J. E. Mansey

Instruction No. 51

BRITISH TRANSPORT COMMISSION BRITISH RAILWAYS—EASTERN REGION

GREAT EASTERN LINE

NEW SIGNALLING BETWEEN

CHELMSFORD (EXCLUSIVE) AND COLCHESTER (INCLUSIVE)

The instructions contained herein must be carefully read and observed by all concerned.

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NEW SIGNALLING BETWEEN CHELMSFORD (EXCLUSIVE) AND COLCHESTER (INCLUSIVE)

Commencing on 19th November, 1961, the existing running signals between Witham (inclusive) and Colchester (inclusive) will be abolished in four stages numbered 2 to 5 inclusive.

Stage I—Resignalling between Chelmsford (exclusive) and Witham (exclusive) was introduced on 17th September, 1961 (see Instruction No. 29, dated 31st August, 1961). The new running signals brought into use in Stage I are also included in the list of signals and on the signal diagram given later in this Instruction.

The Up and Down running lines will be continuously track circuited throughout and Absolute Block Working dispensed with as the work progresses.

Certain signals will be designated semi-automatic and will normally be controlled by the passage of trains.

Telephones will be provided at all signals fitted with \diamondsuit signs and also at all automatic and semi-automatic signals which have a Red aspect.

COLOUR LIGHT SIGNALS

The colour light running signals will be placed to Danger or Caution as the case may be when the engine passes the signal.

All colour light signals will be fitted with an enamelled plate bearing reference letters and numerals for identification purposes, and a full description of each signal is given in this notice.

Certain signals will be provided with junction indicators, the application of which is shown in the list of running signals. A movement must not be made past a signal fitted with a junction indicator when this is illuminated unless a proceed aspect is displayed at the signal.

Position light Calling-on signals, which do not show an "On" aspect will be provided on certain running signals. The "Off" aspect is given by 2 white lights inclined upwards at 45° with the letter "C" for Calling-on displayed.

Position light signals affixed to brackets on certain signals will not show an "On" aspect, and the "Off" aspect will be indicated when the position light aspect of 2-white lights inclined upwards at 45° is displayed for the line concerned. Drivers must understand that the line for which such a signal has been cleared may be already occupied by another train or vehicles.

Drivers and others having to refer to any signal bearing an identification plate must always quote the letters and numbers.

The aspects and meanings of the colour light signals will be in accordance with Rule 35 (b) (i) and are further amplified in the list of signals appearing herein.

STAGE 2

SUNDAY, 19th NOVEMBER, 1961

New Signalling at Witham

A new panel signal box will be brought into use at Witham to replace the existing signal box.

All signals prefixed "W" in the List of Signals shown herein will be brought into use to replace the existing Witham signals.

Absolute Block Working will be dispensed with between Witham and Rivenhall signal boxes and trains will be temporarily described by bell.

The Up and Down running lines will be track circuited throughout.

The second yellow in signal D.37 will be brought into use.

Final signal D.40 will be brought into use to act temporarily as Rivenhall Down Home signal. As a temporary arrangement a diamond sign will be fitted and the telephone at the signal will be connected to Rivenhall signal box. The yellow and double yellow aspects of this signal will not be brought into use at this stage.

Final signal U.40 will be brought into use and a temporary 4-aspect colour light signal, fitted with diamond sign, will be brought into use to act as Rivenhall Up Home signal.

All existing Rivenhall semaphore signals will be abolished.

The facing and trailing crossovers at Rivenhall will be clamped out of use and removed at a later date.

A list of ground frames showing the allocation of levers is given in the Appendix to this Instruction.

The ground shunt signals at Witham will be modified and on and from this date will be of the position light type, applying as follows:—

Position Light Signal No.	Location	Application (when cleared)	Indication
29 (with 6-way route indicator)	Outside Up Main, London end of station	Up Main to :— Down Back Platform line Down Main Up Main Up Back Platform line Up Yard Up Siding	4 3 2 1 Y S
31	Between Spur and Up Main, London end of Station	Spur to Up Back Platform line or Yard Road	_
33	At outlet from Down Sidings	Down Sidings to Down Back Platform line	
l6 (with 2-way route indicator)	Outside Yard Road Opposite signal W.14	Yard Road to :— Up Main Spur	M S
35	Outside Yard Road opposite signal W.17	Yard Road to Up Back Platform line Signal W.19 or Maldon Sidings	
46	Outside Up Back Platform line near signal box	Along Up Back Platform line or to Yard Road	
14	Outside Maldon Sidings, near outlet	Maldon Sidings to Up Back Platform line ground signal No. 46	
37	Between Up Main and Up Back Platform lines, country end of platforms	Up Main to Down Main or to Up Passenger Loop ground signal No. 39	
39 (with 3-way route indicator)	Between Up Passenger Loop and Maldon Branch	Up Passenger Loop to :— Down Main Up Passenger Loop Up Yard	D L Y
10	Between Up Yard Sidings, near outlet	Up Yard to Up Main or Up Back Platform line	
12	Outside Down Passenger Loop, country end of station	Down Passenger Loop to Down Back Platform line or to Down Main Platform line	
18 (with 3-way route indicator)	Between Down Passenger Loop and Down Main, at crossover between Up and Down Main	Down Main to :— Down Main Up Main Up Back Platform line	3 2 I
	Outside Down Main at country end of Down Passenger Loop	Down Main to Down Passenger Loop or Down Main	
8	Between Down Main and Down Back Platform line at London end of platforms	Down Main to Up Main	

STAGE 3

SUNDAY, 3rd DECEMBER, 1961

New Signalling between Witham (exclusive) and Marks Tey (inclusive)

New colour light signalling will be brought into use to replace the existing signals between Witham (exclusive) and Marks Tey (inclusive). Rivenhall, Kelvedon and Hill House signal boxes will be abolished. The new signals worked from Marks Tey will be prefixed "M.T."

