Ref:	NR/SMS/Part/R	
Issue:	15	
Date:	02 December 2023	
Compliance date:	02 March 2024	

# NR/L3/SIG/10663 NR/SMS/Part/R

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NR/L3/SIG	/10663	3 Signal Maintena	ance Specificat	ions	
NR/SMS/P	art/R				
Index - Ma	intena	ince Record Cai	rds		
Issue No:	15	Issue Date:	02/12/2023	Compliance Date:	02/03/2024

Care shall be taken with record cards stored in signal heads so that they do not obstruct any light output from the signal. They shall also not be stored behind the lamp as this could lead to a phantom aspect being displayed. Cards shall not be left in a position where the heat given out by a piece of equipment can pose a fire risk.

Maintenance record cards from any source other than those contained in NR/L3/SIG/10663 shall not be used to record NR/SMS tasks or tests.

Check previous information/data entered on a record card each time a new entry is made to see if there is any significant variation from previous entries or if there is a trend occurring in the readings.

This information may indicate a fault or problem starting which may be identified and rectified before the failure of the equipment.

Maintenance record cards are provided for each item of equipment where the task/test asks you to measure or record. There are also cards provided to enter information on particular equipment (e.g. lever frames).

Record cards are either paper or digital format and relate to the NR/SMS task/test named at the top of the sheet. They do not relate to any other maintenance system.

Enter details of all preventative or corrective maintenance test results on the appropriate maintenance record card.

Copies of each card will be available from your SM(S), My work app or they can be downloaded from Connect by clicking the 'Network Rail Standards' link on the Connect home page, then clicking 'search' and entering the standard number (10663) in the reference number box.

Enter your name and the company you work for on the card every time you enter details. If a measurement is taken using a meter or other test equipment, enter the identity and calibration details of the instrument(s).

If access to the asset is refused, fill in the record card and write the word 'refused' in the comments column.

Record cards shall be kept in the trackside apparatus case or equipment room information file if provided and practicable. If one of these is not provided or if it is not practicable, they shall be kept adjacent to the equipment they relate to. In both cases, they shall be protected by a plastic wallet.

Point system cards that relate to multiple ends of points shall be stored in the location nearest the 'A' end of the points to which they apply.

NR/L3/SIG	/10663	Signal Mainten	ance Specification	ns	
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When a card is full, transfer the information and last data entry to a new card. If the old card is no longer needed on site, return it to your SM(S).

Record cards shall be reviewed and stored in accordance with local instructions.

#### INDEX OF NR/SMS MAITENANCE RECORD CARDS

All record card numbers start with NR/SMS/

#### **INDEX**

Card No.	Title
<u>AP11</u>	ATP Equipment (GWML)
AW11 RC01	AWS Test - Electro / Permanent
AW11 RC02	AWS Test - Electro / Suppressor
AW11 RC03	AWS Test - Permanent Magnet Only
AX28 RC01	Siemens Axle Counter: AzS ZPD 43 Wheel Detector Equipment
AX29 RC01	Siemens Axle Counter: AzS ZP 43 V Wheel Detector Equipment
AX30 RC01	Siemens Axle Counter – AzSM (E) Evaluator
AX31 RC01	Siemens Axle Counter: AzS 350U Evaluator
AX40-41 RC01	Wheel Sensor – RSR 123
AX51 RC01	Siemens Axle Counter ACM 100, WSD Wheel Detector
AX99 RC01	TETS Record Card
CS02 RC01	Control System: TEML41
CS03 RC01	Control System: GETS DM11
CS04 RC01	Control & Interface System: GETS Delphin 1024
CS05 RC01	Control & Interface System: GETS Sapphire T48
EL21 - EL31 RC01	Wiring Degradation Record Card
EL21 - EL31 RC02	Relay Plugboard Checks
EL21 RC01	Site Attendance Record Card - Location Case
EL31 RC01	Site Attendance Record Card - Site Equipment Room
ER11 RC01	Instead Signalling Event Recorder

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Card No.	Title
HO11 T087	
RC01	HABD Equipment: GETS FÜES
HO12 RC01	HABD Equipment: Phoenix MB Sensor Temperature
	Ansaldo-STS Interlocking System Colour Light Signalling
<u>IE29 RC01</u>	System (SEI-CLSS)
<u>IS15 RC01</u>	Vital Harmon Logic Control
<u>IS30 RC01</u>	Harmon Crossing Processor (HXP-3)
<u>IS35 RC01</u>	WESTeX LCP3000 Crossing Predictor
LC09 RC01	Optex Redscan RLS3060 series LIDAR Record Card
LC50 T084	Davida On anata di Olata On an an (DOOO)
RC01 LV11 - LV17	Power Operated Gate Opener (POGO)
RC01	Lever Frame
MP01 RC01	SSI Panel Multiplexer: TEML41 (AN)
MP02 RC01	SSI Panel Multiplexer: WBS Type S2
MP03 RC01	SSI Panel Multiplexer: Vaughan Harmon
MP04 RC01	SSI Panel Multiplexer: GEC Type RM
PB18 RC01	Hydraulic Derailer
PF01 RC01	Point Fittings
PTS RC01	Point System (Hydraulic Pneumatic)
PTS RC02	Point System (Machine)
PTS RC03	Point System (Mechanical)
PTS RC04	Point System (HPSS)
PTS RC05	Point System Operating Current
PTS RC06	Point System Unistar HR
RC01 RC01	RC System: Type 'R' Reed FDM Test
RC01 RC02	Reed Point Detection (Transmitter)
RC01 RC03	Reed Point Detection (Receiver)
RC02 RC01	RC System: GEC Type 'RR' Reed FDM Test
RC03 RC01	RC System: Westone Non-Vital FDM Test
RC04 RC01	RC System: FDM69-NV Test
RC05 RC01	Siemens Westplex
RC07 RC01	RC System: GEC Type RM TDM Test

NR/L3/SIG	/10663 5	Signal Mainten	ance Specificatio	ns	
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Card No.	Title		
RC08 RC01	RC System: WBS Type TDM 69 Test		
RC09 RC01	RC System: WBS Type S2 TDM Test		
RC10 RC01	RC System: Westronic F1 TDM Test		
RC11 RC01	RC System: Vaughan Harmon Type DM11 Test		
RC12 RC01	RC System: Telecode 80 Test		
RC13 RC01	RC System: AP Datalink TDM Test		
RC16 RC01	RC System: Westronic 1024 TDM Test		
SW20 T059			
RC01	Severn Tunnel Pull Wire		
T021 RC01	Junction Indicator and Position Light Signal - All Types		
T021 RC02	Route Indicator - non LED		
T021 RC03	Route Indicator - LED		
T021 RC04	Signal - (Filament / Light Engine)		
T021 RC05	Signal - LED		
T021 RC06	Signal SMIS type		
T026 RC01	Trainstop (Electro-Hydraulic) Calibration		
T029 RC01	ATP (Chilterns)		
T041 RC01	IRJ - DC & BR-WR Quick Release TC		
T041 RC02	IRJ - DC & BR-WR Quick Release TC		
T042 RC01	Axle Counter AzL70 Evaluator Single Rail Contacts		
T042 RC02	Axle Counter AzL70 Evaluator Double Rail Contacts		
T042 RC03	Axle Counter AzL70/30 Evaluator EAK30 Junction Box		
T043 RC01	Track Circuit Aid (TCAID)		
T044 RC01	Treadle Timing & Adjustment		
T045 RC01	AzLM & AzLE Axle Counters		
T046 RC01	Level Crossing CCTV Camera		
T047 RC01	CCTV HF Tx System (Marconi/GEC 14.5MHz AM)		
T047 RC02	CCTV HF Tx System (Philips FM)		
T051 RC01	AC Busbar & Earth Test		
T051 RC02	DC Busbar & Earth Test		
T052 RC01	Dynamic Earth Test (Power Worked Points)		

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Card No.	Title
T052 RC02	Dynamic Earth Test (Level Crossing Barriers)
T053 RC01	Earth Leakage Detector Tests
T053 RC02	IR425 Record Card
T054 RC01	Cable Insulation Test
T054 RC02	Non-Intrusive Earth Test for FDM systems (method A)
T054 RC03	Non-Intrusive Earth Test for FDM systems (method B)
T055 RC01	Secondary Cell Test ALCAD - Vantage
T055 RC02	Secondary Cell Test - Cyclon
T055 RC03	Secondary Cell Test Lead Acid / Alkaline
T055 RC04	Secondary Cell Test Power Box - Modular
T056 RC01	Avel-Lindberg Static Inverter
T057 RC01	Uninterruptible Power Supply (Not TPWS UPS)
T057 RC02	Uninterruptible Power Supply (For TPWS Only)
T058 RC01	Primary Cells
T060 RC01	Emergency Signals On Control (ESOC)
T061 RC01	Relay Timers
T062 RC01	Line Protection Units
T063 RC01	RETB Radio Systems – Regular Tasks
T063 RC02	RETB Radio Systems – Service A
T063 RC03	RETB System (Six Monthly)
T064 RC01	RETB Fixed Site Power Supply Test – Service A
T064 RC02	RETB Fixed Site Power Supply Test – Service B
T065 RC01	RETB Fixed Site Antenna Systems – Service A
T065 RC02	RETB Fixed Site Antenna Systems – Service B
T066 RC01	RETB Fixed Site Radio and Interface Equipment (Pre-Site Visit)
T066 RC02	RETB Fixed Site Radio and Interface Equipment– Service A
T066 RC03	RETB Fixed Site Radio and Interface Equipment– Service B
T089 RC01	SSI Datalinks Health Check
T089 RC02	SSI Datalinks Baseband / LDT
T251 RC01	Track Circuit Tests - DC Track

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Card No.	Title
T253 RC01	Track Circuit Tests - ET200 (M)
T253 RC02	Track Circuit Tests - ET200 (F)
T254 RC01	Track Circuit Tests - SF15 / Aster U
T255 RC01	Track Circuit Tests - HVI
T256 RC01	Track Circuit Tests - BR-WR Quick Release
T257 RC01	Track Circuit Tests - Reed Type RT
T258 RC01	Track Circuit Tests - Rectified AC (Diode)
T259 RC01	Track Circuit Tests - FS2600
T260 RC01	Track Circuit Tests - 50Hz AC
T261 RC01	Track Circuit Tests - Rail Circuit
T262 RC01	Track Circuit Test - DC Coded
T263 RC01	Track Circuit Tests - EBI Track 400 (M)
T263 RC02	Track Circuit Tests - EBI Track 400 (OL)
T263 RC03	Track Circuit Tests - EBI Track 400 (SA)
T302 RC01	Signal Visibility Check
TD11 RC01	Train Describer - Electro Mechanical
TD21 RC01	Train Describer - HP21MX 2100 Series
TD21 RC02	Train Describer - HP21MX 2108 Series
TD31 RC01	Train Describer - Vaughan Type 4M
TD32 RC01	Train Describer - Vaughan Type Small (Ex BR-WR)
TD37 RC01	Train Describer - GEC/GE Micro Processor Based
TD40 RC01	Train Describer - GETS Dual (NS)
<u>TP11 RC01</u>	Equipment Associated with Signals
TP11 RC02	Equipment Associated with PSR's & Buffer Stop
<u>TP11 RC03</u>	Self Powered OSS (SPOSS)
TP11 RC04	OSS+ Loops at TPWS+ Installations
TS20 RC01	Indusi Train Stops Magnetic Train Stop Associated with Stop Signals
TS20 RC02	Indusi Train Stops Magnetic Train Stop Associated with Speed Control
TS22 RC01	Trainstop - Manchester Metro



#### ATP Equipment (GWML) Record Card (Front) NR/SMS/AP11

Form: NR/SMS/AP11/RC/01 Date: December 2009

Signal Box	C:						Signal Nur	mber:					
		Loop	Enclosure								Ground Teste	er Tests	
Number		Infill Loop Resistance	Main Power Supply Fuses	Main Beacon Feedback	Infill Beacon Feedback	Additional Beacon Feedback	* Enc	oder LED's Fla	shing 50% duty	y cycle	Beacon Strength	Infill Loop Strength	Message Correct
ĕr	Units	Ohms	AC(V)	DC(V)	DC(V)	DC(V)							
	Limits	360 to 400	99 to 121	15 to 25	10 to 25	15 to 25					Number of	bars above	Yes / No
	Terms	3 & 4	2 & 3	27(+) 28(-)	31(+) 32(-)	40(+) 41(-)	AH1	AH2	BH1	BH2	mini	mum	res / No
1													
2													
3													
4													
5													
6													
7													
8													
	Т									1	Т	1	T
Number	Comments									Test Equipment Identity	Signature	Name & Company	Date
·													
1													
2													
3													
4													
5													
6													
7													

<sup>\*:</sup> Insert tick if LED indications are correct



#### ATP Equipment (GWML) Record Card (Front) NR/SMS/AP11

Form: NR/SMS/AP11/RC/01 Date: December 2009

		Loop	Enclosure								Ground Teste	er Tests	
Number		Infill Loop Resistance	Main Power Supply Fuses	Main Beacon Feedback	Infill Beacon Feedback	Additional Beacon Feedback	* Enc	oder LED's Flas	shing 50% duty	Beacon Strength	Infill Loop Strength	Message Correct	
ĕr	Units	Ohms	AC(V)	DC(V)	DC(V)	DC(V)							
	Limits	360 to 400	95 to 125	15 to 25	10 to 25	15 to 25					Number of	Number of Bars Above	
	Terms	3 & 4	2 & 3	27(+) 28(-)	31(+) 32(-)	40(+) 41(-)	AH1	AH2	BH1	BH2	Minimum		Yes / No
9													
10													
11													
12													
13													
14				·									
15													
16													
17													

Number	Comments	Test Equipment Identity	Signature	Name & Company	Date
9					
10					
11					
12					
13					
14					
15					
16					
17					

<sup>\*:</sup> Insert tick if LED indications are correct



# **AWS Test - Electro and Permanent**

Maintenance Test

Form:	NRSMS/AW11/T024/RC01
-------	----------------------

Date: 01/09/2018

Signal Box / Interlocking:	Location:	Signal / AWS Number

	Electro-l	Magnet							Permanent Magnet		
No	SP Mete Reading	-	Voltage	e Readi	ng	Height from rail top (mm)	Current when Signal at G (A)	Spark Quench Diode/ Resistor			
	Signal at R, Y	Signal at G	Earth T (Magne	٠,		m rail	hen G (A)	Resista- -nce	SP Meter	Height from rail	
	or YY		B-E	N-E	BN	top		(Ohms)	Reading	top (mm)	
1											
2											
3											
4											
5											
6											
7											
8											

N <sub>o</sub>	S&P Meter Identity	Voltmeter Identity	Comments	Signature	Name & Company	Date
1						
2						
3						
4						
5						
6						
7						
8						



#### **AWS Test - Electro and Permanent**

Maintenance Test

Form: NRSMS/AW11/T024/RC01

Date: 01/09/2018

	Electro-l	Magnet									
No	SP Mete Reading		Voltage Reading			Height from rail top (mm)	Current when Signal at G (A)	Spark Quench Diode/ Resistor	Permanent Magnet		
	Signal at R, Y	Signal at G	(Magne	Earth Test (V) (Magnet Energised)		hen G (A)	Resista- -nce	SP Meter	Height from rail		
	or YY		B-E	N-E	BN	lop		(Ohms)	Reading	top (mm)	
9											
10											
11											
12											
13											
14											
15											
16											
17											

No	S&P Meter Identity	Voltmeter Identity	Comments	Signature	Name &Company	Date
9						
10						
11						
12						
13						
14						
15						
16						
17						



# **AWS Test - Suppressed Permanent and Electro-Magnet**

11

Form: NR/SMS/AW11/T024/RC02

Date: 01/09/2018

Signa	I Box / Interlo	cking:			Location:					Signal / AWS Number									
	Suppressed	Permanent	Magnet					Electro-M	agnet										
No	De- energised	Energised	Energised  Voltage Reading				Spark Quench	OD Material Design		Voltage	Dooding			Current when Signal at G (A)	Spark Quench				
						Height from rail	Diode/ Resistor	SP Meter	Meter Reading Voltage Reading								Height from rail	ent wh al at C	Diode/ Resistor
	SP Meter Reading	SP Meter Reading	Earth	Test (V)	)	top (mm)	Resistance	Signal at R, Y	Signal at G		rth Test (V) agnet Energised)		top (mm)	nen G (A)	Resistance				
			B-E	N-E	BN		(Ohms)	or YY	at G	B-E	N-E	BN			(Ohms)				
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			

N <sub>o</sub>	S&P Meter Identity	Voltmeter Identity	Comments	Signature	Name & Company	Date
1						
2						
3						
4						
5						
6						
7						
8						



# **AWS Test - Suppressed Permanent and Electro-Magnet**

Form: NR/SMS/AW11/T024/RC02 Date: 01/09/2018

Date: 01/09/2018 Issue: 03

	Suppressed	Permanent I	Magnet					Electro-Magnet							
N N	De- energised	Energised					Spark Quench	SP Meter Reading		Voltage Reading				Current Signal a	Spark Quench
			Volta	age Rea	ading	Height from rail	Diode/ Resistor						Height from rail	ent who	Diode/ Resistor
	SP Meter Reading	SP Meter Reading	Earth Test (V)		top (mm) Resistance		Signal at R, Y	Signal at G	Earth Test (V) (Magnet Energised)			top (mm)	when at G (A)	Resistance	
			B-E	N-E	BN		(Ohms)	or YY	al G	B-E	N-E	BN			(Ohms)
9															
10															
11															
12															
13															
14															
15															
16															
17															

Z	S&P Meter Identity	Voltmeter Identity	Comments	Signature	Name & Company	Date
9						
10						
11						
12						
13						
14						
15						
16						
17						



# **AWS Test - Permanent Magnet Only**

Form: NRSMS/AW11/T024/RC03 Date: 01/09/2018

Date: 01/09/20 Issue: 02

Signal Box / Interlo	ocking:		Location:	Signal / AWS Number				
SP Meter Reading	Height from rail top (mm)	SP Meter Identity	Comments	Signature	Name & Company	Date		



# **AWS Test - Permanent Magnet Only**

Form: NRSMS/AW11/T024/RC03 Date: 01/09/2018

Issue: 02

SP Meter Reading	Height from rail top (mm)	SP Meter Identity	Comments	Signature	Name & Company	Date



# Siemens Axle Counter: AzS ZPD 43 Wheel Detector Equipment

Form: NR/SMS/AX28/RC01

Date: 02/12/2023

Signal Box / Interlocking / Location:	Detection Point Name:	Axle Counter Section(s):

	Incoming Supply NS	Output Voltage	TX 1 Frequency Terminals 6 & 7	TX 2 Frequency Terminals 8 & 9	Receiver Voltage UE1 Terminals 1 & 2	Receiver Voltage UE2 Terminals 3 & 4
Desired Value	60V DC	Min 1V AC	43kHz	43kHz	•	-
Tolerance Range	30 to 72V	0.48 to 1.8V	41.5 to 44.5 kHz	41.5 to 44.5 kHz	60 to 150 mV	60 to 150 mV
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13			_			



