Min.	Res. d - e	300	Rel. Lag.	Max.	Min.
Res.		Travel	SI	Residual	20	Res.	Travel	NIK	Residual
Currents	Year	Headrest	Year	Headrest	Currents	Year	Headrest	Year	Headrest
Saturate.	FULL		FULL		Saturate				
Hold.					Hold.				
Release.	2-5		3		Release.				
Non-Operate.					Non-Operate.				
Operate.	11		15		Operate.				
Guide Res.	3000		1500		Guide Res.				
Test Points & Remarks.	a - b - EARTH; FT 1 d - e - EARTH; FT 5				Test Points & Remarks.				

TA									
20 OHMS					20 OHMS				
Res. a - b	100	Op. Lag.	Max.	Min.	Res.		Op. Lag.	Max.	Min.
Res. d - e	6500	Rel. Lag.	Max.	Min.	Res.		Rel. Lag.	Max.	Min.
Res.		Travel	SI	Residual	4	Res.	Travel	Residual	
Currents	Year	Headrest	Year	Headrest	Currents	Year	Headrest	Year	Headrest
Saturate.	150		FULL		Saturate.				
Hold.	11				Hold.				
Release.	D16		D16		Release.				
Non-Operate.					Non-Operate.				
Operate.	28		4-5		Operate.				
Guide Res.	1800		6500		Guide Res.				
Test Points & Remarks.	a - b - EARTH; FR DISSECTOR WIPERS d - e - EARTH; U. 16				Test Points & Remarks.				

RELAY ADJUSTMENT CHART

DIAGRAM RA.60008

UNIT AUTOMATIC No.5 (Mark 237-8) RINGING & TONE CIRCUIT

Office of Engineer-in-Chief GPO

Drawn by DG Checked by Approved by Date
 20 [unclear] [unclear] [unclear] 11-4-32
 [unclear] [unclear] [unclear] [unclear]

Initial Particulars of Amendment Date Initials

A Mark No. added to title. Date 12-8-32 Initials [unclear]

B Adjustments amended & Diag. No. added. Date 12-8-32 Initials [unclear]

⑤ XT.2861/4 RELAY SET AUXILIARY APPARATUS Y.108

⑤ 3453

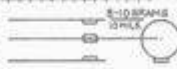
⑤ 18221/A.

(3 SHEETS 60008-60010)

Res				Op. Lag	Max.	Min.	Res			
Res				Rel. Lag	Max.	Min.	Res			
Res				Travel	Residual		Res			
Currents	Test	Readjust	Test	Readjust	Currents	Test	Readjust	Test	Readjust	
Saturate					Saturate					
Hold					Hold					
Release					Release					
Non-Operate					Non-Operate					
Operate					Operate					
Guide Res.					Guide Res.					
Test Points & Remarks					Test Points & Remarks	TO VIBRATE RELIABLY				

Res				Op. Lag	Max.	Min.	Res			
Res				Rel. Lag	Max.	Min.	Res			
Res				Travel	Residual		Res			
Currents	Test	Readjust	Test	Readjust	Currents	Test	Readjust	Test	Readjust	
Saturate					Saturate					
Hold					Hold					
Release					Release					
Non-Operate					Non-Operate					
Operate					Operate					
Guide Res.					Guide Res.					
Test Points & Remarks	BUSY TONE CCT. ADJUST SCREW TO OBTAIN PURE TONE				Test Points & Remarks					

RV

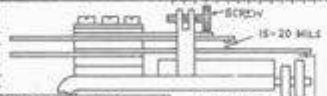


* MEASURED WHEN AT REST

Y.154

SP.1

BZRC



Y.153

SP.1

R.160

RELAY ADJUSTMENT CHART

UNIT AUTOMATIC No.5 (Mark 237-8)

RINGING & TONE CIRCUIT

- Ⓢ XT 2061/4 RELAY SET AND APPARATUS Y108
- Ⓢ XT 3453
- Ⓢ 18221/A.

DIAGRAM RA.600094

Office of Engineer-in-Chief GPO

Drawn by	Checked by	Approved by	Date
HPS	RG	PG	11.4.32
Serial Particulars of Amendment			Date
A	Mark Nos. added to title.	12.11.32	380177
B	Test points amended & Diag. Nos. added.	12.11.32	380177

3 SHEETS 60009-0000

30 GRMS

Z ZZ

Res. B-C	800	Op. Lag	Max	Min	Res. B-C	2500	Op. Lag	Max	Min		
Res.		Rel. Lag	Max 800	Min 400	Res.		Rel. Lag	Max	Min		
Res.		Travel 31	Residual 4		Res.		Travel 31	Residual 4			
Currents	B-C	Test	Readjust	Test	Residual	Currents	B-C	Test	Readjust	Test	Residual
Saturate	FULL					Saturate	FULL				
Hold						Hold					
Release	DIS					Release	DIS				
Non-Operate						Non-Operate					
Operate	0					Operate	10				
Guide Res.	5450					Guide Res.	2700				

Test Points A

Remarks: EARTH: X1 REMOVE BATTERY FROM ZZ COIL. INSULATE X1-2

30 GRMS

Z ZZ

30 GRMS

30 GRMS

30 GRMS

Y YY

Res. B-C	600	Op. Lag	Max	Min	Res. B-C	2500	Op. Lag	Max	Min		
Res.		Rel. Lag	Max 500	Min 400	Res.		Rel. Lag	Max	Min		
Res.		Travel 31	Residual 4		Res.		Travel 31	Residual 4			
Currents	B-C	Test	Readjust	Test	Residual	Currents	B-C	Test	Readjust	Test	Residual
Saturate	FULL					Saturate	FULL				
Hold						Hold					
Release	DIS					Release	DIS				
Non-Operate						Non-Operate					
Operate	0					Operate	15				
Guide Res.	5450					Guide Res.	2550				

Test Points A

Remarks: EARTH: Z1 REMOVE BATTERY FROM YY COIL. INSULATE Z1-2

30 GRMS

Y YY

30 GRMS

30 GRMS