The existing semaphore signals on the Up Goods Loop at Marks Tey will remain.

The existing Marks Tey semaphore Up Distant signal will be temporarily retained.

New signal M.T.46 will temporarily display Red or Green aspects only.

Absolute Block Working between Witham and Marks Tey will be dispensed with and trains will be temporarily described by bell.

Absolute Block Working will be temporarily retained between Marks Tey and Stanway.

The Down Main line will be continuously track circuited up to approximately 200 yards in advance of signal M.T.46 and the Up Main line will be continuously track circuited from the existing Stanway Starting signal.

Signal U.43B will temporarily be positioned at the foot of the London end ramp of the Up Platform at Kelvedon.

At Kelvedon the connection between the Tiptree Branch and the Up Main line will be worked from a new I-lever ground frame released by an Annetts Key which will be kept in a lock on No. 10 lever at the new Kelvedon 10-lever ground frame (see Appendix to this Instruction). The Train Staff for the Tiptree Branch is in the custody of the person in charge at Kelvedon.

A stop board will be provided at the Kelvedon end of the Tiptree Branch, applicable to trains requiring to pass off the Branch and lettered "ENGINES MUST NOT PASS THIS BOARD UNTIL AUTHORISED BY SHUNTER."

The following connections at Kelvedon will be clamped out of use until removal at a later date:—Up Siding No. 2 to Up Main (country end).

Down Sidings to Down Main (country end).

A list of ground frames, showing the allocation of levers, is given in the Appendix to this Instruction.

The ground shunt signals at Marks Tey, which will remain of the disc type, will be modified and on and from this date will apply as follows:—

Disc Signal No.			o.	Location	Application (when cleared)	Indication
I				Outside London end of Up Yard	Up Yard to Up Goods Loop signal No. 8/9/10	
10	•••		•••	Between Up Goods Loop and Up Yard Spur (at foot of signal M.T.8/9	Up Goods Loop to Spur	
15	•••	•••	•••	Between Up Main and Up Goods Loop Spur	Up Main to Up Goods Loop "Limit of Shunt" board or Up Yard	
32	•••		•••	Outside Down Passenger Loop, near signal box	Down Passenger Loop to Up Main or Up Branch via Down Main or towards Branch up to No. 52 signal	
35	•••	•••	•••	Between Down Main and Down Passenger Loop	Down Main to Up Main or Branch	
37	•••	•••	•••	Between Up and Down Main at country end of Up Platform	Up Main to Down Passenger Loop Down Main or Up Main disc signal No. 15	
38		•••	•••	Between Down Main and Down Branch at country end of Down Main Platform	Down Main to Up Main disc signal No. 15	
51			•••	Outside connecting line between Branch and Down Passenger Loop	From Branch line direction to Down Passenger Loop	
52	•••			Outside connecting line between Branch and Down Passenger Loop	From Down Passenger Loop direction to Branch	
56	•••			At foot of Branch signal M.T.55/57	Branch towards Down Passenger Loop to disc signal No. 51 or to Down Passenger Loop via Down Main or Down Main or Up Main to disc signal No. 15	

STAGE 4

SUNDAY, 10th DECEMBER, 1961

New Signalling between Marks Tey (exclusive) and Colchester (exclusive)

New colour light signalling will be brought into use to replace the existing signals between Marks Tey (exclusive) and Colchester (exclusive), including Marks Tey semaphore Up Distant signal. Stanway signal box will be abolished.

Signal M.T.46 will function as a 4-aspect signal on and from this date.

The existing Colchester Up Starting signal C.S.54 will be abolished.

Absolute Block Working will be abolished and trains between Marks Tey and Colchester will be temporarily described by bell.

The Up and Down Main lines will be continuously track circuited between Marks Tey and Colchester.

A list of ground frames, showing the allocation of levers, is given in the Appendix to this Instruction.

STAGE 5

SUNDAY, 4th FEBRUARY, 1962

New Signalling at Colchester

The existing signalling at Colchester, together with the Station and Junction signal boxes will be dispensed with and the new signals prefixed C.O. shown in the list of signals herein will be brought into use, worked from a new panel signal box designated "Colchester" signal box.

The ground shunt signals at Colchester will be modified on and from this date and will be of the position light type, applying as follows:—

Position Light Signal No.	Location	Application (when cleared)	Indication
35	Between Up Main and Up Pass- enger Loop	Up Main to Down Main or Down Back Platform or set back along Up Main to ground signal No. 41	_
37	Outside Up Loop Passenger Loop	Up Loop to Up Main signal No. 41 or set back along Up Passenger Loop to ground signal No. 43	
39 (with 5-way route indicator).	At Carriage Sidings outlet to Down Main	Carriage Sidings to :— Down Back Platform Down Main Up Main (ground signal No. 41 " off ")	1 2 3
		Up Bay (ground signals Nos. 41 and 43 "off") Bay Sidings (ground signals No. 41 and 43 "off")	6 S
41	Between Up Main and Up Pass- enger Loop	Up Main to Bay Platform signal No. 43 or set back along Up Main to ground signal No. 49	_
43	Outside No. 6 Bay Platform line	To No. 6 Bay Platform or Bay Siding	
46	Between No. 6 Bay Platform line and Bay Siding	Along to No. 6 Bay Platform line to signal CO.8	_
48	Outside Bay Siding	Bay Siding to No. 6 Bay Plat- form signal CO.8	
38	Outside Up Clacton line	Up Platform line to Up Clacton Siding or No. 5 Up Bay or No. 4 Up Bay	
36	Between Down Main and Down Clacton Avoiding line	Down Main to Down Main ground signal No. 42 or Up Main or No. 4 Bay Platform line	