# Siemens Axle Counter: AzS ZPD 43 Wheel Detector Equipment

Form: NR/SMS/AX28/RC01

Date: 02/12/2023

No	P/way condition at head. Detail as per SMS AX28 Service A 1.3 & 1.5	Comments: Adjustments, Condition Etc	Head removed, replaced or renewed?	Meter(s) Identity	Name & Company	Date
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12				_		
13						

General Comments	



# Siemens Axle Counter: AzS ZP 43 V Wheel Detector Equipment

Form: NR/SMS/AX29/RC01

Date: 02/12/2023

Signal Box / Interlocking / Location:	Detection Point Name:	Axle Counter Section(S):

	Supply U60	Operating Voltage U24	Wheel Detector Frequency FS	Receiver Voltage UE1	Receiver Voltage UE2	Standard Voltage Ur1	Standard Voltage Ur2	Frequency F1	Frequency F2	Output Voltage UL
Desired Value	60V DC	22V DC	43kHz	-	-	5.5V DC	5.5V DC	3.60kHz	6.52kHz	Min 1.0 V AC
Tolerance Range	30 to 72V	21.3 to 22.4V	42.8 to 43.2 kHz	60mV to 150mV	60mV to 150mV	5.3V to 6.0 V	5.2V to 5.9 V	3.55 to 3.65 kHz	6.42 to 6.62kHz	0.48-1.8V
01										
02										
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										



# Siemens Axle Counter: AzS ZP 43 V Wheel Detector Equipment

Form: NR/SMS/AX29/RC01

Date: 02/12/2023

No	Date	Name & Company	Meter(s) Identity	Comments:	Head removed, replaced, or renewed?	P/way condition at head
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						



## Siemens Axle Counter – AzSM (E) Evaluator Record Card

Form: NR/SMS/AX30/RC01

Date: 04/06/2022 Issue: 03

Signal Box / Interlocking:	Location	Evaluator Name:

						l .											
	ZAN Ident																
	Head																
	Ident																
Entry No	Date	Volts U1	Freq f1	Volts U2	Freq f2												
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	



## Siemens Axle Counter – AzSM (E) Evaluator Record Card

Form: NR/SMS/AX30/RC01

Date: 04/06/2022

No	Date	Name & Company	Meter(s) Identity	Comments:	Head removed/ replaced or renewed?	P/way condition at head
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						



#### **Siemens Axle Counter: AzS 350U Evaluator**

Form: NR/SMS/AX31/RC01

Date: 02/12/2023

ACE Location / Number	Signal / Interlocking / Location

	VESBA (	Card Slot No			VESBA (	Card Slot No			VESBA C	Card Slot No		
	Detectio	n Point Name	)		Detection Point Name				Detection Point Name			
	Voltage Ur1	Frequency F1	Voltage Ur2	Frequency F2	Voltage Ur1	Frequency F1	Voltage Ur2	Frequency F2	Voltage Ur1	Frequency F1	Voltage Ur2	Frequency F2
Desired Value	3V DC	3.6kHz	3V DC	6.52kHz	3V DC	3.6kHz	3V DC	6.52kHz	3V DC	3.6kHz	3V DC	6.52kHz
Tolerance Range	2.9 to 3.1 V	3.55 to 3.65kHz	2.9 to 3.1 V	6.42 to 6.62kHz	2.9 to 3.1 V	3.55 to 3.65kHz	2.9 to 3.1 V	6.42 to 6.62kHz	2.9 to 3.1 V	3.55 to 3.65kHz	2.9 to 3.1 V	6.42 to 6.62kHz
01												
02												
03												
04												
05												
06												
07												
08												
09												
10												
11												
12												



#### **Siemens Axle Counter: AzS 350U Evaluator**

Form: NR/SMS/AX31/RC01

Date: 02/12/2023

	VESBA (	Card Slot No			VESBA (	Card Slot No						
	Detectio	n Point Name	)		Detectio	n Point Name	)					
	Voltage Ur1	Frequency F1	Voltage Ur2	Frequency F2	Voltage Ur1	Frequency F1	Voltage Ur2	Frequency F2				
Desired Value	3V DC	3.6kHz	3V DC	6.52kHz	3V DC	3.6kHz	3V DC	6.52kHz	Date	Name & Company	Signature	Meter ID
Tolerance Range	2.9 to 3.1 V	3.55 to 3.65kHz	2.9 to 3.1 V	6.42 to 6.62kHz	2.9 to 3.1 V	3.55 to 3.65kHz	2.9 to 3.1 V	6.42 to 6.62kHz				
01												
02												
03												
04												
05												
06												
07												
08												
09												
10												
11												
12												



#### Wheel Sensor – RSR 123

#### **Maintenance Tests**

Form: NR/SMS/AX40-41/RC01

Date: 05/12/2020

Issue: 01

Signal Box / Interlocking / Equipment Room:	Location:	ocation:  Detection Point / Name:		
AEB/IMC ID:	FAdC EBI Gate 200 Vamos (#)	Cable Length	:	No of Plug Couplers:

This Record Card is not mandated, as some systems have in built Data Recording Capabilities. You are only required to complete the sections of this card related to the service that you are undertaking

						AX Periodic			AX41 LC Serv	70 LC71 ice B			X41 dic Task 2	
					Sensor Height Sensor Depth			Lifecycle	Readings	Rail Sensor Torque Adjusted ?				
Date	Name	Company	Signature	Meter ID	40-45mm	Adjusted	0 – 6mm	Adjusted	System 1 - 475 to 525mv	System 2 - 475 to 525mv	Allen Screws - 25Nm	M10 Nuts - 15Nm	M12 Nuts - 40Nm	Spring Washer in contact
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N
						Y/N		Y/N			Y/N	Y/N	Y/N	Y/N



#### Siemens Axle Counter ACM 100,

**WSD Wheel Detector Record Card (Front)** 

NR/SMS/AX51 - NR/SMS/Test/ 038, 039

Form: NR/SMS/AX51/ /RC/01

Date: 03/03/18

Issue: 01

Signal Box / Interlocking:	REB / Location:	WSD Identity:	WSD powered by ACM:
MOD information and has AON	4 A ON I de 114 de 1	DED# acation	
WSD information used by ACM	I: ACM Identity	REB/Location	

#### NR/SMS/Test/039 - In Service Functional Test of the Wheel Detector

- 1 Mark a line to note the position of the centre marking in relation to "OFF 1" when current = 4.75mA to 5.25mA
- 2 Mark a line to note of the centre marking in relation to "ON 1" when current = 1.3mA to 2.99mA
- 1 Mark a line to note position of the centre marking in relation to "OFF 2" when current = 4.75mA to 5.25mA
- 2 Mark a line to note position of the centre marking in relation to "ON 2" when current = 1.3mA to 2.99mA

Note: The acceptable "pass" area on the test block is marked by both the area within the two vertical lines and the full length of the marker arrows.

If outside this area – Check Height of WSD (43mm and 45mm from rail head throughout) – Check for Metal Debris – Check WSD Fixings.

If "fail" Recalibrate WSD - Follow NR/SMS/Test/038

Date	Technician Name	←   Of 1   ← 1.5	Step	→  Or 1  → 1.6	Step	→   Off 2   → Step	←   Or 2   ← Step	Recalibration Undertaken
------	--------------------	---------------------	------	-------------------	------	--------------------	----------------------	-----------------------------

	←  Off 1  ←	$\rightarrow$   On 1   $\rightarrow$	$\rightarrow$   Off 2   $\rightarrow$	←  On 2  ←	Yes/No
					Yes/No
	←  Off 1  ←	$\rightarrow$ On 1 $\rightarrow$	$\rightarrow$ Off 2 $\mid$ $\rightarrow$	←  On 2  ←	
	←  Off 1  ←	$\rightarrow$ On 1 $\rightarrow$	$\rightarrow$   Off 2   $\rightarrow$	←  On 2  ←	Yes/No
	←  Off 1  ←	$\rightarrow$ On 1 $\rightarrow$	$\rightarrow$   Off 2   $\rightarrow$	←  On 2  ←	Yes/No
	←  Off 1  ←	$\rightarrow$   On 1   $\rightarrow$	$\rightarrow$   Off 2   $\rightarrow$	←  On 2  ←	Yes/No
	←  Off 1  ←	$\rightarrow$ On 1 $\rightarrow$	$\rightarrow$   Off 2   $\rightarrow$	←  On 2   ←	Yes/No
NetworkRail	Siemens Axle Counter A	ACM 100,	WSD ID:	Form: NR/SMS/AX51/	T038,039/RC/01
Tect of Kitali	WSD Wheel Detector Re	ecord Card (Rear)		Date: 03/03/18	
	NR/SMS/AX51 - NR/SMS	S/Test/ 038, 039		Issue: 01	

Date	Technician Name	←   Off 1   ← Step 1.5	→   Or 1   → Step	→   Off 2   → Step	←   Or 2   ← 1.11 Step	Recalibration Undertaken
		←  Off 1  ←	$\rightarrow$ On 1 $\rightarrow$	$\rightarrow$   Off 2   $\rightarrow$	←   On 2   ←	Yes/No
		←  Off 1  ←	$\rightarrow$ On 1 $\rightarrow$	$\rightarrow$   Off 2   $\rightarrow$	←  On 2  ←	Yes/No
		←   Off 1   ←	$\rightarrow$ On 1 $\rightarrow$	$\rightarrow$ Off 2 $\mid$ $\rightarrow$	←   On 2   ←	Yes/No

←   Off 1   ← →   On 1   -	$\rightarrow$ Off 2 $\mid$ $\rightarrow$	←  On 2  ←	Yes/No

NR/SMS/	/Test/038 – Ca	libration of W	heel Detector							
Date	Technician Name	Step 1.4. Record Current (1.3 - 7mA)	Step 1.5 Record Current (1.2 – 2.99mA)	Step 1.6. Record Current (4.75 – 5.25mA)	Pass / Fail	Step 1.9. Record Current (1.3 - 7mA)	Step 1.10.  Record Current (1.2 – 2.99mA)	Step 1.11 Record Current (4.75 – 5.25mA)	Pass / Fail	Comments (e.g Is WSD Changed?)



# Train Entering Terminal Station (TETS) Record Card - Service B

Form: NR/SMS/AX99 - TETS	
--------------------------	--

Date: March 2018

Site Name :	Mileage:	m	ch

				T				T2				T3				T			Supply	Name /
No	Date		Channel 1	Channel 2	Channel 3	Channel 4	Channel 1	Channel 2	Channel 3	Channel 4	Channel 1	Channel 2	Channel 3	Channel 4	Channel 1	Channel 2	Channel 3	Channel 4	Supply Voltage (45-72 VDC)	Signature
		Lower																		
ľ		Upper																		
2		Lower																		
		Upper																		
3		Lower																		
Ľ		Upper																		
4		Lower																		
Ĺ		Upper																		
5		Lower																		
Ľ		Upper																		
6		Lower																		
Ĺ		Upper																		
7		Lower																		
Ĺ		Upper																		
8		Lower																		
Ľ		Upper																		
9		Lower																		
Ĺ		Upper																		
10		Lower																		
		Upper																		



## Control System: TEML41

Form: NR/SMS/CS02/RC01

Date: 05/12/2020

Signal Box:	Remote Control / Panel Multiplexer	PSB System Name*:	Interlocking Name*:
	Delete as appropriate		

Service A Tests					
System Status Indications OK**	Outstanding Faults	Comments	Signature	Name & Company	Date

<sup>\*</sup> For RC systems enter details to indicate system or interlocking

<sup>\*\*</sup> Insert tick if all correct, problems to be listed in the comment's column



## **Control System: TEML41**

Form: NR/SMS/CS02/RC01

Date: 05/12/2020

	Service	e B Tests																
7	Power	Supply Vo	oltages															
Number	Supply	1					Supply 2						Dual Feed					
be	Logic S	Shelve1	Logic Shelve2		Comm	S	Logic Shelve1		Logic Shelve 2		Comms		Logic Sh	nelve1	Logic SI	nelve 2	Comms	3
¬	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC
	Level	Ripple	Level	Ripple	Level	Ripple	Level	Ripple	Level	Ripple	Level	Ripple	Level	Ripple	Level	Ripple	Level	Ripple
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		

z	Power	Supply V	oltages/				Line		Comments	Test	Signature	Name &	Date	l
Number	Other	Supplies					Level	S		Equipment		l		
ber	1:		2:		3:		(dB)			Identity				l
	DC	AC	DC	AC	DC	AC	Tx	Rx						l
	Level	Ripple	Level	Ripple	Level	Ripple								ı
1														l
2														l
3														l
4														l
5														l
6														l
7														l
8														l

<sup>\*</sup> Insert tick if all correct, problems to be detailed



## Control System: GETS DM11

Form: NR/SMS/CS03/RC01

Date: 05/12/2020

PSB:	TDM/Pnmulx:	PSB System Name*:	Interlocking Name/SSI Location*:

Service A Te	ests	_									,				
Cubicle		Power	Supplies	•				External	Channel	Counts	Comments	Meter	Signature	Name & Company	Date
System Status	System C/over	5V Logi	ic	7V Logic		12V Interface						Identity		Company	
Indications OK**	OK**	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	ack	nak	No Response					

<sup>\*</sup> Enter details as appropriate to system

<sup>\*\*</sup> Insert tick if all correct, problems to be listed in the comment's column



## Control System: GETS DM11

Form: NR/SMS/CS03/RC01

Date: 05/12/2020

Service	B Tests (TD	M systems O	nly)		Comments	Test Equipment	Test Equipment Signature		
Line lev	rels (dBm)	PSU O/P t	o TDM			Identity			
Tx	Rx	V (Max)	V (min)	Waveform*					

<sup>\*</sup> Insert tick if all correct, problems to be detailed

Name	Company	Date
	Name	Name Company



## Control & Interface System: GETS Delphin 1024

Form: NR/SMS/CS04/RC01

Date: 05/12/2020

PSB:	Delphin1024 System*:	PSB System Name**:	Interlocking Name/SSI Location**:
	RC/TDM PIIU PMUX TDMUX		

Service A Te	ests												
Cubicle		Mains	Mains Surge Protectors		ns Surge Protectors		Externa	External Channel Counts		Comments	Signature N	Name & Company	Date
System System Status Change	System Change Over OK***	Status	Indicatio	ns ***									
Indications OK***	Over OK***	ок	Partial	Failed	ack	nak	No Response						

<sup>\*</sup> Delete as appropriate

<sup>\*\*</sup> Enter details as appropriate to system

<sup>\*\*\*</sup> Insert tick, problems to be listed in the comment's column



## Control & Interface System: GETS Delphin 1024

Form: NR/SMS/CS04/RC01

Date: 05/12/2020

Service	e B Test	S										
Line levels (dBm)		Power S	Supplies (D	OC Volts)**					Test	Signature	Name & Company	Date
		7V	12V	24 V	12V	24V	48V		Equipment			
Tx	Rx	Logic interface Interface External External External	Identity									

General System Comments and Observations	Name	Company	Date

<sup>\*\*</sup> Enter details as appropriate to system



## **Control & Interface System: GETS Sapphire T48**

Form: NR/SMS/CS05/RC01

Date: 05/12/2020

PSB:	Sapphire T48 System*:	PSB System Name**:	Remote Interlocking Name **:
	CBI Interface / TD Interface / SPAD Alert		

Service A Te	ests				_											
Cubicle	1	Mains	Mains Surge Protectors		ains Surge Protectors			ns Surge Protectors External			External Channel Counts		Comments	Signature	Name & Company	Date
System System Change Indications Over OK***	Status	Indicatio	ns ***													
Indications OK***	Over OK***	ОК	Partial	Failed	ack	nak	No Response									

<sup>\*</sup> Delete as appropriate

<sup>\*\*</sup> Enter details as appropriate to system

<sup>\*\*\*</sup> Insert tick, problems to be listed in the comment's column



# Control & Interface System: GETS Sapphire T48

Form: NR/SMS/CS05/RC01

Date: 05/12/2020

Service B Tests										
	Supplies olts)**	Comments	Test Equip Identit	Signati ment	re Name & Company	Date				
6V	5V		Identif	ty						
			+							
			+							



#### Wiring Degradation Record Card (Front) NR/SMS/EL21 - EL31

Form: NR/SMS/EL21/31/RC/01

Date: August 2004

Signal Box:			Equipment/ Relay Room Name/Number: Location Loca					ation Name/Number:			
Initial Inspectio	n					<u> </u>					
Degradation Type (Wet or Dry)	Wire Identity (Date and/or manufacture)	e and/or   Wile Eccation   Degradation#   Comments					Initial Insped By				Date
Maintanana	anations	1					1				1
Maintenance In Degree of Degradation#	Comments						Signati	ure	Name Compa		Date



#### Wiring Degradation Record Card (Rear) NR/SMS/EL21 - EL31

Form: NR/SMS/EL21/31/RC/01

Date: August 2004

Issue: 01

Maintenance Ins	Maintenance Inspections											
Degree of Degradation#	Comments	Signature	Name & Company	Date								

#: Insert a number between 1 and 5 (1 Normal; 2 Fair; 3 Poor; 4 severe; 5 extreme)



# Relay Plugboard Checks Record Card (Front) NR/SMS/EL21 - EL31

Form: NR/SMS/EL21/31/RC/02

Signal Box:	Equipment/ Relay Room Name/Number:		Location Name/Number:		Location Conditions Inland, Costal, Industrial etc	
Rack / Unit:	Row: N		ber of Plugboards <i>:</i>	Pe	ercentage Sample:	Heating Provided: Yes / No Delete as appropriate

Plugboard Colour Plugboard	Type	Including contamination type, internal conditions, action taken etc	Signature	Company	Date
				1	
				+	



## Relay Plugboard Checks Record Card (Rear) NR/SMS/EL21 - EL31

Form: NR/SMS/EL21/31/RC/02

Maintenar Relay unction	ay Plugboard Plugboard tion Colour Type		Comments Including contamination type, internal conditions, action taken etc	Signature	Name & Company	Date
						+



**Location Case** 

Form: NR/SMS/EL21/RC/01

Date: Sept 2018

Signal Box:	Location Name/Number:
-------------	-----------------------

Date	Time	Name (Print)	Signature	Company	Reason For Visit #	Comments



#### **Location Case**

Form: NR/SMS/EL21/RC/01

Date: Sept 2018

Date	Time	Name (Print)	Signature	Company	Reason For Visit #	Comments



**Equipment Room** 

Form: NR/SMS/EL31/RC/01

Date: Sept 2018

Signal Box: Location N	Name/Number:
------------------------	--------------

Date	Time	Name (Print)	Signature	Company	Reason For Visit #	Temp On Arrival	Comments



### **Equipment Room**

Form: NR/SMS/EL31/RC/01

Date: Sept 2018

Date	Time	Name (Print)	Signature	Company	Reason For Visit #	Temp On Arrival	Comments