Colchester Ground Shunt Signals—continued

Position Light Signal No.	Location	Application (when cleared)	Indication
42	Between Down Main and Down Clacton Avoiding line	Down Main to Down Main ground signal, signal No. 44 or Down Back Platform	
44	Between Up and Down Main lines, London end of Down Platform	Down Main to Down Main ground signal No. 50 or Carriage Sidings	
49	Between Up and Down Main lines, country end of Up Main Plat- form (No. 3)	Up Main to :— Down Main No. 4 Bay Platform	M 4
50	Outside Down Main, near Diesel Shed	Down Main to Up Main or Diesel Depot	
56 (two signals)	Ist signal between Carriage Sidings Spur and connection Carriage Sidings/Up Goods 2nd signal under Carriage Sidings outlet signal No. 26	Spur to Carriage Sidings and Carriage Sidings to Spur	
52	Outside Goods Yard Spur line (above signal No. 54)	Goods Yard to Up Goods	
54 (two signals)	lst signal outside Goods Yard Spur 2nd signal at London end outlet from Goods Yard	Spur to Goods Yard Goods Yard to Spur	
33	Between Up Goods and Carriage Sidings	Up Goods to Goods Yard or Down Goods or Up Goods	
47	At Goods Yard outlet near signal box	Goods Yard to Down Back Platform	
45 (two signals— one with 3-way route indicator)	Ist signal at Station end of Carriage Sidings 2nd signal between Spur and Up Goods	Carriage Sidings to :— Spur Down Back Platform Down Main Spur to Carriage Sidings	S I 2
40	Outside Up Clacton Spur	Up Clacton Spur to Up Clacton Siding	

LIST OF RUNNING SIGNALS

The abbreviations used in the following list are as under :—

R	•••	•••	•••	•••	Red
Υ	•••	•••	•••		Yellow
Y/Y	•••		•••		Double Yellow
G					Green

Signal No.	Type of Signal	Proceed Aspect	Application	
CHELMSFORD				
Up Main				
C.100	4 Aspect with subsidiary on left Diamond sign [C.100 (with subsidiary) controlled to Red by Boreham Level Crossing ground frame "B".]	Y Y/Y G Subsidiary	To signal U.32 at R. To signal U.32 at Y. To signal U.32 at Y/Y or O To Up Goods Loop occu- pied or clear.	
U.32	4 Aspect Automatic	<u> Y</u> /Y	To signal U.31 at R. To signal U.31 at Y. To signal U.31 at Y/Y or G.	
U.31	4 Aspect Automatic	Y Y Y/Y G	To Up Main signal C4 at R. To Up Main signal C4 at Y. To Up Main signal C4 at G.	
Up Goods Loop				
C.106	3 Aspect Diamond sign (Controlled to Red by Boreham Level Crossing ground frame "B".)	Y G	To signal U.32 at R. To signal U.32 at Y, Y/Y or G.	
Down Main				
C.34	3 Aspect with Miniature Yellow and Route Indi- cator	Y G	To signal C.33 at R. To signal C.33 at Y, Y/Y or G.	
	Diamond sign	Miniature Y and Indication "L" Minature Y and Indication "S".	To Down Goods Loop occupied or clear. To Up siding.	
C.33	4 Aspect D sign	Y	To signal D.31 at R. To signal D.31 at Y. To signal D.31 at Y/Y or G.	
Down Goods Loo	p			
C.39	Semaphore	"Off"	To Down Main signal C.33 at R. Y, Y/Y or G.	

Signal No.			Type of Signal		Proceed Asp	ect	Application	
BETWE	EN CI	HEL	MSFORD (Exclusive) A	ND	WITHAM	(exclusi	ve).	
Up Line	•							
U.38	•••	•••	4 Aspect Automatic	Y . Y/Y G	 		To signal U.37 at R. To signal U.37 at Y. To signal U.37 at Y/Y or G.	
U.37		•••	4 Aspect Automatic	Y . Y/Y G			To signal U.37B at R. To signal U.37B at Y. To signal U.37B at Y/Y or G.	
U.37B	•••		4 Aspect Semi-Automatic (Controlled to Red by Hatfield Peverel ground frame " C ')	Y Y/Y G			To signal U.36 at R. To signal U.36 at Y. To signal U.36 at Y/Y or G.	
U.36	•••		4 Aspect Automatic	Y . Y/Y . G	·· ··		To signal U.35 at R. To signal U.35 at Y. To signal U.35 at Y/Y or G.	
U.35			4 Aspect Automatic	Y . Y/Y G .	·· ···	•••	To signal U.34 at R. To signal U.34 at Y. To signal U.34 at Y/Y or G.	
U.34		•••	4 Aspect Automatic	Υ.			To Up Main signal C.100 at R.	
				Y/Y G			To Up Main signal C.100 at Y. To Up Main signal C.100 at Y/Y or G.	
Down L	ine							
D.31	•••	•••	4 Aspect Automatic	Y . Y/Y G .	·· ··· ···		To signal D.32 at R. To signal D.32 at Y. To signal D.32 at Y/Y or G.	
D.32	•••	•••	4 Aspect Semi-Automatic (controlled to Red by New Hall ground frame "A" and by Boreham level crossing ground frame "B").	Y . Y/Y G .	•••		To signal D.32B at R. To signal D.32B at Y. To signal D.32B at Y/Y or G.	
D.32B .		•••	4 Aspect Automatic	Y . Y/Y G .			To signal D.33 at R. To signal D.33 at Y. To signal D.33 at Y/Y or G.	
D.33	•••		4 Aspect Automatic	Y . Y/Y G .	•••		To signal D.34 at R. To signal D.34 at Y. To signal D.34 at Y/Y or G.	
D.34	•••	•••	4 Aspect Automatic	Y . Y/Y G	·· ···		To signal D.34B at R. To signal D.34B at Y. To signal D.34B at Y/Y or G.	
D.34B	•••	•••	4 Aspect Automatic	Y Y/Y G	·	••• •••	To signal D.35 at R. To signal D.35 at Y. To signal D.35 at Y/Y or G.	

Signal No.		o .	Type of Signal	Proceed Aspect	Application	
BETW	TWEEN CHELMSFORD (Exclusive)		LMSFORD (Exclusive)	AND WITHAM (Exclu	sive)—continued	
Down	Line-	_cont	inued			
D.35			4 Aspect Semi-Automatic (controlled to Red by Hatfield Peverel ground frame "C").	Y Y/Y G	To signal D.36 at R. To signal D.36 at Y. To signal D.36 at Y/Y or G.	
D.36	•••	•••	4 Aspect Automatic	Y/Y	To signal D.37 at R. To signal D.37 at Y or Y/Y.	
				G	To signal D.37 at Y/Y or G.	
D.37	•••	•••	4 Aspect Automatic	Y Y/Y G	To signal W.1 at R. To signal W.1 at Y or Y/Y To signal W.1 at Y/Y or G.	
WITH. Up Ma						
W.2		•••	4 Aspect with left hand Junction Indicator Diamond sign	Y without Junction Indicator Y/Y without Junction Indicator. G without Junction Indicator Y with Junction Indicator.	To Up Main signal W.4 at R. To Up Main signal W.4 at Y or Y/Y. To Up Main signal W.4 at Y/Y or G. To Up Passenger Loop signal W.10 at R.	
W.4			4 Aspect with left hand Junction Indicator Diamond sign.	Y without Junction Indicator. Y/Y without Junction Indicator. G without Junction Indicator. Y with Junction Indicator.	To Up Main signal W.6 at R. To Up Main signal W.6 at Y or Y/Y. To Up Main signal W.6 at G. To Up Back Platform signal W.12 at R.	
W.6	•••	•••	4 Aspect Diamond sign	Y Y/Y G	To signal W.8 at R. To signal W.8 at Y. To signal W.8 at Y/Y or G.	
W.8	•••		4 Aspect Diamond sign	Y Y/Y G	To signal U.38 at R. To signal U.38 at Y. To signal U.38 at Y/Y or G.	
Up Pas	ssenge	r Loo	P		C .	
W.10	•••	•••	2 Aspect with 2-way Route Indicator, and Subsidiary on left, Diamond sign	Y with Indication " I " Y with Indication " 2" Subsidiary	To Up Back Platform signal W.12 at R. To Up Main signal W.6 at R., Y., Y/Y or G. To Up Yard Road occupied or clear.	
Up Ba	ck Pla	tform	(Up Direction)			
W.12	•••	•••	2 Aspect Diamond sign	Y	To Up Back Platform sig- nal W.14 at R.	
W.14			3 Asepct with Subsidiary Diamond sign	Y G	To Up Main signal W.8 at R. To Up Main signal W.8 at Y., Y/Y or G.	
				Subsidiary	To Spur, occupied or clear	

Signal No.		Type of Signal	Proceed Aspect	Application	
WITHA	M—coi	ti nued			
From B	raintre	Branch			
W.20	•••	2 Aspect Diamond sign	Y	To Up Branch signal W.22 at R.	
W.22		2 Aspect Diamond sign	Y	To Down Back Platform signal W.24 at R.	
Down B	ack Pla	form (Up Direction)			
W.24		2 Aspect Diamond sign	Y	To Down Back Platform signal W.26 at R.	
W.26	•••	3 Aspect with Subsidiary on right	Y	To Up Main signal W.8 at	
		Diamond sign	G	To Up Main signal W.8 at Y, Y/Y or G.	
			Subsidiary	To Down Sidings.	
From M	laldon E	ra _l nch			
W.18		2 Aspect with Subsidiary on left Diamond sign	Y Subsidiary	To Up Back Platform sig- nal W.12 at R. (ground signal W.46 " Off"). To Up Yard Road occu- pied or clear (ground signal W.46 " Off").	
Down M	lain			i signal 44. 10 On).	
W.I		4 Aspect with left hand and right hand Junction Indicators and Subsidiary on right Diamond sign	Y without Junction Indicators Y/Y without Junction Indicators G without Junction Indicators Y with left hand Junction Indicator Y with right hand Junction Indicator Subsidiary	To Down Main signal W.3 at R. To Down Main signal W.3 at Y or Y/Y. To Down Main signal W.3 at Y/Y or G. To Down Back Platform signal W.9 at R. To Up Back Platform signal W.17 at R. or Y. To Up Yard Road occupied or clear (ground signals W.29 and W.31 "Off").	
W.3		4 Aspect with left hand Junction Indicator Diamond sign	Y without Junction Indicator Y/Y without Junction Indicator G without Junction Indicator Y with Junction Indicator	To Down Main signal W.5 at R. To Down Main signal W.5 at Y., or Y/Y. To Down Main signal W.5 at G. To Down Passenger Loop signal W.13 at R.	
W.5		4 Aspect Diamond sign	Y Y/Y G	To Down Main signal W.7 at R. To Down Main signal W.7 at Y. To Down Main signal W.7 at Y/Y or G.	
W.7		4 Aspect Diamond sign	Y Y/Y G	To signal D.40 at R. To signal D.40 at Y. To signal D.40 at Y/Y or G.	