# Instead Signalling Event Recorder Record Card (Front) NR/SMS/ER11

Form: NR/SMS/ER11/RC/01

Signal Box / Interlocking:			Location:	Instead Type:		Identity Number:		
Comittee A.T.	4-*				<u> </u>		<u> </u>	
Service A To		0			Ciava atuma	Name & Camanani	Data	
Correct Indications	Correct Time & Date	Comments			Signature	Name & Company	Date	

<sup>\*:</sup> Insert tick if correct



## **Instead Signalling Event Recorder** Record Card (Rear) NR/SMS/ER11

Form: NR/SMS/ER11/RC/01

Service B	3 Tests								
Self Test Routine	Disk Drive Cleaned	Disk Interrogated **	Functions Operating	Cyclon Battery Renewed	Clock Battery Renewed	Comments	Signature	Name & Company	Date

<sup>\*</sup> Insert tick if correct \*\*: Insert Yes / No as appropriate



## **Network Rail** HABD Equipment: GETS FÜES Record Card (Front) NR/SMS/HO11 – T/087

Form: NR/SMS/HO11/T087/RC/01

Date: April 2006

Signal Box / Interlocking:	Location:

	Service A	Tests						Service B Tes	sts						
7	Field End							Field End							
Number			REE	Cubicle Checks	*			REB Cubicle Voltage Tests [5.1]							
ber	Voltage Arresters [1.3]	Power Supplies [1.4]	Simplex/ Duplex Cards [1.5]	Wheel Sensor Cards [1.6]	UPS [1.7]	CAN Tool Tests [1.10]	Optical Deterioration [1.11]	+ 12V Measuring Head	-12v Measuring Head	+12v Cooler CAN	-12v CAN	+24 CAN	+5v CAN	UPS Test Note Max Batt. Capacity [5.2]	
1															
2															
3															
4															
5															
6															
7															
8															

	Service B Te	ests												
_	Field End													
lum	Wheel	Mirror	Checks	Function		Cali	bration (App	endix A) * [7	7.21]		Meter	Signature	Name & Company	Data
Number	Sensor Checks *	Cleaned	Recalibrated	Tests *		Internal			External		Identity	Signature	Name & Company	Date
	[6.5]	Yes/No	Yes/No [7.20]	[8.1]	HOAL	HOAR	FBOA	HOAL	HOAR	FBOA				
1														
2														
3														
4														
5														
6														
7														
8														

<sup>\*:</sup> Insert tick if correct to NR/SMS steps Note: numbers in the [] brackets refer to the NR/SMS steps



#### HABD Equipment: GETS FÜES Record Card (Rear) NR/SMS/HO11 – T/087

Form: NR/SMS/HO11/T087/RC/01

Date: April 2006

	Se	rvice	ВТ	ests															
z	Fie	eld En	nd																
Number			5	Sens	or Ali	gnme	ent (A	ppen	dix B	3)			Wheel Sen	sor Alignment (A	ppendix C) *	Cor	nponents Replaced	I	
er	НС	HOAL(Element)						Sensor RR	Sensor MK	Sensor GR	Component Details & Serial No	Signature	Name & Company	Date					
	0	1	2	3	5	6	7	8	0	1	2	3	301.001.111	33.133.11.11	33.133. 3.1		o.g. a.a.	rtainio a company	25.0
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			

Number	Comments	Meter Identity	Signature	Name & Company	Date
1					
2					
3					
4					
5					
6					
7					
8					

<sup>\*:</sup> Insert tick if correct to NR/SMS steps



### HABD Equipment: Phoenix MB Record Card - Accuracy Test

Form: NR/SMS/HO12 Date: March 2018

SCT	Mileage:	m	ch	Serial No:	Software Version:	Track:	From	То

	Nominal Values	Actual Values									
Accuracy of Sensors		HDB1 Left	HDB2 Right	HWB1 Left	HWB1 Right	HWB2 Left	HWB2 Right				
Sensor Serial No:											
HBD Test temp.1	70°C +- 3°C										
HBD Test temp.2	120°C +- 5°C										
HWD Test temp.1	300°C +- 10°C										
HWD Test temp.2	400°C +- 20°C										
L	Date				1	1	I				
	Signature & Initials										

	Nominal Values			Actua	al Values		
Accuracy of Sensors		HDB1 Left	HDB2 Right	HWB1 Left	HWB1 Right	HWB2 Left	HWB2 Right
Sensor Serial No:							
HBD Test temp.1	70°C +- 3°C						
HBD Test temp.2	120°C +- 5°C						
HWD Test temp.1	300°C +- 10°C						
HWD Test temp.2	400°C +- 20°C						
	Date						
	Signature & Initials						

	Nominal Values	Actual Values									
Accuracy of Sensors		HDB1 Left	HDB2 Right	HWB1 Left	HWB1 Right	HWB2 Left	HWB2 Right				
Sensor Serial No:											
HBD Test temp.1	70°C +- 3°C										

	Nominal Values			Actual	Values		
Accuracy of Sensors		HDB1 Left	HDB2 Right	HWB1 Left	HWB1 Right	HWB2 Left	HWB2 Right
Sensor Serial No:							
HBD Test temp.1	70°C +- 3°C						
HBD Test temp.2	120°C +- 5°C						
HWD Test temp.1	300°C +- 10°C						
HWD Test temp.2	400°C +- 20°C						
	Date		1				1
	Signature & Initials						

	Nominal Values			Actual	Values		
Accuracy of Sensors		HDB1 Left	HDB2 Right	HWB1 Left	HWB1 Right	HWB2 Left	HWB2 Right
Sensor Serial No:							
HBD Test temp.1	70°C +- 3°C						
HBD Test temp.2	120°C +- 5°C						
HWD Test temp.1	300°C +- 10°C						
HWD Test temp.2	400°C +- 20°C						
	Date						I
	Signature & Initials						

	Nominal Values			Actual	Values		
Accuracy of Sensors		HDB1 Left	HDB2 Right	HWB1 Left	HWB1 Right	HWB2 Left	HWB2 Right
Sensor Serial No:							
HBD Test temp.1	70°C +- 3°C						

HBD Test temp.2	120°C +- 5°C			
HWD Test temp.1	300°C +- 10°C			
HWD Test temp.2	400°C +- 20°C			
	Date			
	Signature & Initials			

HBD Test temp.2	120°C +- 5°C			
HWD Test temp.1	300°C +- 10°C			
HWD Test temp.2	400°C +- 20°C			
	Date		I	
	Signature & Initials			

Netwo	rk Rail

#### **HABD Equipment: Phoenix MB Record Card – Calibration Test**

Form: NR/SMS/HO12 Date: March 2018

Issue: 01

Site Name: Mileage: m ch Serial No: Software Version: Track: From To

	Temp	HBD1	HBD2		HDW1 (	left, rail)			HWD1 (le	ft, centre)			HWD2 (r	ight, rail)			HWD2 (rig	jht, centre)		
Date	Range	(left)	(right)	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8	Signature
	Lower																			
	Upper																			
	Lower																			
	Upper																			
	Lower																			
	Upper																			
	Lower																			
	Upper																			
	Lower																			
	Upper																			
	Lower																			
	Upper																			
	Lower																			
	Upper																			

Lower											
Upper											
Lower				·			·				
Upper											
Lower		_		_			_	_			
Upper											



## Ansaldo-STS Interlocking System Colour Light Signalling System (SEI-CLSS)

Form: NR/SMS/IE29/RC/01

Date: March 2018 Issue: 01

Signa	al Box / Interlocking:	Location:					
	T _						
_	Battery	Г	Т	Г	T	Т	Т
<b>N</b> 0.	Serial No	Active Card	Installed Date	Expiry Date	Comments	Signature	Name & Company
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
Signa	al Box / Interlocking:	Location:					



## Ansaldo-STS Interlocking System Colour Light Signalling System (SEI-CLSS)

Form: NR/SMS/IE29/RC/01

Date: March 2018

	Battery						
No.	Serial No	Spare Card	Installed Date	Expiry Date	Comments	Signature	Name & Company
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							



#### RETB Fixed Station Tests Record Card (Front) NR/SMS/IR11

Form: NR/SMS/IR11/RC/01

Date: August 2004

Signal Box:		Location / Site:	
Station Type*: CA /CB / SC / CD / CE	Adjacent Station (1):		Adjacent Station (2):

		Power Su	ipply (V)		Aerial Sys	tem (dBm)		_		Receiver T	ests			Tra	ansmitter Te	sts
Number	Battery Charger (Mains On)	Battery Charger (F/S on Key)	Internal 5V	Internal 24V	Signal Strength From Station (1)	Signal Strength From Station (2)	Rf Rx Frequency (MHz)	12dB SINAD	Squelch Threshold (dBm)	Af O/P @ 1.5KHz (dBm)	Rx Af Distortion (%)	3825Hz SAT Sensitivity (Hz)	3825Hz SAT Frequency B/W (Hz)	Rf Tx Frequency (MHz)	Tx O/P Power (W)	Peak Deviation (KHz)
1																
2																
3																
4																

			Transmitter	Tests			Duple	x Tests			Modem	Tests		Duplex	or Tests
Numb		for 1.5KHz viation	Tx Af	3825Hz	3825Hz SAT		Through Level Deviation (Measured at)		vel Deviation sted to)	Dat	a '1'	Data '2'		O/P from	O/P from Duplexor
ĕ	@1KHz	@1.5KHz	Distortion (%)	SAT Level (KHz)	Frequency (Hz)	@1KHz	@1.5KHz	@1KHz	@1.5KHz	1200Hz Tx Level	1200Hz Rx Level	1800Hz Tx Level	1800Hz Rx Level	Tx Tray (dBm)	(dBm)
1															
2															
3															
4															

	Duplexo	or Tests		ſ	Functional Tes	ts*			Test Equipr	ment Identitie	S			
Number	12dB SINAD Tx Off (dBm)	12dB SINAD Tx On (dBm)	Monitor Panel	Token Exchange	Auto Test from SC	Disable/ Enable from SC	Block Bell to/from SC	Multi- Meter	Power Meter	2955A Test Set	Spectrum Analyser	Signature	Name & Company	Date
1			Pass / Fail	Pass / Fail	Pass / Fail	Pass / Fail	Pass / Fail							
2			Pass / Fail	Pass / Fail	Pass / Fail	Pass / Fail	Pass / Fail							
3			Pass / Fail	Pass / Fail	Pass / Fail	Pass / Fail	Pass / Fail							
4			Pass / Fail	Pass / Fail	Pass / Fail	Pass / Fail	Pass / Fail							

<sup>\*:</sup> Delete as Applicable Note: Details to be filled in as applicable to the installation under test



## **RETB Fixed Station Tests** Record Card (Rear) NR/SMS/IR11

Form: NR/SMS/IR11/RC/01

Number	Comments
1	
2	
3	
4	



#### Vital Harmon Logic Controller (VHLC)

Maintenance Record Card

Form: NR/SMS/IS15/RC/VHLC

Date: Sept 2018

Signal I	Вох:	Location / Equipmen	t Room:					Number of Vital Input / Output Modules:					
Date	Name /Company	Signature	Meter ID	PS Module + & - Terminals of TB1 (DC)	PS Module TP1 & TP2 (DC)	VLP Module TP1 & TP 2 (DC)	VLP Module TP1 & TP 2 (DC) minus PS Module TP1 & TP2 (DC)	ACP Module TP1 and TP2 (DC) Battery Voltage	NVIO Module TP1 & TP3 (DC) #	Comments			
					, ,	, ,	, ,						



#### Vital Harmon Logic Controller (VHLC)

Maintenance Record Card

Form: NR/SMS/IS15/VHLC

Date: Sept 2018 Issue: 02

Date	Name /Company	Signature	Meter ID	PS Module + & - Terminals of TB1 (DC)	PS Module TP1 & TP2 (DC)	VLP Module TP1 & TP 2 (DC)	VLP Module TP1 & TP 2 (DC) minus PS Module TP1 & TP2 (DC)	ACP Module TP1 and TP2 (DC) Battery Voltage	NVIO Module TP1 & TP3 (DC) #	Comments
							,	Ü		



## Harmon Crossing Processor (HXP-3)

NR/SMS/PartR/IS30/RC01							
Date:	05/12/2020						
Issue No: 01							

Signal Box:	Level Crossing:

	Service A 7	asks																	
No.	Normal	T Operation to the state of the						System Parameters (After any Adjustments)											
	Standby Operation	MDR Failure	ISL Failure	RX- POT	RX	PHASE	TC	вс	P- COMP	FS	LP	RX- POT	RX	PHASE	TC	ВС	P- COMP	FS	LP
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8									·										
9																			

No.	Date	Name	Company	Comments
1				
2				
3				
4				
5				
6				
7				
8				
9				

<sup>\*</sup> Insert tick if transfer operation is correct



WESTeX LCP3000 Crossing Predictor Record Card (Front) NR/SMS/IS35 and NR/SMS/Test/155 Form: NR/SMS/IS35/RC/01 Date: December 2016

Signal	Box:		Level Cro	Loca	Location Number:				
			Service A	A Test (Required	every 3 Months)				
No	Reading		T1	t rest (respanse	T2	Comments (Changes, Err	ror Codes, Last WT/Det	/Ave/Isl Speeds)	
	Status of EZ and EX	EZ=	EX=	EZ=	EX=	(0.11.1.6.0.)	, 20,		
	Ex at Highest EZ								
	EZ at Lowest EX								
1	Transmit (Xmit) Volt/Cur	V	Α	V	Α				
	+/- 5v Power Supply			•					
	+/- 8v Power Supply								
	+/- 15v Power Supply								
No	Reading		T1		T2	Comments (Changes, Er	ror Codes, Last WT/Det	/Ave/Isl Speeds)	
	Status of EZ and EX	EZ=	EX=	EZ=	EX=				
	Ex at Highest EZ								
	EZ at Lowest EX								
2	Transmit (Xmit) Volt/Cur	V	Α	V	Α				
	+/- 5v Power Supply								
	+/- 8v Power Supply								
	+/- 15v Power Supply								
No	Reading		T1		T2	Comments (Changes, Er	ror Codes, Last WT/Det	/Ave/Isl Speeds)	
	Status of EZ and EX	EZ=	EX=	EZ=	EX=				
	Ex at Highest EZ								
_	EZ at Lowest EX								
3	Transmit (Xmit) Volt/Cur	V	Α	V	Α				
	+/- 5v Power Supply								
	+/- 8v Power Supply								
	+/- 15v Power Supply								
No	Reading		T1		T2	Comments (Changes, Er	ror Codes, Last WT/Det	/Ave/Isl Speeds)	
	Status of EZ and EX	EZ=	EX=	EZ=	EX=				
	Ex at Highest EZ								
	EZ at Lowest EX								
4	Transmit (Xmit) Volt/Cur	V	Α	V	Α				
	+/- 5v Power Supply								
	+/- 8v Power Supply								
	+/- 15v Power Supply								
No	Comments					Technicians Name	Company	Date	
Above	1 to 4 (1) Maintenan	ce (2) Fault	ting (3) Engineerin	g Work (4) Othe	r				
-									



WESTEX LCP3000 Crossing Predictor Record Card (Rear) NR/SMS/IS35 and NR/SMS/Test/155 Form: NR/SMS/IS35/RC/01 Date: January 2016

Issue: 01

**Signal Box: Level Crossing: Location Number:** No: Service B Test (Required every 12 Months or After Significant Change to the Infrastructure with the LCP Approach Distances) 80012 TRANSCEIVER **CALIBRATION HISTORY LINEARIZATION HISTORY** MODULE DC VOLTAGE **EZ/EX VALUES TRACK** HARDWIRED TEST SHUNT AT HARDWIRED TEST SHUNT AT 50 PERCENT POINT OF TRACK APPROACH **READINGS AFTER UN-OCCUPIED TERMINATION SHUNT CALIBRATION EZ VALUE EX VALUE** EZ/2 VALUE ΕZ EX NO LINEARIZATION COMPLETE **T1** T2 1 (Test) (Calc) **LINEARIZATION** STEP +/-Z1= Z1= EZ EX ΕZ EX **Step Value Not for Sim** (Test) (A - B) x 2 **Entered into** Inductor] LCP Z2= Z2= = C (A) (B) (C) TRACK 1 (UP) TRACK 1 (DN) TRACK 2 (UP) TRACK 2 (DN) Warning Time Selected **Comments** T1(Sec): T1(Sec): T2(Sec): T2(Sec): Selected Approach Distance T1(Ft): T1(Ft): T2(Ft): T2(Ft): Computed T1(Ft): T1(Ft): T2(Ft): T2(Ft): UAX1 Pickup Delay (UAX) (0=Off) T1 T2 Reading Comments EZ= EZ= Status of EZ and EX EX= EX= Ex at Highest EZ EZ at Lowest EX Transmit (Xmit) Voltage Transmit (Xmit) Current +/- 5v Power Supply +/- 8v Power Supply +/- 15v Power Supply Comments **Technicians Name** Company Date

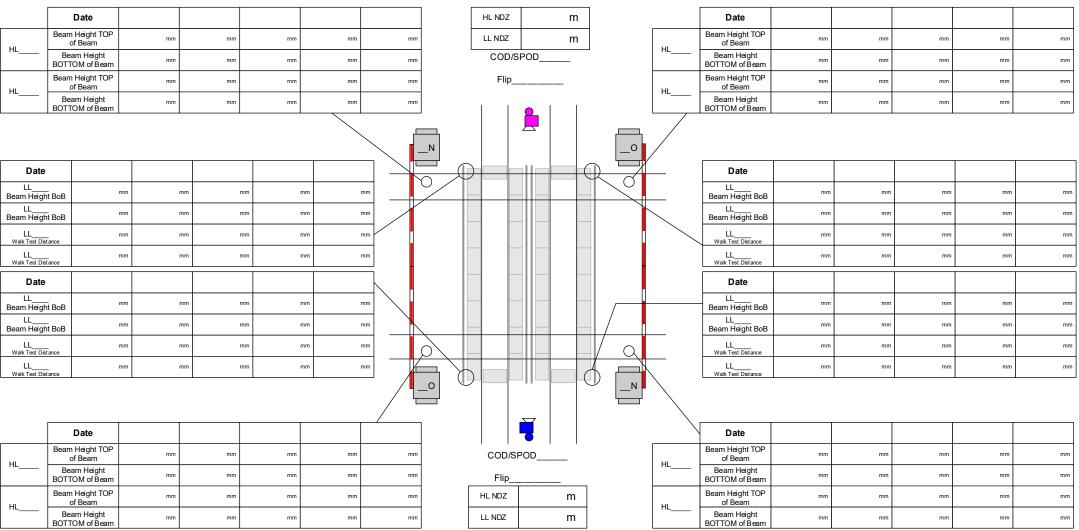


#### **Obstacle Detector**

#### PA05/04485 LB Foster / Optex Redscan RLS3060 series LIDAR Record Card

Form: NR/SMS/LC09/RC01 Date: 07/03/2019

Issue: 3



Notes:

This Record Card shows the normal beam height setting locations for LL and HL LIDAR, The Detection Area Diagram will show the shapes of each Detection Area segment and the beam height setting positions (which may be different to the default ones shown on this Record Card).