Sig	Signal No. Type of Signal		Proceed S	spect	Application	
WITH	AM — cont	inued				
Down I	Back Platfo	rm (Down Direction)				
W.9		. 2 Aspect Diamond sign	Υ	••••	To Down Back Platform signal W.11 at R.	
W.11		3 Aspect with left hand Junction Indicator Diamond sign	Y without June cator Y with Junction		To Down Passenger Loop signal W.13 at R. To Down Braintree Branch	
			G with Junction	n Indicator	signal W.15 at R. To Down Braintree Branch signal W.15 at G	
To Brai	intree Brai	ch				
W.15		. 2 Aspect Diamond sign	G	•••	To White Notley station crossing Distant signa "Off" or "On".	
Down F	Passenger l	-oop				
W.13		. 3 Aspect Diamond sign	Υ		To Down Main signal W.7	
			G	•••	To Down Main signal W.7 at Y., Y/Y or G.	
Up Bac	k Platforn	(Down Direction)				
W.17		. 2 Aspect with Subsidiary on right	Υ		To Up Back Platform Starting signal W.19 at	
		Diamond sign	Subsidiary	•••	R. To Maldon Sidings.	
W.19		. 3 Aspect with 2-way Route Indicator and	Y with indicati	on " M "	To Down Main signal W.5	
		Subsidiary on right Diamond sign	G with Indicat		To Down Main signal W. at Y., Y/Y or G.	
			G with Indicat Subsidiary	B	To Maldon East Distantiation of "On". To Up Yard.	
BETWI	EEN WIT	THAM (Exclusive) AND	MARKS TEY	(Exclusive)		
Up Lin		(**************************************		` '	,	
U.46		. 4 Aspect Automatic	Y Y/Y G		To signal U.45 at R. To signal U.45 at Y.	
			G	•••	To signal U.45 at Y/Y or G.	
U.45		. 4 Aspect Automatic	Y Y/Y		To signal U.45B at R. To signal U.45B at Y.	
			G		To signal U.45B at Y/Y or G.	
U.45B		. 4 Aspect SemiAutomatic (Controlled to Red by			To signal U.44 at R.	
		Hill House Level Crossing ground frame "N"			To signal U.44 at Y of Y/Y. To signal U.44 at Y/Y of	
U.44		. 4 Aspect Automatic	Υ		G. To signal U.43 at R.	
		,	Y/Y	•••	To signal U.43 at Y oi Y/Y	
			G	•••	To signal U.43 at G.	

Signal No.) .	Type of Signal	Pro	ceed	Aspect	Application	
BETWE	EN	WIT	HAM (Exclusive) AND	MARKS	TEY	(Exclu	sive)	continued
Up Line	e—-co	ntinu	ed				ļ	
U.43			4 Aspect Semi-Automatic (controlled to Red by Kelvedon ground frame "L").	Y/Y			•••	To signal U.43B at R. To signal U43.B at Y. To signal U.43B at Y/Y o G.
U.43B	•••		4 Aspect Semi-Automatic (controlled to Red by Kelvedon ground frame "L").	Y/Y			•••	To signal U.42 at R. To signal U.42 at Y. To signal U.42 at Y/Y c G.
U.42	•••		4 Aspect Semi-Automatic (controlled to Red by Church Street Level Crossing ground frame "J").	Y/Y G				To signal U.41 at R. To signal U.41 at Y. To signal U.41 at Y/Y o G.
U.41	•••	•••	4 Aspect Automatic	Y Y/Y	•••		•••	To signal U.40 at R. To signal U.40 at Y o Y/Y.
				G	•••	•••		To signal U.40 at Y/Y o G.
U.40	•••		4 Aspect Automatic	Υ	•••		•••	To Up Main signal W. at R.
				Y/Y G	•••	•••	•••	To Up Main signal W.2 a Y or Y/Y. To Up Main signal W.2 a
								Y/Ý or G.
Down L	ine							
D.40	•••		4 Aspect Automatic	Y Y/Y G			•••	To signal D.41 at R. To signal D.41 at Y. To signal D.41 at Y/Y o
D.41	•••	•••	4 Aspect Automatic	Y Y/Y G			•••	G. To signal D.41B at R. To signal D.41B at Y. To signal D.41B at Y/Y o
D.4IB			4 Aspect Semi-Automatic (controlled to Red by Church Street level crossing ground frame "j" and Kelvedon ground frame "L").	Y/Y G			•••	G. To signal D.42 at R. To signal D.42 at Y. To signal D.42 at Y/Y o G.
D.42	•••		4 Aspect Automatic	Y Y/Y G			•••	To signal D.43 at R. To signal D.43 at Y. To signal D.43 at Y/Y o G.
D.43		•••	4 Aspect Automatic	Y Y/Y G			•••	To signal D.43B at R. To signal D.43B at Y. To signal D.43B at Y/Y of G.
D.43B		•••	4 Aspect Semi-Automatic (controlled to Red by Hill House level crossing ground frame "N").	Y/Y G				To signal D.44 at R. To signal D.44 at Y. To signal D.44 at Y/Y or C