When measuring the Bottom of Beam lower LAC1 so it is out of the beam (no flashing LED) and raise until an LED flashes rapidly. Then measure to the SENSOR, not the LED (from the crossing surface). To measure the TOP of Beam, raise LAC1 above beam (no flashing LED) and lower into the beam until an LED flashes rapidly. Then measure to the SENSOR, not the LED (from the crossing surface).

BOB = Bottom of Beam.

Crossing	
Date	
Name	



GateCare NR2: Power Operated Gate Opener (POGO)

**Record Card** 

NR/SMS/LC50-Test 084

Form: NR/SMS/LC50/T084/RC/01

Date: Sept 2014

Location / Site: Signal Box Ar	ea:
--------------------------------	-----

				Gate	One	Gate	Gate Two				
	Solar Array Output Volts DC	Sunlight level	Battery Voltage Volts DC	Dynamic Time Exceeded	Dynamic Time <b>Actual</b>	Dynamic Time Exceeded	Dynamic Time <b>Actual</b>	Force Meter Identity	Name	Signature	Date
1		Sunny / Cloudy / Dark		Yes / No		Yes / No					
2		Sunny / Cloudy / Dark		Yes / No		Yes / No					
3		Sunny / Cloudy / Dark		Yes / No		Yes / No					
4		Sunny / Cloudy / Dark		Yes / No		Yes / No					
5		Sunny / Cloudy / Dark		Yes / No		Yes / No					
6		Sunny / Cloudy / Dark		Yes / No		Yes / No					
7		Sunny / Cloudy / Dark		Yes / No		Yes / No					
8		Sunny / Cloudy / Dark		Yes / No		Yes / No					
9		Sunny / Cloudy / Dark		Yes / No		Yes / No					
10		Sunny / Cloudy / Dark		Yes / No		Yes / No					
12		Sunny / Cloudy / Dark		Yes / No		Yes / No					
13		Sunny / Cloudy / Dark		Yes / No		Yes / No					
14		Sunny / Cloudy / Dark		Yes / No		Yes / No					
15		Sunny / Cloudy / Dark		Yes / No		Yes / No					
16		Sunny / Cloudy / Dark		Yes / No		Yes / No					
17		Sunny / Cloudy / Dark		Yes / No		Yes / No					
18		Sunny / Cloudy / Dark		Yes / No		Yes / No					
19		Sunny / Cloudy / Dark		Yes / No		Yes / No					
20		Sunny / Cloudy / Dark		Yes / No		Yes / No					



GateCare NR2: Power Operated Gate Opener (POGO)

**Record Card** 

NR/SMS/LC50-Test 084

Form: NR/SMS/LC50/T084/RC/01

Date: Sept 2014

Location / Site: Signal Bo	x Area:
----------------------------	---------

				Gate	One	Gate	Two				
	Solar Array Output Volts DC	Sunlight level	Battery Voltage Volts DC	Dynamic Time Exceeded	Dynamic Time <b>Actual</b>	Dynamic Time Exceeded	Dynamic Time <b>Actual</b>	Force Meter Identity	Name	Signature	Date
1		Sunny / Cloudy / Dark		Yes / No		Yes / No					
2		Sunny / Cloudy / Dark		Yes / No		Yes / No					
3		Sunny / Cloudy / Dark		Yes / No		Yes / No					
4		Sunny / Cloudy / Dark		Yes / No		Yes / No					
5		Sunny / Cloudy / Dark		Yes / No		Yes / No					
6		Sunny / Cloudy / Dark		Yes / No		Yes / No					
7		Sunny / Cloudy / Dark		Yes / No		Yes / No					
8		Sunny / Cloudy / Dark		Yes / No		Yes / No					
9		Sunny / Cloudy / Dark		Yes / No		Yes / No					
10		Sunny / Cloudy / Dark		Yes / No		Yes / No					
12		Sunny / Cloudy / Dark		Yes / No		Yes / No					
13		Sunny / Cloudy / Dark		Yes / No		Yes / No					
14		Sunny / Cloudy / Dark		Yes / No		Yes / No					
15		Sunny / Cloudy / Dark		Yes / No		Yes / No					
16		Sunny / Cloudy / Dark		Yes / No		Yes / No					
17		Sunny / Cloudy / Dark		Yes / No		Yes / No					
18		Sunny / Cloudy / Dark		Yes / No		Yes / No					
19		Sunny / Cloudy / Dark		Yes / No		Yes / No					
20		Sunny / Cloudy / Dark		Yes / No		Yes / No					



## Lever Frame Record Card (Front) NR/SMS/LV11 to 17

Form: NR/SMS/LV11/17/RC/01

Signal Box	x:			Frame	e Make & Type:			
Date Insta (If Known)	ılled:	Date of Last Overhaul:	Number of Working Lev	evers: Number of Spare Levers: Number of Out of Use			nber of Out of Use Leve	rs:
Lever Number	Comments (Adjustments, Re	enewals, Loose or Oversize Pin	s etc)			Signature	Name & Company	Date



## Lever Frame Record Card (Rear) NR/SMS/LV11 to 17

Form: NR/SMS/LV11/17/RC/01

Lever Number	Comments (Adjustments, Renewals, Loose or Oversize Pins etc)	Signature	Name & Company	Date



#### SSI Panel Multiplexer: TEML41 (AN)

Form: NR/SMS/MP01/RC01

Date: 05/12/2020

	Location	of Signal	llers Cor	ntrol Panel:
--	----------	-----------	-----------	--------------

	Service A	Tests								
Z	Indications	S					Power Supplies			
Number	System Status Panel		Signalling Panel**		Card Status		Main Supply	/	Duplicated S	Supply**
er	All Correct*	Comments	All Correct*	Comments	All Correct*	Comments	Within Spec*	Comments	Within Spec*	Comments
1										
2										
3										
4										
5										
6										
7										
8										

No.	General Comments	Test Equipment Identity	Signature	Name & Company	Date
1					
2					
3					
4					
5					
6					
7					
8					

<sup>\*</sup> Insert details of problem or tick if all correct
\*\* If fitted to the system



#### SSI Panel Multiplexer: TEML41 (SY/AN)

Form: NR/SMS/MP01/RC01

Date: 05/12/2020

7	Service E	3 Tests										
Пm	System Changeover											
Number	System in Use	Correct Indications*	Changeover Successful*	Correct Indications*	Route Setting Successful*	Panel Alarms ?	Panel Alarm Details					
1	A/B											
2	A/B											
3	A/B											
4	A/B											
N <sub>o</sub> .	General Comments					Test Equipment Identity	Signature	Name & Company	Date			

N <sub>o</sub> .	General Comments	Test Equipment Identity	Signature	Name & Company	Date
1					
2					
3					
4					

<sup>\*</sup> Insert details of problem or tick if all correct



#### SSI Panel Multiplexer: WBS Type S2

Form: NR/SMS/MP02/RC01

Date: 05/12/2020 Issue: 01

Location of Signallers Control Panel:	Location of SSI Interlocking
	(If remote from Signallers Panel):

	Service A	Tests										
Z	Indications	S									Power Supplies	
Number	Signallers	Panel	Scanner C	Cards	DIP/DOP Cards		Fuse/Status Panel		Modems**		Duplicated S	
er	All Correct*	Comments	All Correct*	Comments	All Correct*	Comments	All Correct*	Comments	All Correct*	Comments	Within Spec*	Comments
1												
2												
3												
4												
5												
6												
7												
8												

No.	General Comments	Test Equipment Identity	Signature	Name & Company	Date
1					
2					
3					
4					
5					
6					
7					
8					

<sup>\*</sup> Insert details of problem or tick if all correct \*\* If fitted to the system



#### SSI Panel Multiplexer: WBS Type S2

Form: NR/SMS/MP02/RC01

Date: 05/12/2020

7	Service B Tests								
lum	Duplicated PSU		Changeover Alarms		Line Levels**				
Number	Within Spec*	Comments	Correct Indications*	Comments	Within Spec*	Comments			
1									
2									
3									
4									

No.	General Comments	Test Equipment Identity	Signature	Name & Company	Date
1					
2					
3					
4					

<sup>\*</sup> Insert details of problem or tick if all correct \*\* If fitted to the system



#### SSI Panel Multiplexer: Vaughan Harmon

Form: NR/SMS/MP03/RC01

Date: 05/12/2020

Location of Signa	allers C	ontrol P	anel
-------------------	----------	----------	------

Number	Service A	Tests										
	Indications											
	System Status		On Line Processor		Off Line Processor		Digital Output		Digital Input		Power Supp	ly
	All	Comments	All	Comments	All	Comments	All	Comments	All	Comments	All	Comments
	Correct*		Correct*		Correct*		Correct*		Correct*		Correct*	
1												
2												
3												
4												
5												
6												
7												
8												

	Service A Tests		General Comments	Test Equipment	Signature	Name & Company	Date
N <sub>o</sub> .	Power Sup	plies		Identity	3	, ,	
,	Power Supplie Within Spec*	Comments					
1							
2							
3							
4							
5							
6							
7							
8							

<sup>\*</sup> Insert details of problem or tick if all correct



2

3

4

#### SSI Panel Multiplexer: Vaughan Harmon

Form: NR/SMS/MP03/RC01

Date: 05/12/2020

7	Service B Te	sts									
Number	System Char	ngeover		Alarms							
	Correct Indications*	Changeover Successful*	Correct Indications*	Changeover Successful*	Correct Indications*	Comments		Corr	ect Functions*	Comments	
1											
2											
3											
4											
No.	General Comments Tes								Signature	Name & Company	Date
1											

<sup>\*</sup> Insert details of problem or tick if all correct



#### **SSI Panel Multiplexer: GEC Type RM**

Form: NR/SMS/MP04/RC01

Date: 05/12/2020

Issue: 01

Location of Signallers Control Panel:

Service /	Service A Tests					General Comments	Test	Signature	Name &	Date		
Indications Power Supplies*				Power S	upplies*		Equipment Identity		Company			
System Status* Cards*		Within Comment			Identity							
All Correct	Comments	All Correct	Comments	Spec	Spec	Spec						

<sup>\*</sup> Insert details of problem or tick if all correct



#### **SSI Panel Multiplexer: GEC Type RM**

Form: NR/SMS/MP04/RC01

Date: 05/12/2020

Service B		General Comments	Meter Identity	Signature	Name & Company	Date
AC Supply (V)	System Changeover		Identity			

<sup>\*</sup> Insert tick if correct, problems to be entered in the comments column



# **Hydraulic Derailer**

# Maintenance Test

Form: NR/SMS/PB18/RC01 Date: September 2014 Issue: 02

Controlling Signal Box / Ground Frame:	Controlling Loc/Equip. Room:	De-railer Number	De-Railer	Configuration Comments:
			Actuator Make / Model:	
			Model.	

gauge bet and rail he	Test: 2mm ween derailer ead / 4 ft rest	Overload cut out time (6-9 secs)	Dynamic Earth Test (Y/N) NR/SMS/Test/052	Condition of Equipment / Mechanical / Electric / Pneumatic	Meter Identit	Name	Signed	Date
N	R		NR/SIVIS/TESI/U32		у			



# Point Fittings: Gauge, Free Wheel Passage (FWP), Free Wheel Clearance (FWC), and Residual Switch Opening (RSO) Measurements Record Card (Front) NR/SMS/PF01

Form: NR/SMS/PF01/RC/01 Date: December 2020

Controlling Signates	al Box / Ground			Equipment Room / Location Case:		
Point Number:		Switch	Type:	Stretcher Bar Type: Fixed Yellow (FY) (FB), Adjustable (AD) Tubular (TSB):	· ·	

	Normal					Reverse				
	Measurement Toward	from Last Str s the Switch I		Docidus	d Caritala	Measurement Toward	from Last Str s the Switch F		Daaidua	l Cwitah
Number	Maximum Fro		Minimum Free Wheel Clearance	Residua Opening T Planed	hroughout	Maximum Fre Passa		Minimum Free Wheel Clearance	Residua Opening T Planed	hroughout
	Theoretical FBC check Pass /Fail	Actual	Actual	Max	Min	Theoretical FBC check Pass /Fail	Actual	Actual	Max	Min
01										
02										
03										
04										
05										
06										
07										

Number	Comments	Gauge Identity	Name	Signed	Company	Date
01						
02						
03						
04						
05						
06						
07						



# Point Fittings: Gauge, Free Wheel Passage (FWP), Free Wheel Clearance (FWC), and Residual Switch Opening (RSO) Measurements Record Card (Front) NR/SMS/PF01

Form: NR/SMS/PF01/RC/01 Date: December 2020

	Normal					Reverse				
	Measurement Toward	t from Last Str Is the Switch I		Pasidur	al Switch	Measurement Toward	from Last Str Is the Switch I		Pasidus	al Switch
Number	Maximum Fr Passa		Minimum Free Wheel Clearance	Opening T	Throughout Length	Maximum Fr Passa		Minimum Free Wheel Clearance	Opening T	hroughout Length
	Theoretical FBC check Pass /Fail	Actual	Actual	Max	Min	Theoretical FBC check Pass /Fail	Actual	Actual	Max	Min
08										
09										
10										
11										
12										
13										
14										
15										
16										

Number	Comments	Gauge Identity	Name	Signed	Company	Date
08						
09						
10						
11						
12						
13						
14						
15						
16						



## Point System - Hydraulic - Pneumatic

Maintenance Test

Form: NR/SMS/PTS/RC01

Date: 01/09/2018

Cor	ntrolling	Signal E	Box / G	rour	nd Frame	e: Control	ling Loc/Eq	uip. Room	Poin	t Actu	ıator M	ake/Mo	odel:	Poi	nt Nu	mber:	Со	onfigurati	on Co	omme	ents:		
_					witch	FPL Tests	}							ock (T	)=Tap	ppet [1		PL, 2 <sup>nd</sup> :			erwise bo	th ty	pes]
<u>Z</u> 0.	Coi	ndition o	f		pening						ft Hand							Right Har			_		
		ipment	&	(	(mm)	Norr	nal*	Reve	rse*	De	tection	Broke	n	Dete	ction	Made	l	Detection	n Bro	ken	Dete	ction	n Made
		Track		N	R	3.5mm	1.5mm	3.5mm	1.5mm		5mm (L)	2mn (T)		2.5/3 mm (		1.5mm (T)	1	4/5mm (L)		mm (T)	2.5/3. mm (L		1.5mm (T)
	Sunnle	mentan	/ Dete	ction	[bottom	figure = SC	)1	Detection	n Loon (	(Only	one er	ntry rea	uirec	d for th	is tes	t on m	ultiple	e point e	nds	note i	n comm	ents'	1
	Оцрріс	riicitary	Dete	Clion	i [bottoiii		-		1	` -		iti y 10q	uncc	1 101 111	113 103					11010	III COIIIII	CHIC	<u>'</u>
	Norma	l*	Reve	erse*	k	Flangewa Clearance		Co	Voltag		5l	T	_					stance T	esi	1_			
1						Clearance	; (111111)	rres	Norma				Rev				Norn	nal		Re	everse		
	6mm 2mm	8mm 4mm	6mr 2mr		8mm 4mm	Normal	Reverse	Corresp**.	Feed End		Relay	End	Fe Er		Rel En	,	+Ve	e Leg	-Ve Leg	+\	Ve Leg	_\	√e Leg
	Comm	ents								Mete	er Ident	itv		Name	<u> </u>		S	Signed		Com	npany	Da	te
	Commi	01110								Wioto	or rading	y		rtaine				, ignou		0011	iparry	Du	
<u> </u>				S	witch	FPL Tests			•	De	tection	Test (	L)= L	ock (T	)=Tap	ppet [1	st:RC	PL, 2 <sup>nd</sup> :	IBCL	, othe	rwise bo	th ty	pes]
Z o	Col	ndition c	ıf	Op	pening	FPL Tesis	5			Lef	ft Hand	Switcl	h*	•			R	Right Har	nd Sw	/itch*			
	_	ipment		(	mm)	Norr	nal*	Reve	rse*	De	tection	Broke	n	Dete	ction	Made	ı	Detection	n Bro	ken	Dete	ctior	Made
		Track		N	R	3.5mm	1.5mm	3.5mm	1.5mm		5mm (L)	2mn (T)		2.5/3 mm (		1.5mn (T)	1	4/5mm (L)		mm (T)	2.5/3. mm (L		1.5mm (T)
										Ì	,	. ,		`				· /		,			· /
	Supple	mentary	/ Dete	ction	[bottom	figure = SC	)]	Detection	n Loop (	(Only	one er	ntry req	uirec	d for th	is tes	t on m	ultiple	e point e	nds,	note i	n comm	ents)	)
		14	_			Flangewa	V	0	Voltag	je Tes	st						Resi	stance T	est				
2	Norma	l°	Reve	erse'	•	Clearance		orre	Norma	al			Reve	erse			Norn	nal		Re	everse		
	6mm 2mm	8mm 4mm	6mr 2mr		8mm 4mm	Normal	Reverse	Corresp**.	Feed		Relay	End	Fe Er		Rel En	-	+Ve	e Leg	-Ve Leg	+'	Ve Leg	_\	/e Leg
	Comm	ents								Mete	er Ident	itv		Name	·		S	Signed		Com	ipany	Da	te
	3311111									IVICIO	, ideiil	y		raine				-igi iou		0011	.parry	Da	
20:	nnloto s	ootions :	20.055	ron	ioto to si	/stem config	uration *. I	poort tigle if	oorroct.	**. 1	oort tic	k if all 4	tha :s	oint a	ada 6"	o in ac	rroc	nandara	o ab d	na c	N or D d	oto s	tion