Signal. No.	Type of Signal	Proceed .	Aspect	Appliicaton	
BETWEEN WIT	HAM (Exclusive) AND	MARKS TEY	(Exclusive)	—continued	
Down Line-conti	nued		I		
D. 44	4 Aspect Automatic	Y Y/Y G		To signal D.45 at R. To signal D.45 at Y. To signal D.45 at Y/Y or G.	
D.45	4 Aspect Automatic	Y Y/Y		To signal D.45B at R. To signal D.45B at Y or Y/Y.	
		G		To signal D.45B at Y/Y or G.	
D.45B	4 Aspect Semi-Automatic (controlled to Red by	Y		To Down Main signal MT.49 at R.	
	Long Green level crossing ground frame "O"	Y/Y		To Down Main signal MT.49 at Y or Y/Y.	
4		G	*** ***	To Down Main signal MT.49 at Y/Y or G.	
MARKS TEY					
Up Main					
M.TI7	4 Aspect with subsidiary on left	Υ	•••	To Up Main signal MT.18 at R.	
	Diamond sign	Y/Y		To Up Main signal MT.18 at Y.	
		G	•••	To Up Main signal MT.18 at Y/Y or G.	
,		Subsidiary		To Up Goods Loop occu- pied or clear.	
MT.18	4 Aspect with right hand	Y without Jui	nction Indi-	To Up Main signal MT.19	
	Junction Indicator Diamond sign	cator Y/Y without	Junction	To Up Main signal MT.19	
		Indicator G without Jui	nction Indi-	To Up Main signal MT.19	
		cator Y with Junctic	n Indicator	at Y/Y or G. To Branch Starting signal	
ļ		Y/Y with Jun	ection Indi-	"On". To Branch Starting signal "Off".	
MT.19	4 Aspect Diamond sign	Y Y/Y		To signal U.46 at R. To signal U.46 at Y.	
	Diamond sign	G'		To signal U.46 at Y/Y or G.	
Up Goods Loop	Miniature Semaphore MT. 7			To Miniature Semaphore signals MT.8 and 9.	
Up Goods Loop	Miniature Semaphores MT. 8 and MT.9	MT.8 MT.9		To Up Main. To Branch.	
Down Main					
MT.49	4 Aspect	Υ		To Down Main signal	
	Diamond sign	Y/Y		MT.47 at R. To Down Main signal	
		G	•••	MT.47 at Y or Y/Y. To Down Main signal MT.47 at G.	

Signal No.		Type of Signal	Proceed	d Aspect	Application
MARKS	TEY-c	ntinued			
Down M	ain—con	tinued			
MT.47		4 Aspect with left hand Junction Indicator Diamond sign	cator Y/Y withou Indicator G without J cator.	unction Indi- it Junction lunction Indi- tion Indicator	To Down Main signa MT.46 at R. To Down Main signa MT.46 at Y. To Down Main signa MT.46 at Y/Y or G. To Down Passenger Loop signal MT.45 at R.
MT.46		4 Aspect Diamond sign	Y Y/Y G	· ···	To signal D.47 at R. To signal D.47 at Y. To signal D.47 at Y/Y of
Down B	ranch				Í
MT.57		. 3 Aspect with right-hand Junction Indicator Diamond sign	Y without Junction Indicator. Y with Junction Indicator G with Junction Indicator		signal MT.45 at R. To Down Main signa MT.46 at R.
Down P	assenger	Loop	G with junct	non majcator	MT.46 at Y, Y/Y or G.
MT.45	•••	. 3 Aspect Diamond sign	Υ		. To Down Main signa MT.46 at R.
			G		. To Down Main signa MT.46 at Y, Y/Y or G.
BETWE		RKS TEY (Exclusive) AN	D COLCH	ESTER (Exc	lusive)
U.51		. 4 Aspect Automatic	Y Y/Y	·	. To signal U.50 at R. . To signal U.50 at Y. . To signal U.50 at Y/Y
				• ••• ••	or G.
U.50	•••	. 4 Aspect Semi-Automatic (controlled to Red by Chitts Hill level cross- ing ground frame "Q")	Y Y/Y G		. To signal U.50B at R. To signal U.50B at Y. To signal U.50B at Y/Y or G.
U.50B	•••	4 Aspect Semi-Automatic (controlled to Red by Stanway ground frame "P")	Y Y/Y G	· ··· ··	To signal U.49 at R. To signal U.49 at Y. To signal U.49 at Y/Y or G.
U.49		. 4 Aspect Automatic	Υ		To Up Main signal MT.17
			Y/Y		To Un Main aignal MT I
			G		To Up Main signal MT.17 at Y/Y or G.
	ine				
Down L			i		1

Signal No.			Type of Sig	nal	Proceed Aspect Applica		Application			
		ĺ	•	ve) A	ND	COL	.СНЕ	STER	(E	xclusive)—continued
Down L			ued 4 Aspect Semi-Auto (D.48 controlle Red by St ground frame Subsidiary also trolled by g frame "P")	ed to anway "P" con-	Y/Y G		 		•••	To signal D.49 at R. To signal D.49 at Y or Y/Y. To signal D.49 at Y/Y or G. To Up Stanway Siding.
D.49		4	4 Aspect Semi-Auto (controlled to R Chitts Hill Crossing ground "Q")	ed by Level	Y Y/Y G					To signal D.50 at R. To signal D.50 at Y or Y/Y. To signal D.50 at Y/Y or G.
D.50			4 Aspect Automati	c	Y Y/Y G					To Down Main signal CO.1 at R. To Down Main signal CO.1 at Y or Y/Y. To Down Main signal CO.1 at Y/Y or G.
COLCH	IESTER									
Up Mai	n									
PH.18	•••		4 Aspect Diamond sign		Y/Y G					To Up Main signal 4R at Y or Y/Y. To Up Main signal 4R at Y/Y or G.
4R			3 Aspect		Y					To signal CO.4 at R. To signal CO.4 at Y or Y/Y.
					G		•••	•••	•••	To signal CO.4 at Y/Y or G.
CO.4		4	. 4 Aspect with 2-way Route Indicator and Subsidiary "C" Diamond sign	2-way	Y wi	thou	Indi	ator		To Up Main signal CO.6
				Y/Y	with	out In	dicator	•••	1.5	
				G w	ithou	t Indi	cator	•••	To Up Main signal CO.6 at G.	
				Y wi	th In	dicati	on " 4 '	'	To Up Bay No. 4 Plat- form clear.	
		1						on"l'	1	clear.
				let	Subsidiary "Off" with To Up Bay letter "C" and Indication "4"		To Up Bay No. 4 plat- form occupied.			
				Subs let	idiary	, " C C"a	off'' wi nd India		To Down Back Platform occupied.	
				ĺ	Subs	idiary ter "	, " C	off" wi	ith	To Up Main Platform occupied.
CO.6			4 Aspect with left Junction Indicate Subsidiary on rig Diamond sign	or and	Y/Y Inc G wi cat Y v	tor with dicate ithou tor	out Jor or t Junc Junct	ction li unction ction Indi ion Ind	di-	To Up Main signal CO.10 at R. To Up Main signal CO.10 at Y. To Up Main signal CO.10 at Y/Y or G. To Up Loop signal CO.12 at R. To Diesel Depot Sidings.