# Point System - Hydraulic - Pneumatic

Maintenance Test

Form: NR/SMS/PTS/RC01

Date: 01/09/2018

				Sv	vitch	FPL Tests	,			Detec	ction Te	st (L)=	Lock (	T)=Ta	ppet [	1 <sup>st</sup> :RCPL, 2 <sup>nd</sup>	: IBCL,	othe	rwise bo	th types]
No.	Cor	ndition o	of		ening	11 1 10313	•			Left F	Hand Sv	itch*				Right Ha	ınd Sw	itch*		
-	_	ipment		(r	nm)	Norr	nal*	Reve	rse*	Detec	ction Bro	ken	Dete	ection	Made	Detection	on Bro	ken	Dete	ction Made
	,	Track		Ν	R	3.5mm	1.5mm	3.5mm	1.5mm	4/5m (L)		mm (T)	2.5/ mm		1.5m (T)	m 4/5mm (L)		mm T)	2.5/3.5 mm (L	
												. ,						•		
	Supple	mentary	/ Dete	ction	bottom	figure = SC	)]	Detection	on Loop (	Only on	e entry	requir	ed for t	his tes	st on n	nultiple point	ends, r	note ii	n comm	ents)
	N1	14	<b>D</b>	+		Flangewa	V	0	Voltage	e Test						Resistance <sup>2</sup>	Test			
3	Norma	l°	Reve	erse*		Clearance		orre	Norma	l		Re	everse			Normal		Re	verse	
	6mm 2mm	8mm 4mm	6mı 2mı		8mm 4mm	Normal	Reverse	Corresp**.	Feed End	Re	elay End		eed End	Re Er	lay nd	+Ve Leg	-Ve Leg	+\	/e Leg	-Ve Leg
	Comm	ents	l.						•	Meter I	dentity		Nam	ie		Signed	ı	Com	pany	Date
				Sv	vitch	FPL Tests			<u>'</u>	Detec	ction Te	st (L)=	Lock (	T)=Ta	ppet [	1 <sup>st</sup> :RCPL, 2 <sup>nd</sup>	: IBCL,	othe	rwise bo	th types]
8	Cor	ndition o	of		ening	FPL Tests	5				Hand Sv			-		Right Ha				
	_ Equ	ipment		(r	nm)	Norr	nal*	Reve	rse*	Detec	ction Bro	ken	Dete	ection	Made	Detection	on Bro	ken	Dete	ction Made
	,	Track		N	R	3.5mm	1.5mm	3.5mm	1.5mm	4/5m (L)		mm (T)	2.5/ mm		1.5m (T)	m 4/5mm (L)		mm T)	2.5/3.5 mm (L	
										(L)		(1)	1111111	(L)	(1)	(L)		1)	1111111 (L	.) (1)
	Supple	mentary	/ Dete	ction	bottom	figure = SC	)]	Detection	on Loop (	Only on	e entrv	reauir	ed for t	his tes	st on n	nultiple point e	ends. r	note ii	n comm	ents)
						Flangewa	-		Voltage		· · · · · · · ·	- 1				Resistance				,
4	Norma	<b> </b> *	Reve	erse*		Clearance		Corre	Norma			Re	everse			Normal		Re	verse	
	6mm 2mm	8mm 4mm	6mı 2mı		8mm 4mm	Normal	Reverse	Corresp**.	Feed	Re	elay End		eed End	Re Er	lay nd	+Ve Leg	-Ve Leg	+\	/e Leg	-Ve Leg
	Comm		Meter I	dentity	·	Nam	ie		Signed		Com	pany	Date							
Cor	nplete s	ections a	as app	ropria	ate to sy	stem confiç	guration *:	nsert tick it	correct	**: Inse	rt tick if	all the	point e	ends a	re in c	orresponden	ce givi	ng a N	N or R d	etection



## **Point System - Machine**

#### Maintenance Test

Form: NR/SMS/PTS/RC02

Date: 04/09/2021

Co	ontrolling	Signal E	Box / G	Grou	ınd Frame	: Control	ling Loc/Eq	quip. Room	: Point	Actua	tor Ma	ke/Mod	del:	Point Numl	ber:	Con	figuratio	Com	ments:		
Nun					Switch	FPL Tests	3				ection ⁄lachin		xcept	WRSL Style	e De On		on Test	WRSI	L Style	63 Ma	chines
Number		ndition o nent & T			pening (mm)	Norr	mal*	Reve	erse*		Norma	al*	ı	Reverse*		ontac		Norma	al*	Re	everse*
	- [			N	l R	3.5mm	1.5mm	3.5mm	1.5mm	3.5	mm	5mm	3.5r	mm 5mm	n N	Ì	R 2mi	n 3	.5mm	2mm	3.5mm
	Supple	mentary	Detec	tion	1			Detection	on Loop (C	l Only o	ne ent	try requ	ired fo	or this test o	n mult	iple	point en	ds, not	te in co	mmen	ts)
	Norma	l*	Reve	erse	<b>;</b> *	Freewhee		င	Voltage								ce Test		1_		
1						Clearance	e (mm)	Corresp**	Normal		Dalari		erse	Dalass	Norm	nal			Reve	erse	
	6mm	8mm	6mı	m	8mm	Normal	Reverse	.*	Feed End		Relay End		eed nd	Relay End	+Ve	e Leç	g -Ve	Leg	+Ve	Leg	-Ve Leg
	Comm	ents									Mete	er Ident	it∨	Signature	<b>e</b>		Name/0	ompa	ıny	Da	ate
N N	<u></u>				Switch	FPL Tests	3				ection lachin		xpect	WRSL Style	e De On		on Test	WRSI	L Style	63 Ma	chines
Number		ndition o nent & T			pening (mm)	Norr	mal*	Reve	erse*		Norma	al*	I	Reverse*	Co	ontac		Norma	al*	Re	everse*
	_			N	l R	3.5mm	1.5mm	3.5mm	1.5mm	3.5	mm	5mm	3.5r	mm 5mm	ı N	I	R 2mi	n 3	.5mm	2mm	3.5mm
	Supple	mentary	Dotos	etion				Dotocti	on Loon (C	)nlv o	no ont	ry rogu	irod fo	or this test o	n mult	inlo	point on	de not	to in co	mmon	to)
	Supple	riierilary				Freewhee	<u> </u>		Voltage		ile elli	ily requ	iii eu it	or triis test t		•	ce Test	15, 110	ie iii co	iiiiieii	15)
2	Norma	<b> </b> *	Reve	erse	<b>*</b>	Clearance		Corre	Normal			Rev	erse		Norm				Reve	erse	
2	6mm	8mm	6mı	m	8mm	Normal	Reverse	Corresp**.	Feed End	1	Relay End		eed nd	Relay End	+Ve	e Leç	g -Ve	Leg	+Ve	Leg	-Ve Leg
	Comm	ents									Mete	er Ident	ity	Signature	9		Name/C	ompa	iny		Date



# Point System - Machine

#### Maintenance Test

Form: NR/SMS/PTS/RC02

Date: 04/09/2021

Number					vitch ening	FPL Tests	3				ection ⁄Iachir		xpect \	WRSL Style	Only	/)	Test (WI	RSL S	tyle 63	Mach	nines
ber		ndition of ment & Ti			nm)	Norr	nal*	Reve	rse*		Norma	al*	F	Reverse*		ntact ting*	Noi	mal*		Rev	erse*
	-			N	R	3.5mm	1.5mm	3.5mm	1.5mm	3.5	mm	5mm	3.5m	nm 5mm	N	R	2mm	3.5m	nm 2ı	nm	3.5mm
																L					
	Supple	ementary	Detec	tion				Detection	1		ne en	try requ	ired fo	r this test o		•		note ii	n comm	nents)	)
	Norma	ı <b>l</b> *	Reve	erse*		Freewhee Clearance		င္ပ	Voltage	Test					Resist		Test				
3						Clearance	; (111111)	Corresp**	Normal			_	erse		Norma	al	1	<u> </u>	Reverse	<del>)</del>	
	6mm	8mm	6mr	n	8mm	Normal	Reverse	, * . *	Feed End		Relay End		ed nd	Relay End	+Ve	Leg	-Ve Le	eg ·	+Ve Le	g -	-Ve Leg
	Comm	ents									Met	er Ident	ity	Signature	)	N	ame/Com	npany		Date	e
																		. ,			
Z	_				vitch	FPL Tests	<b>S</b>				ection //achir		xpect \	WRSL Style	Dete		Test (WI	RSL S	tyle 63	Mach	nines
Number	_	ndition of ment & Ti			ening nm)	Norr	mal*	Reve	rse*		Norma	al*	F	Reverse*		ntact ting*	Noi	mal*		Rev	erse*
	_			N	R	3.5mm	1.5mm	3.5mm	1.5mm	3.5	mm	5mm	3.5m	nm 5mm	N	R	2mm	3.5m	nm 2ı	nm	3.5mm
								1 -								<u> </u>					
	Supple	ementary	Detec	tion				Detection	1		ne en	try requ	ired fo	r this test o	•			note ii	n comm	nents)	)
	Norma	ı <b>l</b> *	Reve	erse*		Freewhee		Co	Voltage	lest					Resist		Test				
4	Clearance (mm)							Corresp**.	Normal		Dalan		erse	Dalari	Norma	31	1	1	Reverse	<del>)</del>	
	6mm	8mm	6mr	m	8mm	Normal	Reverse	.*	Feed End		Relay End		ed nd	Relay End	+Ve	Leg	-Ve Le	eg ·	+Ve Le	g ·	-Ve Leg
														1							
	Comm	ents									Met	er Ident	ity	Signature	)	N	ame/Con	npany			Date



# Point System – Mechanical

Maintenance Test

Form:	NR/SMS/PTS/RC03
Date:	01/09/2018

Co	ntrolling	Signal E	Box / G	roun	nd Frame	e: Point N	umber:		Con	figuration Cor	nment	ts:						
Nu					witch	FPL Tests	;			Detection Signal Slice			nt 'X' details a	re in NR/SN	/IS/Tes		I Slide Free	
Number		ndition of ment & T			pening mm)	Norr	mal*	Reve	rse*	Distance				uge Betwe /Slide Rail*	en			e on Blade*
				N	R	3.5mm	1.5mm	3.5mm	1.5mm	Normal	Reve	erse	Normal	Rever	se	No	ormal	Reverse
•	Supple	ementary	Detec	tion		<u> </u>		Detection	n Loop	Only one ent	ry req	uired f	for this test o	n multiple p	oint er	l ids, note	e in comme	ents)
	NI	1*	D	*		Flangewa	У	C	Volta	ge Test				Resistance	e Test			
1	Norma	1"	Reve	erse"		Clearance	(mm)	orre	Norm	al	Re	verse		Normal			Reverse	
1					8mm	Normal	Reverse	Corresp**.	Fee End	,		eed End	Relay End	+Ve Leg	-V	e Leg	+Ve Leg	-Ve Leg
	Comm	ents								Meter Identi	ty	Nan	me	Signed			Company	Date
7				S	witch	FPL Tests	3						t 'X' details a	re in NR/SN	/IS/Tes			
Number	Co	ndition o	f	Op	ening					Signal Slic	le Loc	ked		D.t		Signa	l Slide Free	
ber		ment & T		(1	mm)	Norr		Reve		Distance			Stock	uge Betwe /Slide Rail*		2mı	m Clearanc	e on Blade*
Г				N	R	3.5mm	1.5mm	3.5mm	1.5mm	Normal	Rev	erse	Normal	Rever	se	No	ormal	Reverse
										(0.1						<u> </u>		
	Supple	mentary	Detec	tion				Detectio	· ·	(Only one ent	ry req	uired 1	for this test or			nds, not	e in comme	ents)
	Normal* Reverse* Flangeway Clearance (mm							Cor	-	ge Test				Resistance	e l'est		T.B.	
2						Clearance	(111111)	Corresp**	Norm	1	_	verse		Normal			Reverse	1
-	6mm	8mm	6mr	n	8mm	Normal	Reverse	.*	Fee End	,		eed End	Relay End	+Ve Leg	-V	e Leg	+Ve Leg	-Ve Leg
														ı				
	Comm	ents								Meter Identi	ty	Nan	me	Signed		(	Company	Date



# Point System – Mechanical

**Maintenance Test** 

Form: NR/SMS/PTS/RC03

Date: 01/09/2018

Number				Swi	4-1-	FPL Tests				Detection Te	est (Distar	nt 'X' details ar	e in NR/SMS	/Test/012)		
B	0	·		Ope		FFL Tests		·		Signal Slide	Locked			Signal	Slide Free	9
er	Condit Equipn	ion of nent & Tr	ack	(mı	_	Normal*		Reverse*		Distance 'X'	in mm	5mm Gauge Stock/Slide F		2mm C	Clearance	on Blade*
				N	R	3.5mm	1.5mm	3.5mm <sup>2</sup>	1.5mm	Normal	Reverse	Normal	Reverse	Norma		Reverse
	Supple	ementary	Detect	ion				Detection	n Loop (C	Only one entry	required	for this test on	multiple poir	nt ends, note	in comme	ents)
	N. I	1*	D	*		Flangeway	Clearance	e Co	Voltage	Test			Resistance 1	Test		
2	Norma	I"	Reve	rse"		(mm)		Corresp**	Normal		Reverse	)	Normal		Reverse	
6mm 8mm 6m	6mm	8n	nm	Normal	Reverse	.*	Feed E	nd Relay End	Feed Er	nd Relay End	+Ve Leg	-Ve Leg	+Ve Leg	-Ve Leg		
	Comm	ents					1		ļ	Meter Identity	Naı	me	Signed	C	company	Date
										<u> </u>						
Z									<u> </u>	Detection Te	et (Dietar	nt 'X' details ar	e in NR/SMS	(Test/012)		
_											ot tolotal					
Number				Swi		FPL Tests				Signal Slide		it / dotails ar	<u> </u>		Slide Free	9
umber	Condit Equipn	ion of nent & Tr	ack	Swi Opei (mi	ning	Normal*		Reverse*			Locked	5mm Gauge Stock/Slide F	Between	Signal		on Blade*
umber			ack	Ope	ning				1.5mm	Signal Slide Distance 'X'	Locked	5mm Gauge	Between	Signal	Clearance	
umber			ack	Opei (mi	ning m)	Normal*			1.5mm	Signal Slide Distance 'X'	Locked in mm	5mm Gauge Stock/Slide F	Between Rail*	Signal 2mm C	Clearance	on Blade*
umber	Equipn -			Oper (mi	ning m)	Normal*		3.5mm		Signal Slide Distance 'X' Normal	in mm Reverse	5mm Gauge Stock/Slide F	Between Rail*	Signal 2mm C Norma	Clearance	on Blade* Reverse
umber	Equipn	ment & Tr	Detect	Oper (mi N ion	ning m)	Normal* 3.5mm	1.5mm	3.5mm <sup>2</sup> Detection		Signal Slide Distance 'X' Normal Only one entry	in mm Reverse	5mm Gauge Stock/Slide f Normal for this test on	Between Rail*	Signal 2mm C Norma nt ends, note	Clearance	on Blade* Reverse
	Equipn -	ment & Tr		Oper (mi N ion	ning m)	Normal*	1.5mm	3.5mm <sup>2</sup> Detection	n Loop (C	Signal Slide Distance 'X' Normal Only one entry	in mm Reverse	5mm Gauge Stock/Slide F Normal for this test on	Between Rail* Reverse multiple poir	Signal 2mm C Norma nt ends, note	Clearance	on Blade* Reverse
umber 4	Equipn	ment & Tr	Detect	Oper (mi	ning m)	Normal* 3.5mm Flangeway	1.5mm	3.5mm  Detection	n Loop (0 Voltage Normal	Signal Slide Distance 'X' Normal Only one entry	in mm  Reverse required  Reverse	5mm Gauge Stock/Slide F Normal for this test on	Between Rail* Reverse multiple poir	Signal 2mm C Norma nt ends, note	Clearance I in comme	on Blade* Reverse ents)
	Supple Norma	ment & Tr	Detect Reve	Oper (mi	ning m) R	Normal* 3.5mm Flangeway	1.5mm	3.5mm <sup>2</sup> Detection	n Loop (0 Voltage Normal	Signal Slide Distance 'X' Normal Only one entry Test	in mm  Reverse required  Reverse	5mm Gauge Stock/Slide F Normal for this test on	Between Rail* Reverse multiple poin Resistance T	Signal 2mm C Norma nt ends, note Test	in comme	on Blade* Reverse ents)
	Supple Norma	ement & Tr	Detect Reve	Oper (mi	ning m) R	Normal* 3.5mm Flangeway	1.5mm	3.5mm <sup>2</sup> Detection	Normal Feed E	Signal Slide Distance 'X' Normal Only one entry Test	in mm  Reverse required  Reverse	5mm Gauge Stock/Slide F Normal for this test on	Between Rail* Reverse multiple poin Resistance T	Signal 2mm C Norma nt ends, note Test -Ve Leg	in comme	on Blade* Reverse ents)



# Point System - HPSS

#### Maintenance test

Form: NR/SMS/PTS/RC04

Date: 01/09/2018

UPON ARRIVA	<b>AL</b>									
	HPS	S Retracted					HPSS Exten	ded		Comments
Retract Side mr	m From:		Extend Si	de mm From:	Retract Side m	nm From:		Extend Side mr	n From:	
Closed	Open		Closed	Open	Closed	Open		Closed	Open	
		Toe					Toe			
		Supp 1					Supp 1			
		Supp 2					Supp 2			
AFTER COMPI	LETION OF WO	RK								
	HPS	S Retracted					HPSS Exten	ded		Comments
Retract Side mr	m From:		Extend Si	de mm From:	Retract Side m	nm From:		Extend Side mr	n From:	
Closed	Open		Closed	Open	Closed	Open		Closed	Open	7
		Toe					Toe			
		Supp 1					Supp 1			
		Supp 2					Supp 2			
HPSA FACING	POINT LOCK T				TIME OF OPE	RATION TEST	Sigi	nal Box:		Handset No:
	on KR Lines with			n KR Lines with	Record Time for	or Extend / Retract				Transcot No.
3.5mm gauge			/ 10mm ga	ıge**	(Nominally 4 se	econds)	Loc	ation:		Signature: Date:
	L/H Switch R/H Switch			ch Closed***	Extend	Retrac	t .			
Closed*	L/H Switch R/H Switch *L Closed*				Ежона	1101140	Poi	nt ID:		
							F-01	II Carrial Nav		
	itgoing KR voltag						EC	U Serial No:		
** Delete details	s of gauge not us	ed *** Delete	e details of s	witch not tested						
UPON ARRIVA	\I									
OI OIL AILIUIA		S Retracted			1		HPSS Extend	dod		Comments
Retract Side mr		S Kellacieu	Extend Si		Retract Side m		IL 22 EVIGIN		_	Comments
Closed	Open			ge mm From:				Extend Side mr	n ⊢rom·	
0,0004	Opon							Extend Side mr		┪
		Toe	Closed	de mm From: Open	Closed	Open Open	Toe	Extend Side mr Closed	Open	
		Toe Supp 1					Toe Supp 1			
		Supp 1					Supp 1			
AFTER COMPL	LETION OF WOR	Supp 1 Supp 2								
AFTER COMPL	LETION OF WOI	Supp 1 Supp 2	Closed			Open	Supp 1 Supp 2	Closed		Comments
	HPS	Supp 1 Supp 2	Closed	Open	Closed	Open	Supp 1	Closed	Open	Comments
Retract Side mr	HPS m From:	Supp 1 Supp 2	Closed  Extend Si	Open  de mm From:	Closed  Retract Side m	Open	Supp 1 Supp 2	Closed  ded  Extend Side mr	Open	Comments
	HPS	Supp 1 Supp 2	Closed	Open	Closed	Open	Supp 1 Supp 2	Closed	Open	Comments
Retract Side mr	HPS m From:	Supp 1 Supp 2 RK SS Retracted	Closed  Extend Si	Open  de mm From:	Closed  Retract Side m	Open	Supp 1 Supp 2	Closed  ded  Extend Side mr	Open	Comments
Retract Side mr	HPS m From:	Supp 1 Supp 2 RK S Retracted Toe Supp 1	Closed  Extend Si	Open  de mm From:	Closed  Retract Side m	Open	Supp 1 Supp 2 HPSS Extend	Closed  ded  Extend Side mr	Open	Comments
Retract Side mr Closed	HPS m From: Open	Supp 1 Supp 2 RK SS Retracted Toe Supp 1 Supp 2	Closed  Extend Si	Open  de mm From:	Closed  Retract Side m	Mm From: Open	Supp 1 Supp 2  HPSS Extend  Toe Supp 1 Supp 2	Closed  ded  Extend Side mr Closed	Open	
Retract Side mr Closed	HPS m From:	Supp 1 Supp 2 RK SS Retracted Toe Supp 1 Supp 2 EST	Extend Si Closed	Open  de mm From:	Retract Side m Closed  TIME OF OPE	Mm From: Open	Supp 1 Supp 2  IPSS Extended  Toe Supp 1 Supp 2 Sign	Closed  ded  Extend Side mr	Open	Comments  Handset No:
Retract Side mr Closed  HPSA FACING Meter Reading 3.5mm gauge	HPS m From: Open  Open  POINT LOCK T on KR Lines with	Supp 1 Supp 2 RK SS Retracted Toe Supp 1 Supp 2 EST Mete 8mm	Extend Si Closed	Open  de mm From: Open  n KR Lines with	Retract Side m Closed  TIME OF OPE	Open Im From: Open Open RATION TEST or Extend / Retract	Supp 1 Supp 2  HPSS Extend  Toe Supp 1 Supp 2  Sign	Closed  ded  Extend Side mr Closed	Open	
Retract Side mr Closed  HPSA FACING Meter Reading 3.5mm gauge L/H Switch	HPS m From: Open  S POINT LOCK T on KR Lines with	Supp 1 Supp 2 RK SS Retracted Toe Supp 1 Supp 2 EST Mete 8mm ch	Extend Si Closed	Open  de mm From: Open  n KR Lines with	Retract Side m Closed  TIME OF OPE Record Time fo (Nominally 4 se	Open  Im From: Open  RATION TEST or Extend / Retract econds)	Supp 1 Supp 2  IPSS Extended  Toe Supp 1 Supp 2  Sign Loc	ded Extend Side mr Closed  nal Box:	Open	Handset No:
Retract Side mr Closed  HPSA FACING Meter Reading 3.5mm gauge	HPS m From: Open  Open  POINT LOCK T on KR Lines with	Supp 1 Supp 2 RK SS Retracted Toe Supp 1 Supp 2 EST Mete 8mm ch	Extend Si Closed	Open  de mm From: Open  n KR Lines with	Retract Side m Closed  TIME OF OPE Record Time for	Open Im From: Open Open RATION TEST or Extend / Retract	Supp 1 Supp 2  IPSS Extended  Toe Supp 1 Supp 2  Sign Loc	Closed  ded  Extend Side mr Closed  nal Box:	Open	Handset No:
Retract Side mr Closed  HPSA FACING  Meter Reading 3.5mm gauge L/H Switch Closed*	HPS m From: Open  Open  POINT LOCK T on KR Lines with  R/H Swith Closed	Supp 1 Supp 2 RK SS Retracted  Toe Supp 1 Supp 2 EST  Mete 8mm ch * L/H	Extend Si Closed  r Reading o / 10mm gal or R/H Swit	Open  de mm From: Open  n KR Lines with	Retract Side m Closed  TIME OF OPE Record Time fo (Nominally 4 se	Open  Im From: Open  RATION TEST or Extend / Retract econds)	Supp 1 Supp 2  IPSS Extended  Toe Supp 1 Supp 2 Sign Loc t Poin	Closed  ded  Extend Side mr Closed  nal Box: eation: nt ID:	Open	Handset No:
Retract Side mr Closed  HPSA FACING Meter Reading 3.5mm gauge L/H Switch Closed*  *Insert tick if our	HPS m From: Open  S POINT LOCK T on KR Lines with	Supp 1 Supp 2 RK SS Retracted  Toe Supp 1 Supp 2 EST  Mete 8mm ch * L/H e is not prese	Extend Si Closed  Present Reading of 10mm gar or R/H Swittent	de mm From: Open Open  n KR Lines with uge** ch Closed***	Retract Side m Closed  TIME OF OPE Record Time fo (Nominally 4 se	Open  Im From: Open  RATION TEST or Extend / Retract econds)	Supp 1 Supp 2  IPSS Extended  Toe Supp 1 Supp 2 Sign Loc t Poin	ded Extend Side mr Closed  nal Box:	Open	Handset No:



# Point System - HPSS

#### Maintenance test

Form: NR/SMS/PTS/RC04

Date: 01/09/2018

S		
Further Action Required? (Y/N)	Electrical Components	Further Action Required? (Y/N)
	16. Check the condition of the internal cables within the End Lid are free from damage, predominantly near to where the lid rests.	
	17. Check all sensors are secure and smooth in operation. Check that the Drive Peg cannot be rotated by more than a few degrees.	
	18. Check all links and wires are secure at the relays, dis-box and location case.	
	19. Check the cable routing has been installed so that excess cable is looped inside the toughing route and not coiled up.	
	20. Check that the sensor cables are kept away from heating elements, any excess shall be neatly tied from the element and moving parts.	
	21. Check the loop resistance of the power cables in accordance with the SMS cable loop resistance test.	
	22. Observe the backdrive operation. Check for incorrect set up displayed by lifting, shuddering, laboured movement or gear box noise.	
	23. Check the time of operation, ideally it should take approximately 4 seconds. If slower, Clean drive carriage slides.	
Further Action Required? (Y/N)	Useful detail to Note and Consider	Availability? (Y/N)
	24. Obtain Information regarding when the tamping, welding and stressing was completed.	
	25. Obtain Information regarding the installation and commissioning works. Is all documentation is correct, signed off and compliant.	
	26. It is advisable to have a known good ECU and LVDT as a spare to eliminate confusion following intermittent loss of detection faults.	
	27. If in doubt, consult with the appropriate installation and maintenance manuals and/or refer to the training documentation.	
	28. If spare parts are being sent back to the manufacturer for investigation it is important to complete the Product Return Form (See Appendix A of Installation Manual ER/R/1/0224).	
	29. You are reminded to record all faults with accuracy of date, time, symptom, point number, attendance, rectification, into a log book.	
	30. Good housekeeping is vital, the removal of litter and foliage at each site visit is very important, especially at the sensors.	
	Required? (Y/N)	Further Action Required? (Y/N)  16. Check the condition of the internal cables within the End Lid are free from damage, predominantly near to where the lid rests.  17. Check all sensors are secure and smooth in operation. Check that the Drive Peg cannot be rotated by more than a few degrees.  18. Check all links and wires are secure at the relays, dis-box and location case.  19. Check the cable routing has been installed so that excess cable is looped inside the toughing route and not coiled up.  20. Check that the sensor cables are kept away from heating elements, any excess shall be neatly tied from the element and moving parts.  21. Check the loop resistance of the power cables in accordance with the SMS cable loop resistance test.  22. Observe the backdrive operation. Check for incorrect set up displayed by lifting, shuddering, laboured movement or gear box noise.  23. Check the time of operation, ideally it should take approximately 4 seconds. If slower, Clean drive carriage slides.  Further Action Required? (Y/N)  Useful detail to Note and Consider  24. Obtain Information regarding when the tamping, welding and stressing was completed.  25. Obtain Information regarding the installation and commissioning works. Is all documentation is correct, signed off and compliant.  26. It is advisable to have a known good ECU and LVDT as a spare to eliminate confusion following intermittent loss of detection faults.  27. If in doubt, consult with the appropriate installation and maintenance manuals and/or refer to the training documentation.  28. If spare parts are being sent back to the manufacturer for investigation it is important to complete the Product Return Form (See Appendix A of Installation Manual ER/R/1/0224).  29. You are reminded to record all faults with accuracy of date, time, symptom, point number, attendance, rectification, into a log book.  30. Good housekeeping is vital, the removal of litter and foliage at each



# **Point System - Operating Current**

Maintenance Test

Form: NR/SMS/PTS/RC05

Date: 01/09/2018

Controlling Signal Box / Ground Frame:	Controlling Loc/Equip. Room:	Point Actuator Make/Model:	Point Number:	Configuration Comments:

Operating C (Amps)	Current	Obstruction (p	oints unable to	Comments	Mater Identity	Name	Cianad	Date
N to R	R to N	Slip Current (Amps)	oints unable to el) Cutout Operation (Sec)	Comments	Meter Identity	Name /Company	Signed	Date
							<u> </u>	



# **Point System - Operating Current**

Maintenance Test

Form: NR/SMS/PTS/RC05

Date: 01/09/2018

Operating C (Amps)	Current	Obstruction (p	oints unable to el) Cutout Operation (Sec)	Comments	Meter Identity	Name	Signed	Date
N to R	R to N	Slip Current (Amps)	Cutout Operation (Sec)	Comments	Meter Identity	/Company	Signed	Date



## Point System – Unistar HR

Maintenance Test

Form: NR/SMS/PTS/RC06

Date: 02/12/2023

Cor	ntrolling	Signal B	lox / Gi	rour	nd Frame	e: Control	ling Loc/Eq	uip. Room	: Poin	nt Ac	ctuator Make/N	lodel:	Po	oint Number:	(	Configura	tion C	omme	ents:	
N <sub>O</sub>	Cor	ndition o	f	Op	Switch pening	FPL Tests	3				Detection Test Left Hand Switch	ch*				Right Ha	ınd Sv	vitch*		
•		uipment (		(	(mm)	Norr	nal*	Reve	rse*		Detection Broke	en	De	etection Mac	le	Detection	on Bro	ken	Dete	ction Made
	•	Track		N	R	3.5mm	1.5mm	3.5mm	1.5mm		3.5mm			1.5mm		3	.5mm			1.5mm
	Supple	ementary	Drivo	Dot	tootion			Dotoctic	n Loon	(On	ly one entry re	quiros	d for t	this test on n	a ulti	nlo noint (	ondo	noto i	n comm	onto)
	Supple	ementary	Dilve	Det	ection	T				`	<u> </u>	quirec	ו וטו נ	ins test on n		sistance		note	n comm	enis)
,	Norma	l*	Reve	rse'	*	Flangewa Clearance		Corresp**	Voltag		esi	D					rest			
1	1			-		Olcarano	(111111)	res	Norma		1	Rev			INO	rmal			everse	
	2mm	4mm	2mm	1	4mm	Normal	Reverse	.* .*	Fee End		Relay End	Fe Er		Relay End	+	Ve Leg	-Ve Leg	+ 1	√e Leg	-Ve Leg
	Comm	ents								Me	eter Identity		Nam	10		Signed		Com	npany	Date
	Oomin	Citto								IVIC	otor identity		INGII			Olgrica		0011	ірапу	Date
				S	witch	FPL Tests					Detection Test									
S	Cor	ndition o	f		pening	11 L 1636	, 			L	_eft Hand Swit	ch*				Right Ha	ınd Sv	vitch*	•	
		ipment .	& _	(	(mm)	Norr	nal*	Reve	rse*		Detection Broke	en	De	etection Mad	le	Detection	on Bro	ken	Dete	ction Made
		Track		N	R	3.5mm	1.5mm	3.5mm	1.5mm		3.5mm		1.5	mm		3.5mm			1.5m	m
	Supple	ementary	Drive	Det	tection]			Detection	n Loop	(On	ly one entry re	quired	d for t	his test on n	nulti	ple point e	ends,	note i	n comm	ents)
	Norma	l*	Reve	rea <sup>3</sup>	*	Flangewa		ဂ္ဂ	Voltag	ge T	est				Re	sistance <sup>1</sup>	Test			
2	Nomia		1,676	130		Clearance	(mm)	orre	Norma	al		Rev	erse		No	rmal		Re	everse	
	2mm	4mm	2mm	ו	4mm	Normal	Reverse	Corresp**.	Fee		Relay End	Fe Er		Relay End	+	Ve Leg	-Ve Leg	+\	√e Leg	-Ve Leg
															ī					
	Comm	ents								Me	eter Identity		Nan	ne		Signed		Com	pany	Date
	1.1					,				**	Insert tick if all								N D '	



# Point System - Unistar

Maintenance Test

Form: NR/SMS/PTS/RC06

Date: 02/12/2023

_				Sw	ritch	FPL Tests				De	etection Test									
No.	Cor	ndition o	of	-	ening	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	•			Le	eft Hand Switch	ch*				Right Ha	nd Sw	itch*		
	_	ipment		(m	ım)	Norr	nal*	Reve	rse*	De	etection Broke	en	De	etection Mad	le	Detection	on Brol	ken	Dete	ction Made
		Track		N	R	3.5mm	1.5mm	3.5mm	1.5mm		3.5mm			1.5mm		3	.5mm			1.5mm
	Supple	mentary	/ Drive	e Dete	ction			Detection	n Loop (	(Only	one entry red	quire	d for t	this test on m	nultip	le point e	ends, r	note ii	n comm	ents)
	Nama	1*	Day	- × *		Flangewa	У	C	Voltag	ge Tes	st				Res	sistance <sup>-</sup>	Test			
1	Norma		Reve	erse*		Clearance		orre	Norma	al		Rev	erse		No	mal		Re	verse	
	2mm	4mm	2mr	m -	4mm	Normal	Reverse	Corresp**.	Feed		Relay End		ed nd	Relay End	+\	/e Leg	-Ve Leg	+\	/e Leg	-Ve Leg
	Commo	ents								Mete	er Identity		Nam	ne		Signed		Com	pany	Date
											•								. ,	
	l			Sw	ritch	EDL T (				De	etection Test						<u> </u>			
N <sub>O</sub>	Cor	ndition o	of		ening	FPL Tests	3			Le	eft Hand Switc	ch*				Right Ha	nd Sw	itch*		
Ŀ	_	ipment		(m	ım)	Norr	nal*	Reve	rse*	De	etection Broke	en	De	etection Mad	le	Detection	n Brol	ken	Dete	ction Made
	-	Track		N	R	3.5mm	1.5mm	3.5mm	1.5mm	3	3.5mm		1.5r	mm		3.5mm			1.5mr	n
	Supple	mentary	/ Drive	Dete	ction]			Detection	n Loop (	(Only	one entry red	quire	d for t	this test on m	nultip	le point e	ends, r	note ii	n comm	ents)
	Norma	<b> </b> *	Pov/	erse*		Flangewa	у	0	Voltag	ge Tes	st				Re	sistance <sup>-</sup>	Test			
2	INOITIA		Keve	EISE		Clearance	e (mm)	orre	Norma	al		Rev	erse		No	mal		Re	verse	
	2mm	4mm	2mı	m ·	4mm	Normal	Reverse	Corresp**.	Feed		Relay End		ed nd	Relay End	+\	/e Leg	-Ve Leg	+\	/e Leg	-Ve Leg
	Commo	ents	ı	ľ		1			•	Mete	er Identity		Nam	ne		Signed		Com	pany	Date
0		4:			4 - 4					** 1	nsert tick if all	Ala :							VI D '	-44:



## RC System: Type 'R' Reed FDM Test

Form: NR/SMS/RC01/RC01

Date: 05/12/2020

Pow	er Signa	al Box:				End Fur	nction:			Location	:			Line An	nplifier Lo	cations:						
z	S	Line Ar	mplifier (1)		Line Ar	mplifier (2)		Line Am	plifier (3)	)	Line Ar	mplifier (4)		Line Am	olifier (5)		Line A	mplifier	Comme	nts		
Number	System	Se	Voltages	S	Fe Se	Voltages	S	Se Fe	Voltage	es	Se	Voltages		Fe Se	Voltages			•				
er	n	Feedback Setting	T7/T8 (AC or DC)	Amp O/P (AC)																		
1																						
2																						
3																						
4																						
5																						
6																						
7																						
8																						
Z	-	Tra	nsmitter E	nd			Receive	r End					Cor	nments				Me	Sig		Na Cor	Da

Z	77	Trans	smitter E	End			Rece	iver End	d					Comments	Me	<u> S</u>	ΩZ	D
Number	Function	Powe	er Suppl	у	Transmi	tter	Powe	r Suppl	у	Receive	r				eter	gna	ame omp	Date
ĕ	ion	Volta	ges		Voltages	s (AC)	Volta	ges		Voltages	s (DC)				lde	Signature	Name & Company	
					Tx O/P					Rx O/P		Reed Fo	llower		ntity			
		AC I/P	DC O/P	AC Ripple	Tx'ing	Not Tx'ing	AC I/P	DC O/P	AC Ripple	Rx'ing	Not Rx'ing	Rx'ing	Not Rx'ing					
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		



## RC System: Type 'R' Reed FDM Test

Form: NR/SMS/RC01/RC01

Date: 05/12/2020

Z	S	Line An	nplifier (1)		Line An	nplifier (2)		Line Am	plifier (3)		Line An	nplifier (4)		Line Amp	lifier (5)		Line Amplifier Comments
Number	System	Se	Voltages	5	Se	Voltages	S	Fe Se	Voltages		Se Fe	Voltages		Se Fe	Voltages		'
er	3	Feedback Setting	T7/T8 (AC or DC)	Amp O/P (AC)													
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

z	Ξ	Trans	mitter E	nd			Recei	iver End	d					Comments	≤	<u>S</u> :	ΩZ	D
Number	Function	Powe	r Suppl	у	Transmi	tter	Powe	r Suppl	у	Receive	r				Meter	Signa	Name & Company	Date
er	ion	Volta	ges		Voltages	(AC)	Volta	ges		Voltages	(DC)				Identity	ıature	any	
					Tx O/P					Rx O/P		Reed Fo	llower		ntity			
		AC I/P	DC O/P	AC Ripple	Tx'ing	Not Tx'ing	AC I/P	DC O/P	AC Ripple	Rx'ing	Not Rx'ing	Rx'ing	Not Rx'ing					
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		



#### Reed Point Detection (Transmitter)

Form: NR/SMS/RC01/RC02

Date: 05/12/2020

Signal Box:	Point End Number:	Normal Channel Number:	Reverse Channel Number

	Power S	upply	Transmitter	End					Comments	Meter	Signature	Name &	Date
	Local	PSU O/P	Points Norm		Outp	Points Reve	erse	Output		Identity	, and the second	Company	
	Supply		Transmitter		ut	Transmitter		Links					
	I/P		Input	Output	Links	Input	Output						
Units	AC(V)	DC(V)	DC(V)	AC(mV)	AC(mV)	DC(V)	AC(mV)	AC(mV)					
Limits	99-121	11.5-	11.5-13.5	350-400	350-400	11.5-13.5	350-400	350-400					
Terms			D3(+) A3(-)	D2 A1		D3(+) A3(-)	D2 A1						_
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													