Signal No.	Type of Signal	Proceed Aspect	Application
COLCHESTER—	continued		
Up Main—continu	ed		
CO.10	4 Aspect Diamond sign	Y/Y	To signal U.51 at R. To signal U.51 at Y. To signal U.51 at Y/Y or G.
Up Clacton Bran	ch		
CO.14	3 Aspect	Y	To Up Branch signal
	Diamond sign	Y/Y	CO.16 at R. To Up Branch signal CO.16 at Y.
CO.16	3 Aspect with 4-way	Y without Indicator	To Up Main signal CO.6 at R.
	route Indicator and Subsidiary "C" Diamond sign	G without Indicator	To Up Main signal CO.6
		Y with Indication "5"	at Y/Y or G. To Up Bay No. 5 Platform
		Y with Indication "4"	clear. To Up Bay No. 4 Plat-
		Y with Indication " I "	form clear. To Down Back Platform
		Subsidiary "Off" with	clear. To Up Clacton Siding.
		Indication "S" Subsidiary "Off"	To Up Main occupied.
		with letter "C" Subsidiary "Off" with letter "C" and Indi-	To Up Bay No. 5 Plat-
		cation " 5 "	form occupied.
		Subsidiary "Off" with letter "C" and Indi-	To Up Bay No. 4 Plat- form occupied.
		cation "4" Subsidiary "Off" with letter "C" and Indi- cation "I"	To Down Back Platform occupied.
Up Bay Platform	No.4 (Up Direction)		
CO.18	2 Aspect Diamond sign	Υ	To Up Main signal CO.6 at R.
Down Back platfo	rm (Up Direction)		
CO.20	3 Aspect with 2-way Route Indicator and Subsidiary	Y with Indication " M "	To Up Main signal CO.10
		Y with Indication "G"	at R. To up Goods signal CO.22
	Diamond sign	G with Indication "M"	at R. To Up Main signal CO.10
		Subsidiary " Off"	at Y/Y or G. To Diesel Sidings via
		, and the second	Down Main or to Car- riage Sidings or to Yard or to Down Goods occupied.
Up Goods			
CO.22	2 Aspect Diamond sign	Y	To Up Goods signal CO.24 at R.
CO.24	3 Aspect Diamond sign	Y G	To signal U.51 at R. To signal U.51 at Y/Y or G.

Signal No.		Type of Signal	Proceed Aspect	Application
COLCHESTER — continued Sudbury Bay Platform				
CO.8	- -	. 3 Aspect with 2-way Route Indicator and Subsidiary on right Diamond sign	Y with Indication "M" Y with Indication "L" G with Indication "M" Subsidiary	To Up Main signal CO.10 at R. To Up Loop signal CO.12 at R. To Up Main signal CO.10 at Y/Y or G. To Diesel Depot Sidings
Up Pas	senger Loc	P P		
CO.12		3 Aspect Diamond sign	Y G	To signal U.51 at R. To signal U.51 at Y/Y or G.
Carriag	e Sidings	(Up Direction)		
CO.26		3 Aspect Diamond sign	Y G	To signal U.51 at R. To signal U.51 at Y/Y or G.
Down M	1ain			
CO.I		4 Aspect with left hand Junction indicator and Subsidiary on right Diamond sign	Y without Junction Indicator Y/Y without Junction Indicator G without Junction Indicator. Y with Junction Indicator Subsidiary	To Down Main signal CO.3 at R. To Down Main signal CO.3 at Y or Y/Y. To Down Main signal CO.3 at G. To Down Goods signal CO.13 at R. To Carriage Sidings.
CO.3	•••	4 Aspect with 3-way Route Indicator and Subsidiary "C". Diamond sign	Y without Indicator Y/Y without Indicator G without Indicator Y with Indication" I" Y/Y with Indication "I" Subsidiary "Off" with letter "C" and Indication "I". Subsidiary "Off" with letter "C". Y with Indication "6" Subsidiary "Off" with letter "C" and Indication "6". Subsidiary "Off" with letter "C" and Indication "6". Subsidiary "Off" with letter "C" and Indication "6". Subsidiary "Off" with Indication "S" (letter "C" not shown).	CO.5 at R. To Down Main signal CO.5 at Y. To Down Main signal CO.5 at G.