#### Reed Point Detection (Transmitter)

Form: NR/SMS/RC01/RC02

Date: 05/12/2020

	Power Su	ıpply	Transmitter E	nd					Comments	Meter	Signature	Name &	Date
	Local	PSU O/P	Points Norma	al	Output	Points Revers	se	Output Links		Identity		Company	
	Supply I/P		Transmitter		Links	Transmitter		Links					
			Input	Output		Input	Output						
Units	AC(V)	DC(V)	DC(V)	AC(mV)	AC(mV)	DC(V)	AC(mV)	AC(mV)					
Limits	99-121	11.5-13.5	11.5-13.5	350-400	350-400	11.5-13.5	350-400	350-400					
Terms 21			D3(+) A3(-)	D2 A1		D3(+) A3(-)	D2 A1						
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													
32													
33													
34													
35													
36													
37													
38													
39													
40													
41													
42													
43													



#### Reed Point Detection (Receiver)

Form: NR/SMS/RC01/RC03

Date: 05/12/2020

Signal Box:	Point End Number:	Normal Channel Number:	Reverse Channel Number

	Power Su	vlaa	Receiver End	<u> </u>					Comments	Meter	Signature	Name &	Date
	Local	PSU O/P	Points Norma		Input	Points Revers	se	Input		Identity	l g	Company	
	Supply I/P		NKR Coil	RKR Coil	Links	NKR Coil	RKR Coil	Links					
Units	AC(V)	DC(V)	DC(V)	DC(mV)	AC(mV)	DC(mV)	DC(V)	AC(mV)					
Limits	99-121	11.5-13.5	11.5-16.5	<0.1	350-400	<0.1	11.5-16.5	350-400					
Terms			R1(+) R2(-)	R1(+) R2(-)		R1(+) R2(-)	R1(+) R2(-)						
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													



#### Reed Point Detection (Receiver)

Form: NR/SMS/RC01/RC03

Date: 05/12/2020

	Power Su	vlqq	Receiver End						Comments	Meter	Technicians	Company	Date
	Local	PSU O/P	Points Norma		Input	Points Revers	se	Input	]	Identity	SSM Name	' '	
	Supply I/P		NKR Coil	RKR Coil	Links	NKR Coil	RKR Coil	Links					
Units	AC(V)	DC(V)	DC(V)	DC(mV)	AC(mV)	DC(mV)	DC(V)	AC(mV)					
Limits	99-121	11.5-13.5	11.5-16.5	<0.1	350-400	<0.1	11.5-16.5	350-400					
Terms			R1(+) R2(-)	R1(+) R2(-)		R1(+) R2(-)	R1(+) R2(-)						
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													
32													
33													
34													
35													
36													
37													
38													
39													
40													
41													
42													
43													



#### RC System: GEC Type 'RR' Reed FDM Test

Form: NR/SMS/RC02/RC01

Date: 05/12/2020

Pow	er Signa	al Box:		RR Reed	Туре:		End Function	n:		Location:			Line Amplifier Locations:
Servi	ce A Tests	3											
7	w	Line Ampli	fiers									Line Amplif	ier Comments
Number	System	Line Ampli		Line Amplif	ier (2)	fier (5)	Line Ampin	iei Comments					
ber	ä	Voltages											
		Amp I/P (AC)	T10/T11 (AC or DC)										
1													
2													
3													
4													
5													
6													
7													

Servi	ce A Tests																	
z	Ęį	Trans	smitter E	End			Receiv	er End						Comments	Z	<u>S:</u>	C Z	D
Number	Function	Powe	r Suppl	у	Transmi	itter	Power	Supply	,	Receive	r				Meter	Signa	Name & Company	Date
ĕ	ion	Volta	ges		Voltages	s (AC)	Voltag	es		Voltages	s (DC)				Identity	ture	any	
					Tx O/P					Rx O/P		Reed Fo	llower*		ntity			
		AC I/P	DC I/P	DC O/P	Tx'ing	Not Tx'ing	AC I/P	DC I/P	DCO/P	Rx'ing	Not Rx'ing	Rx'ing	Not Rx'ing					
1													_					
2																		
3																		
4																		
5																		
6																		
7																		

<sup>\*</sup> Vital Systems Only



## RC System: GEC Type 'RR' Reed FDM Test

Form: NR/SMS/RC02/RC01

Date: 05/12/2020

Z	Sy	Line Ampli	fiers									Line Amplifier Comments
umber	yste	Line Ampli	fier (1)	Line Amplifi	er (2)	Line Amplifi	ier (3)	Line Ampl	ifier (4)	Line Ampli	fier (5)	Line Ampliner Comments
ber	m	Voltages										
		Amp I/P (AC)	T10/T11 (AC or DC)									
8												
9												
10												
11												
12												

Servic	e A Tests																	
Z	- F	Trans	mitter E	End			Receiv	er End						Comments	M	S	ΩZ	D
Number	unction	Powe	r Suppl	у	Transmi	tter	Power	Supply	,	Receive	r				Meter	Signatı	Name Compa	Date
Ē	<u>o</u>	Volta	Voltages (AC)  Tx O/P  AC DC DC Tx'ing Not			s (AC)	Voltag	es		Voltages	s (DC)				Identity	ture	e & vany	
			Tx O/P           AC         DC         DC         Tx'ing         Not			_				Rx O/P	_	Reed Fo	llower*		ntity			
		AC I/P	DC I/P		Tx'ing	Not Tx'ing	AC I/P	DC I/P	DCO/P	Rx'ing	Not Rx'ing	Rx'ing	Not Rx'ing					
8																		
9																		
10																		
11																		
12																		

Service B Tes	ts*							
Line Levels (m	ıV)			Comments	Test	Signature	Name &	Date
High Frequence	у	Low Frequence	у		Equipment		Company	
Line					Identity			



#### **RC System: Westone Non-Vital FDM Test**

Form: NR/SMS/RC03/RC01

Date: 05/12/2020

Pow	er Signal E	Зох:			Remote Interl	ocking:					Syste	m No:			
Number	Service A Signal Bo Power Si	ox & Equipment Ro	ooms (all)						Line Le	evels			Functions		
ber	I/Ps (AC)*	Comments	O/Ps (DC)*	Commen	ts	Ripple (AC)*	Comm	nents	(mV)*	Comm	nents		Correct Operation*	Comm	nents
1															
2															
3															
4															
5															
Number	General	Comments						Test Equipmen	t Identity	r(s)		Signature	Name & Company		Date
1															
2															
3															
4															
5															

<sup>\*</sup> Insert details of problems or tick if all correct



#### **RC System: Westone Non-Vital FDM Test**

Form: NR/SMS/RC03/RC01

Date: 05/12/2020

Z	Service	A Tests Box & Equipment I	Pooms (all)										
Number	Power S		(all)					Line Le	vels		Functions		
ber	I/Ps (AC)*	Comments	O/Ps (DC)*	Comments	Ripple (AC)*	Comr	nents	(mV)*	Comments		Correct Operation*	Comments	
6													
7													
8													
9													
10													
11													
Number	General	Comments					Test Equipmer	nt Identity	(s)	Signature	Name & Company	Date	
6													
7													
8													
9													
10													
11													

<sup>\*</sup> Insert details of problems or tick if all correct



#### RC System: FDM69-NV Test

Form: NR/SMS/RC04/RC01

Date: 05/12/2020

Power Signal Box:	Remote Interlocking:	System No:

	A Tests						Comments	Test	Signature	Name &	Date
Signal E	Box & Eq	uipment F	Rooms					Equipment Identity		Company	
Power 9	Supplies		Trans Levels	mitter s	Recei Levels	ver s		Identity			
I/Ps (AC)	O/Ps (DC)	Ripple (AC)	Tx	Not Tx	Rx	Not Rx					



## RC System: FDM69-NV Test

Form: NR/SMS/RC04/RC01

Date: 05/12/2020

Service	A Tests						Comments	Test	Signature	Name &	Date
Signal E	3ox & Equ	uipment R	Rooms					Equipment Identity		Company	
Power S	Supplies		Trans Levels	mitter	Recei Levels	ver S		Identity			
I/Ps (AC)	O/Ps (DC)	Ripple (AC)	Tx	Not Tx	Rx	Not Rx					
,	, ,	, ,									



## **Siemens Westplex**

Maintenance Test

Form: NR	/SMS/RC	05/RC01
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Date: 05/12/2020

Signal Box / Interlocking:	Locations:	System:	IP Addresses:

	Line 1		Line 2				
LED'	Signal / Noise (dB)	Loop Attenuation (dB)	Signal / Noise (dB)	Loop Attenuation (dB)	- Signature	Name & Company	Date
s #	(Greater than 35) *	(Less than 10) *	(Greater than 35) *	(Less than 10) *	Signature	Name & Company	Date

<sup>\*</sup> Record obtained value # Insert tick if correct



#### **Siemens Westplex**

Maintenance Test

Form: NR/SMS/RC05/RC01

Date: 05/12/2020

	Line 1		Line 2				
LED'	Signal / Noise (dB)	Loop Attenuation (dB)	Signal / Noise (dB)	Loop Attenuation (dB)	Signaturo	Name & Company	Date
s#	(Greater than 35) *	(Less than 10) *	(Greater than 35) *	(Less than 10) *	- Signature	Name & Company	Date

<sup>\*</sup> Record obtained value # Insert tick if correct



## RC System: GEC Type RM TDM Test

Form: NR/SMS/RC07/RC01

Date: 05/12/2020

Power Signal Box:	Number of Remote Interlockings:	Remote Interlocking (1):	Remote Interlocking (2):
Remote Interlocking (3):	Remote Interlocking (4):	Remote Interlocking (5):	Remote Interlocking (6):

7	Office Tests				Field Tests (A	All Interlockings)		
lun	Indications		Power Supplies	3	Indications		Power Supplies	6
Number	Correct Functions*	Comments	Within Adjustment Details Specification*		Correct Functions*	Comments	Within Specification*	Adjustment Details
1								
2								
3								
4								

N <sub>o</sub>	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					
3					
4					



#### RC System: GEC Type RM TDM Test

Form: NR/SMS/RC07/RC01

Date: 05/12/2020

	Service B T	ests										
Z	Office Tests	3					Field Test	ts (All Interlockings)				
Number	Power Supplies		System Cha	ngeover**	Line Levels		Power Supplies		System Changeover**		Line Levels	
ĕr	Within Spec.*	Adjustment Details	Correct Functions*	Comments	Within Spec.*	Adjustment Details	Within Spec.*	Adjustment Details	Correct Functions*	Comments	Within Spec.*	Adjustment Details
1												
2												
3												
4												

No.	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					
3					
4					

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct \*\*: Dual systems Only



#### RC System: WBS Type TDM 69 Test

Form: NR/SMS/RC08/RC01

Date: 05/12/2020

Powe	er Signal Box:	Number of Remote Interlockings:	Remote	Interlocking (1):	Remote Interlocking (2):
Remote Interlocking (3):		Remote Interlocking (4):	Remote Interlocking (5):		Remote Interlocking (6):
7	Office Tests			Field Tests (All Interlockings)	
lun	Indications	High/Low Voltage Tests		Indications	High/Low Voltage Tests

Number	Office Tests				Field Tests (All Interlockings)						
	Indications	Indications		e Tests	Indications		High/Low Voltage Tests				
	All Correct*	Comments	Correct Functions*	Comments	All Correct*	Comments	Correct Functions*	Comments			
1											
2											
3											
4											

No.	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					
3					
4					

<sup>\*</sup> Insert details of indication/supply not to specification or tick if all correct



## **RC System: WBS Type TDM 69 Test**

Form: NR/SMS/RC08/RC01

Date: 05/12/2020

7	Service B Tes	sts												
Number	Office Tests		T-											
ıbe	Individual Bit	Test	Line Connection Units		Received Signal Levels		Line Levels			Voltage Tests			Insulation / Noise	Tests
	All Correct*	Comments	All Correct*	Comments	All Correct*	Comments	All Correct*	Comm	ents	All Correct*	Comr	nents	All Correct*	Comments
1														
2														
	Service B Tes	et c												
Number														
щb	Field Tests (all interlockings) Individual Bit Test		Line Connection Units		Received Signal Levels		Line Levels		Voltage Tests			Insulation / Noise	Tests	
er	All Correct*	Comments	All Correct*	Comments	All Correct*	Comments	All Correct*	Comm	ents	All Correct*			All Correct*	Comments
1														
2														
	General Cor	nments							Test Fau	uipment Identity(s)		Signature	Name & Com	pany Date
No.	23/13/4/ 00/								. 551 240			2.9.13.3	, tame a dom	Julio
1														
2														

<sup>\*</sup> Insert details of indication/supply not to specification or tick if all correct



#### RC System: WBS Type S2 TDM Test

Form: NR/SMS/RC09/RC01

Date: 05/12/2020

Power Signal Box:	Number of Remote Interlockings:	Remote Interlocking (1):	Remote Interlocking (2):
Remote Interlocking (3):	Remote Interlocking (4):	Remote Interlocking (5):	Remote Interlocking (6):

-	Office Tests				Field Tests (All Interlockings)				
l un	Indications		Power Supplies	3	Indications		Power Supplies	3	
Number	Correct Functions*	Comments	Within Specification*	Adjustment Details	Correct Functions*	Comments	Within Specification*	Adjustment Details	
1									
2									
3									
4									

No.	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					
3					
4					

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct



# RC System: WBS Type S2 TDM Test

Form: NR/SMS/RC09/RC01

Date: 05/12/2020

	Service B T	ests										
Z	Office Tests	3					Field Tes	sts (All Interlockings)				
Number	Power Supplies		Line Levels		System Cha	ngeover**	Power Supplies		Line Levels		System Changeover**	
Ē	Within Spec.*	Adjustment Details	Within Spec.*	Adjustment Details	Correct Functions*	Comments	Within Spec.*	Adjustment Details	Within Spec.*	Adjustment Details	Correct Functions*	Comments
1												
2												
3												
4												

No.	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					
3					
4					

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct \*\* Dual Systems Only



#### **RC System: Westronic F1 TDM Test**

Form: NR/SMS/RC10/RC01

Date: 05/12/2020

Pow	er Signal Box:		Number of Remote Remote Interlocking (1): Interlockings:					Remote Interlocking (2):		
Rem	ote Interlockir	ng (3):	Remote Interloc	king (4):	Remo	ote Interlocking (	5):		Remote Interlocking	(6):
7	Office Tests	1					Field Tests (A	II Interlockings	)	
lun	Indications		Power Supplies	}	Line Chang	eover**	Indications		Power Supplies	3
nber	Correct Functions*	Comments	Within Specification*	Adjustment Details	Correct Function*	Comments	Correct Functions*	Comments	Within Specification*	Adjustment Details

er	Functions*	Comments	Specification*	Details	Function*	Comments	Functions*	Comments	Specification*	Details
1										
2										
3										
4										

No.	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					
3					
4					

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct

<sup>\*\*</sup> If provided



## RC System: Westronic F1 TDM Test

Form: NR/SMS/RC10/RC01

Date: 05/12/2020

	Service B T	ests										
z	Office Tests	3							Field Test	s (All Interlockir	ngs)	
Number	Alarms		Marginal Vo	ltage	Line Proving	(main)**	Line Proving	(standby)**	Alarms		Marginal Vol	tage
)er	Within Spec.*	Adjustment Details	Within Spec.*	Adjustment Details	Correct Functions*	Comments	Correct Functions*	Comments	Within Spec.*	Adjustment Details	Within Spec.*	Adjustment Details
1												
2												
3												
4												

No.	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					
3					
4					

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct



## RC System: Vaughan Harmon Type DM11 Test

Form: NR/SMS/RC11/RC01

Date: 05/12/2020

Powe	er Signal Box:		Number of Remote In	terlockings:	Remote	e Interlocking (1	1):	Remote Inte	erlocking (2):	
Rem	ote Interlockin	g (3):	Remote Interlocking (	4):	Remote	e Interlocking (5	5):	Remote Inte	erlocking (6):	
	Office Tests					Field Tests	(All Interlockings)			
Nur	Indications		Power Supplie	 S		Indications	(· ··· ·······························	Power Supplie	 S	
Number	Correct Functions*	Comments	Within Specification*	Adjustment D	Details	Correct Functions*	Comments	Within Specification*	Adjustment Details	
1										
2										
3										
4										
No.	General Cor	nments					Test Equipment Identity(s)	0	Name & Company	Date
1										
2										
3										

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct



## RC System: Vaughan Harmon Type DM11 Test

Form: NR/SMS/RC11/RC01

Date: 05/12/2020

	Service B T	ests												
Z	Office Tests	3					Field Tes	ts (All Interlocki	ngs)					
Number	Power Supp	olies	System Char	ngeover	Line Lev	els	Power Su	ıpplies	System Cha	ngeover	Line Levels	3		
ēr	Within Spec.*	Adjustment Details	Correct Functions*	Adjustment Details	Within Spec.*	Comments	Within Spec.*	Adjustment Details	Correct Functions*	Adjustment Details	Within Spec.*	Comments		
1														
2														
3														
4														

No.	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					
3					
4					

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct



## RC System: Telecode 80 Test

Form: NR/SMS/RC12/RC01

Date: 05/12/2020

Power Signal Box:	Number of Remote Interlockings:	Remote Interlocking (1):	Remote Interlocking (2):
Remote Interlocking (3):	Remote Interlocking (4):	Remote Interlocking (5):	Remote Interlocking (6):

7	Office Tests				Field Tests (A	All Interlockings)		
nbe	Indications		Power Supplies	3	Indications		Power Supplies	6
hber	Correct Functions*	Comments	Within Specification*	Adjustment Details	Correct Functions*	Comments	Within Specification*	Adjustment Details
1								
2								
3								
4								

No.	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					
3					
4					



RC System: Telecode 80 Test

Form: NR/SMS/RC12/RC01

Date: 05/12/2020

Issue: 01

	Service B	Tests										
Z	Office Tes	sts										
Number	Power Su	ipplies	Standby Bat	tery Test #	Line Leve	els	Alarms		Transmission	n Test	System C	hangeover
ēr	Within Spec.*	Adjustment Details	Correct Functions*	Adjustment Details	Within Spec.*	Comments	Correct Functions*	Adjustment Details	Correct Functions*	Adjustment Details	Within Spec.*	Comments
1												
2												

	Service B	Tests										
Z	Field Test	s (all interlockin	igs)									
Щb	Power Supplies		Standby Battery Test #		Line Levels		Alarms		Transmission Test		System Changeover	
ĕ	Within Spec.*	Adjustment Details	Correct Functions*	Adjustment Details	Within Spec.*	Comments	Correct Functions*	Adjustment Details	Correct Functions*	Adjustment Details	Within Spec.*	Comments
1												
2												

No.	General Comments	Test Equipment Identity(s)	Signature	Name & Company	Date
1					
2					