Signal No. COLCHESTER —		Type of Signal	Proceed Aspect	Application
		-continued		
Down N	Main — cor	tinued		
CO.5		. 4 Aspect with left and right hand Junction Indicators at 45° Diamond sign.	Y without Junction Indicators G without Junction Indicators Y with left hand Junction Indicator Y/Y with left hand Junction Indicator Y with right hand Junction Indicator Y/Y with right hand Junction Indicator Y/Y with right hand Junction Indicator.	To Down Main signal CO.9 at R. To Down Main signal CO.9 at G. To Down Passenger Loop signal CO.11 at R. To Down Passenger Loop signal CO.11 at Y, Y/Y or G. To Down Clacton Branch signal CO.23 at R. To Down Clacton Branch signal CO.23 at Y, Y/Y
CO.9		2 Aspect Diamond sign	G	or G. To Down Main Line.
Down G	ioods			
CO.13		2 Aspect with subsidiary on left Diamond sign	Y Subsidiary	To Down Goods signal CO.15 at R. To Goods Yard.
CO.15			Y	To Down Back Platform signal CO.7 at R. To Down Back Platform
Down B	ack Platfo	rm (Down Direction)		signal CO.7 at Y/Y.
CO.7		4 Aspect with right-hand Junction Indicators at 45° and 90° Diamond sign	Y without Junction Indicators Y/Y without Junction Indicators G without Junction Indicators Y with 45° Junction Indicator G with 45° Junction Indicator Y with 90° Junction Indicator. Y/Y with 90° Junction Indicator.	To Down Loop signal CO.11 at R. To Down Loop signal CO.11 at Y. To Down Loop signal CO.11 at Y/Y or G. To Down Main signal CO.9 at R. To Down Main signal CO.9 at G. To Down Clacton Branch signal CO23. at R. To Down Clacton Branch signal CO23. at Y, Y/Y
Up Bay	Platform	No. 4 (Down Direction)		or G.
CO.17		4 Aspect with 2-way Route Indicator Diamond sign	Y with Indication "M" G with Indication "M" Y with Indication "B" Y/Y with Indication "B" G with Indication "B"	signal CO.23 at R.
Up Bay	Platform	No. 5 (Down Direction)		
CO.19		4 Aspect Diamond sign	Y Y/Y G	To Down Clacton Branch signal CO.23 at R. To Down Clacton Branch signal CO.23 at Y. To Down Clacton Branch signal CO.23 at Y/Y or G.

Signal No.		Type of Signal	Proceed Aspect	Application	
COLCH	ESTER —	continued			
Up Clad	ton Sidin	g			
CO.21		2 Aspect with Subsidiary Diamond sign	Y Subsidiary " Off "	To Down Clacton Branch signal CO.23 at R. To Spur.	
Down C	lacton Av	oiding line			
CO.II		4 Aspect with right- hand Junction Indicator Diamond sign	Y without Junction Indicator Y/Y without Junction Indicator G without Junction Indicator G with Junction Indicator	To Down Clacton Avoiding line signal E.30 at R. To Down Clacton Avoiding line signal E.30 at Y. To Down Clacton Avoiding line signal E.30 at Y/Y or G. To Down Main line.	
E.30		4 Aspect Diamond sign		To Down Clacton Avoiding line signal E.23 at R. To Down Clacton Avoiding line signal E.23 at Y or Y/Y. To Down Clacton Avoiding line signal E.23 at Y/Y or G.	
Down C	lacton Bi	anch			
CO.23		4 Aspect Diamond sign	Y Y/Y G	To signal E.24 at R. To signal E.24 at Y. To signal E.24 at Y/Y or G.	

APPENDIX **GROUND FRAMES**

WITHAM Frame (London end)

Released by Witham signal box switch No.80.

Allocation of levers.

- I. Switch Lever
- Points, Up Main—Up Siding
 Control on signal W.29 when applying to Up siding

CUT THROAT LANE Frame (Level Crossing)

Released by Witham signal box switch No.82 The single lever controls the Gate Locks

WITHAM Frame (Country end) (Facing and Trailing Crossovers)

Released by Witham signal box switch No.83

Allocation of Levers

- 1. Switch Lever
- Trailing Crossover
 Facing Point Lock
- 4. Facing Crossover

CHURCH STREET Frame "j" (Level Crossing)

Allocation of Levers

- I. Control on Signal D.41.B
- 2. Gate Lock
- 3. Control on signal U.42

KELVEDON Frame "L" (Facing and Trailing Crossovers and Siding Connections).

Allocation of Levers

- 1. Control on signal D.41.B
- Facing Point Lock
- 3. Facing Crossover
- Trailing Crossover
- 5. Points, slip connection Up Main—Down Sidings
- 6. Points, Down Sidings-Down Main
- 7. Spare
- 8. Points, Up Main—Up Sidings9. Control on signal U.43B.
- 10. Control on signal U.43

KELVEDON Tiptree Branch Frame

1. Lever ground frame controlling points between Up Main line and Tiptree Branch, released by Annetts Key located at the Kelvedon 10-lever frame.

HILL HOUSE Frame "N" (Facing and Trailing Crossovers)

Allocation of Levers

- Control on signal D.43B
 Trailing Crossover
 Facing Point Lock
 Facing Crossover

- 5. Control on signal U.45B

LONG GREEN Frame "O" (Level Crossing)

Allocation of Levers

- 1. Control on signal MT.19
- 2. Gate Lock
- 3. Control on signal D.45B

XY Frame "P" (Facing and Trailing Crossovers and Siding Connections).

Allocation of Levers

- 1. Points, Up Sidings-Up Main
- Control on signal U.50B
 Trailing Crossover
 Facing Crossover
 Facing Point Lock

- 6. Control on Subsidiary signal on right of signal D.48
- 7. Control on signal D.48
- 8. Points, Down Main—Down Refuge Siding

CHITTS HILL Frame "Q" (Level Crossing)

Allocation of Levers

- 1. Control on signal U.50
- 2. Gate Lock
- 3. Control on signal D.49