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct

# Where fitted



## **RC System: AP Datalink TDM Test**

Form: NR/SMS/RC13/RC01

Date: 05/12/2020

Powe	er Signal Box:		Number of Remote Interlockings:		Remote	e Interlocking (	1):	Remote	Interlocking (2):	
Rem	ote Interlockin	ng (3):	Remote Interlocking	(4):	Remote	e Interlocking (	5):	Remote	Interlocking (6):	
7	Office Tests					Field Tests	(All Interlockings)			
l in	Alarms		Power Supplie	S		Alarms		Power Sup	plies	
Number	Correct Functions*	Comments	Within Specification*	Adjustment D	etails	Correct Functions*	Comments	Within Specification	Adjustment on*	Details
1										
2										
3										
4										
No.	General Cor	mments					Test Equipment Identity(s)	Signature	Name & Company	Date
1										
2										
3										
4										

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct



1

2

## **RC System: AP Datalink TDM Test**

Form: NR/SMS/RC13/RC01

Date: 05/12/2020

	Service B	Tests										
Number	Office Tes		T		T		T		Т			
nb	Carrier To	x Levels	Carrier Rx I	Levels	Mark-Sp	ace Ratio	Line Change	e Over	Alarms		Battery S	upply Units
er	Within Spec.*	Comments	Within Spec.*	Comments	Within Spec.*	Comments	Correct Functions*	Adjustment Details	Correct Functions*	Adjustmer Details	nt Within Spec.*	Comments
1												
2												
	Service B Tests											
Z	Field Tests (all interlockings)											
Number	Carrier Tx Levels Carrie		Carrier Rx I	arrier Rx Levels M		ace Ratio	Line Change	e Over	Alarms		Battery S	upply Units
er	Within Spec.*	Adjustment Details	Within Spec.*	Adjustment Details	Within Spec.*	Comments	Correct Functions*	Adjustment Details	Correct Functions*	Adjustmer Details	t Within Spec.*	Comments
1												
2												
		1		-1	1	l .	L		1			
No.	General (	Comments						Test Equipme Identity(s)	nt	Signature	Name & Company	Date

<sup>\*</sup> Insert details of supply/system requiring adjustment or tick if all correct



## RC System: Westronic 1024 TDM Test

Form: NR/SMS/RC16/RC01

Date: 05/12/2020

Power Signal Box (Office):	Remote Interlocking (Field):	Office / Field**
----------------------------	------------------------------	------------------

SERVICE B	TESTS							
Tests*		Voltages						
Indications Correct?	System Changeover Successful?	PSU 5V (DC)	Ripple (AC)	Comments	Meter Identity	Signature	Name & Company	Date

<sup>\*:</sup> Insert tick if all correct, enter problems in the comment's columns \*\*: Delete as appropriate



# RC System: Westronic 1024 TDM Test

Form: NR/SMS/RC16/RC01

Date: 05/12/2020

Issue: 01

SERVICE B	TESTS							
Tests*		Voltages						
Indications Correct?	System Changeover Successful?	PSU 5V (DC)	Ripple (AC)	Comments	Meter Identity	Signature	Name & Company	Date

<sup>\*</sup> Insert tick if all correct, enter problems in the comment's columns

GENIEDAL COMMENTS

GENERAL COMMENTS	

<sup>\*\*</sup> Delete as appropriate



#### **Severn Tunnel Pull Wire Record Card** NR/SMS/SW20/Test 059

Form: NR/SMS/SW20/T059/RC01

Date: April 2006 Issue: 02

Service	B Tests*					
Key Identit	Correct Indications	Key Identit	Correct Indications	Comments	Signature, Name & Company	Date
1		33				
2		34				
3		35				
4		36				
5		37				
6		38				
7		39				
8		40				
9		41				
10		42				
11		43				
12		44				
13		45				
14		46				
15		47				
16		48				
17		49				
18		50				
19		51				
20		52				
21		53				
22		54				
23		55				
24		56				
25		57				
26		58				
27		59				
28		60				
29		61				
30		62				
31		63				
32						
	*: Insert tic	k if corre	ct			



# Junction Indicator and Position Light Signal – All types

Date: 01/09/2018 Issue: 02

Form: NR/SMS/T021/RC01

	1	
NACIO	tenance	100+
IVIAIIII	I PI I AI I C P	1 2 1
IVICIII	LOHIGHTOO	1 001

Signal Box / Interlocking / Equipment Room:	Location:	Signal Number:
---	-----------	----------------

								Lan	np / SLM Volta	age			
Date	Name	Company	Signature	Meter Identity	PLS Pivot	PLS Bottom LED	PLS Top	Jct Indicator Position 1	Jct Indicator Position 2	Jct Indicator Position 3	Jct Indicator Position 4	Jct Indicator Position 5	Jct Indicator Position 6



# Route Indicator – non LED

## Maintenance Test

Form: NR/SMS/T021/RC02

Date: 01/09/2018

Signal Box / Interlocking / Equipment Room:	Location:	Signal Number:

Type of Si	gnal: (Circle)			Manufacture	er: (Circle)		
MARI	SARI	PRI	Other	Dorman	VMS	Signalhouse	

					Indication Displayed			Indication Displayed			Indic	ation Di	splayed	Indication Displayed		
Date	Name	Company	Signature	Meter ID	Main (V)	Aux (V)	Lamp changed (#)	Main (V)	Aux (V)	Lamp changed (#)	Main (V)	Aux (V)	Lamp changed (#)	Main (V)	Aux (V)	Lamp changed (#)
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N
							Y/N			Y/N			Y/N			Y/N



# Route Indicator - LED

# Maintenance Test

Form: NR/SMS/T021/RC03

Date: 01/09/2018

Signal Box / Interlocking / Equipment Room:  Location:  Signal Number:
--

Type of Si	gnal: (Circle)			Manufacture	er: (Circle)		
MARI	SARI	PRI	Other	Dorman	VMS	Signalhouse	

					Indication	on Displayed	Indicatio	n Displayed	Indication	n Displayed	Indication	on Displayed	Indication	on Displayed
Date	Name	Company	Signature	Meter ID	SLM Voltage	Module changed (#)	SLM Voltage	Module changed (#)	SLM Voltage	Module changed (#)	SLM Voltage	Module changed (#)	SLM Voltage	Module changed (#)
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N
						Y/N		Y/N		Y/N		Y/N		Y/N



# Signal - (Filament / Light Engine)

Maintenance Test

Form: NR/SMS/T021/RC04

Date: 01/06/2019

Signal Box / Interlocking / Equipment Room:	Location:		Signal Number:
			-
Type of Cianaly (Circle)	Illumination Types (Circle) Lang Types (Circle	Type of Lamp (Circle)	Other Type

Type of	Signal	: (Circle)				Illumination	Type: (Circle)	Lens Ty	pe: (Circle)	Type of	f Lamp (d	Circle)				Other Type
Multi-Asp	ect S	earchlight	Semaphore	Banner	SPAD	Approach Lit	Continuously Lit	Normal	Spreadlit/ Short Range	SL35 8000hr	Light Engine	SL18	10V Halogen	10V 6000hr Halogen	12V Halogen	

Aspect Details	Red	Yellow	Green	Top Yellow / Top Red (SPAD)	Searchlight
Lens Material : Glass = G Polycarbonate = P (Enter type codes into the appropriate boxes)					
Alignment of Centre Line of Hot Strip: (Enter the position using clock face indication method)					

					Red / Se anner /				Ye	ellow			Gı	reen		7	Top Yo Top Red	ellow / I (SPAD)	)		S Test eted (tick)
				Filame	ent (V)	Lamp	Lens	Filam	ent (V)	Lamp	Lens	Filam	ent (V)	Lamp	Lens	Filame	ent (V)	Lamp	Lens		
Date	Name	Company	Meter ID	Main	Aux *	Change	Change	Main	Aux *	Change	Change	Main	Aux <b>≭</b>	Change	Change	Main	Aux *	Change	Change	Test 21	Test 22
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		
						Y/N	Y/N			Y/N	Y/N			Y/N	Y/N			Y/N	Y/N		



# Signal - LED

# Maintenance Test

Form: NR/SMS/T021/RC05

Date: 01/06/2019

Signal Box / Interlocking / Equipment Room:	Location:	Signal Number:
---	-----------	----------------

Type of Signal:	(Circle)		Manufacturer	: (Circle)			Illumination Type:	(Circle)	Lens Type: (0	Circle)
Multi-Aspect	Searchlight	Semaphore	Dorman	VMS	Signalhouse		Approach Lit	Continuously Lit	Normal	Spreadlit/ Short Range

						Red / Semaphore)	Y	ellow	Doub	le Yellow	(	Green	Double	Red (SPAD)
Date	Name	Company	Signature	Meter ID	SLM Voltage	Module changed (#)								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								
						Y/N								



# Signal - SIMIS-W Interlocking Areas Only

Maintenance Test

Form: NR/SMS/T021/RC06

Date: 01/09/2018

Signal Box / Room:	Interlockin	g / Equipm	ent			I	Location:								Signal	Number:				
Type of Sign	ype: (Circle)	Type of	Lamp (Circ	le)					Other Ty	pe (Spec	ify Type and Voltage	)								
Multi-Aspect	Searchlight	Semaphore	Approach Lit	Continuously Lit	Normal	Spreadlit/ Short Range	SL35	SL35 8000hr	Light Engine	SL18	10V Halogen	10V 6000hr Halogen	12V Halogen							
												Red	Yellow	Gre	een	Top Yellow	Searchlight			

				Red						Yellov						Gree	n					Top Yel	low			
			Filan	nent (V)	TX I/P Current	Trans Sett	former ings	SSC Code	Filame	nt (V)	TX I/P Current (mA)	Transi Sett	former ings	SSC	Filam	ent (V)		Trans Sett	former ings	SSC Code	Filame	ent (V)	TX I/P Current	Transf Sett	ormer ings	SSC Code
Date	Name	Meter ID	Main	Aux *	(mA)	I/P	O/P		Main	Aux*	(IIIA)	I/P	O/P	Code	Main	Aux <b>∗</b>	(mA)	I/P	O/P		Main	Aux*	(mA)	I/P	O/P	
																										ĺ
																										ĺ
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																										<del>                                     </del>
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		Red							Yellov	v					Gree	n					Top Yel	low				
			Filan	nent (V)	TX I/P Current	Trans	former	SSC Code	Filame	ent (V)	TX I/P Current (mA)	Transf	ormer	SSC	Filam	ent (V)	TX I/P Current (mA)	Trans	former	SSC	Filame	ent (V)	TX I/P Current (mA)	Transf	ormer	SSC
Data	Name	Meter ID		Aux *	Current (mA)	Sett I/P	ings O/P	Code	Main	Δ. η	(mA)	Setti	ings O/D	Code	Main	Aux*	Current (mA)	Sett	ings	Code	Main	A. n.	(mA)	I/P	ngs O/D	Code
Date	iname	Meter ID	iviain	Aux *	()	1/P	U/P		iviain	Aux		I/P	U/P		iviain	Aux	(	I/P	U/P		iviain	Aux		I/P	U/P	
																										$\vdash$
																										-
																										$\equiv$



#### Trainstop (Electro-Hydraulic) Calibration Test Record Card (Front) NR/SMS/Test/026

Form: NR/SMS/T026/RC/01

Date: August 2004

Signal Bo	X:		Location	n:		Train Stop Number:		Train St	top Type:	
Stop Arm	& Motor Cut	Out Settings	(mm)							
Arm Fully Raised	On Detection Lost	Off Detection Made	Arm Fully Lowered	Motor Cut Out	Comments		Sign	nature	Name & Company	Date
			1							



# Trainstop (Electro-Hydraulic) Calibration Test Record Card (Rear) NR/SMS/Test/026

Form: NR/SMS/T026/RC/01

Date: August 2004 Issue: 01

Stop Arm	. & Motor Cut	Out Settings	(mm)					
Arm Fully Raised	On Detection Lost	Off	Arm Fully Lowered	Motor Cut Out	Comments	Signature	Name & Company	Date
				l		L		



# ATP (Chilterns)

#### Maintenance Test

Form: NR/SMS/T029/RC01

Date: June 2019

Signal Number:		Loop ID:	Lo	op Length	(M):	Lin	e Speed:	Gradient:	Distance to Loop (M)
Number:							-		,
		1	<u> </u>						1
Date	Name & Company	Signed	Meter Identity	Current Probe Identity	Power Supply Voltage	Loop Cabl Current (µ/	e A)	Com Adjustn	nments nents etc

<sup>\*:</sup> Insert tick if correct \*\*: Insert tick if fitted and details in the comments column



# Insulated Rail Joint (IRJ) - DC & BR-WR Quick Release TC's

Form: NR/SMS/T041/RC01 Date: 01/09/2018

Issue: 02

Maintenance Test

Signal Box / Interlocking:	Adjacent Track Circuits:	Line: Up / Down	Rail: Six Foot / Cess
		Delete as A	Appropriate

Voltage	s (V)				Meter	220 Ohm	Comments	Signature	Name &	Date
Rail to Rail	Inner P Rail	late to	Outer P Rail	late to	Identity	Shunt Identity	Comments Joint Condition, Pway Condition etc		Company	
V1	V2	V3	V2	V3						



# Insulated Rail Joint (IRJ) - DC & BR-WR Quick Release TC's

Date: 01/09/2018

Form: NR/SMS/T041/RC01

Issue: 02

Maintenance Test

Signal Box / Interlocking:	Adjacent Track Circuits:	Line: Up / Down	Rail: Six Foot / Cess
		Delete as Appropri	ate

/oltage	s (V)				Meter	220 Ohm	Comments	Signature	Name &	Date
Rail to Rail	Inner P Rail	late to	Outer Pl Rail	ate to	Identity	Shunt Identity	Joint Condition, Pway Condition etc	o ignataro	Company	Jaio
V1	V2	V3	V2	V3						



# Insulated Rail Joint Test (IRJ) - 50Hz AC TC's

Date: 01/09/2018

Issue: 02

Form: NR/SMS/T041/RC/02

Maintenance Test

Signal Box / Interlocking:	Adjacent Track Circuits:	Line: Up / Down	Rail: Six Foot / Cess
		Delete as A	ppropriate

Res	istan	ce (C	hms	s)												Meter	Comments	Signature	Name &	Date
Rai Inne Plat	s to er te	Rai	l to Ir	nner	Plate	Bolts	S	Rai Out Pla	ls to ter te	Ra	il to (	Oute	r Plat	е Во	lts	Identity	Joint Condition, Pway Condition etc	3	Company	
1	2	1	2	3	4	5	6	1	2	1	2	3	4	5	6					
					l						l	l	l							



# Insulated Rail Joint Test (IRJ) - DC & 50Hz AC TC's

Maintenance Test

Form: NR/SMS/T041/RC/02

Date: 01/09/2018

Signal Box / Interlocking:	Adjacent Track Circuits:	Line: Up / Down	Rail: Six Foot / Cess
		Delete as A	(ppropriate

Res	sistan	ce (C	hms	5)												Meter	Comments	Signature	Name &	Date
Rai Inne Plat	ls to er te	Rail	l to li	nner	Plate	Bolt	S	Rai Out Plat	ls to er te	Rai	il to C	Oute	r Plat	е Во	lts	Identity	Joint Condition, Pway Condition etc	J	Company	
1	2	1	2	3	4	5	6	1	2	1	2	3	4	5	6					



#### **Axle Counter - AzL70**

## Evaluator & Single Rail Contacts Record Card

Form: NR/SMS//T042/01 Date: March 2018

Signal Box / Interlocking:		Location:		Axle Sect	Counter on:
Count In Letter/Number:	Count Out (1) Letter/Number:		Count Out (2) Letter/Number:		Rail Contact Type:

	Evaluat	tor																	Linesid	de Junctio	n Box (EAI	K)	
z	Voltage	s (V)							Wavefor	System	Tests*								Voltage	es (V & mV	)		
Number	DC	DC Stabilizad				JPL cks			Square			Eval uato				/Relay s/Positions	Powe	er Supply					
	Supply	Stabilised Supply	1a	1b	2a	2b	3a	3b	Wave * (optional)	Count In	Count Out	System Reset	Count Indication	SVA Card Removal	Section Clear	Section Occupied	Charger Current	Standby Functional	DC Supply	DC Stabilised	Signal Generator	Channel 1 SK1	Channel 1 SK2
1																							
2																							
3																							
4																							
5																							
6																							
7																							

	Rail Co	ontacts											General Information				
N N	Voltage	(mV) at	AL4/3-4	For SK1	& AL4/1	-2 for SK	2										
Number	W	ithout Du	ımmy Wł	neel				1	Nith Dun	nmy Whe	el						
]	Cou	nt In	Count	Out (1)					Out (1)	Count	Out (2)						
	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	Comments	Date	Meter ID	Name & Company	Signature
1																	
2																	
3																	
4																	
5																	
6																	
7																	

<sup>\*:</sup> Insert tick if functions/indications/tests are correct to RT/SMS steps



#### **Axle Counter - AzL70**

#### Evaluator & Double Rail Contacts Record Card

Form: NR/SMS/T042/02 Date: March 2018

Issue: 01

(Front)

Sig	gnal Box / I	nterlockin	g:						Loc	ation:								Axle Sec	Counte	r					
	unt In tter/Numbe	er:			unt O	ut (1) umber:			<b>,</b>			ount C						<u> </u>	Rail Co	ontact <sup>-</sup>	Туре:				
	Evaluator								T	1															
N.	Voltages (V)	)	1						Waveform	ns Syste	m Tests*														
Number	DC	DC Stabilised			BUP	PL Jacks	_		Square Wave *				E	valuator F	Functio	ns			Inc	LED's dications	s/Relay /Positions			r Supply	
	Supply	Supply	1a	1b	2a	2b	3a	3b	(Optional	) Co	ount In	Cour	nt Out	System	Reset	Count Indi		/A Card emoval	Section	n Clear	Section Oc	ccupied	Charger Current		Standby unctional
1																									
2																									
3																								1	
4																									
Ш				1 1				_1	<u> </u>								I								
	Rail Cont	tacts Tests																							
	Voltage (r	Rail Contacts Tests  Voltage (mV)  Phase Reversal Tests [MESSAB 1 (10) for SK1 & MESSAB 2 (12) for SK2]  Output Voltage & Frequency Checks																							
Nun	Phase Re	eversal Test	s [MESSA	B 1 (10) for	r SK1 &	MESSA	B 2 (12) for	r SK2]																	
Number		Without	Dummy W	/heel				Wit	h Dummy V	Vheel						No Dum	my Wheel	Dumm	y Wheel o	ver SK1	Dumm	y Wheel o	over SK2	Dumm over S	ny Wheel K1 & SK2
	Count		Count Out		Count O		Cou		Count O		Count Out		PEG		EGUE	LED's	LTG1	LED's	LTG1	Freq	LED's	LTG1	Freq	LED's	
	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	1 (	(11)	2 (13)	*	(mV)	*	(mV)	(kHz)	*	(mV)	(kHz)	*	(mV)
1																									
2																									
3																									
4																									
																		1					1		
_		Junction Box	x (EAK) Te	ests					T									Meter	Identity		0:1			D	ate
Number	Voltages			. 1					Tx Outpu		_	01/0		Comme	ents						Signatu	ıre	Name &		
ber	Incoming	Stabilised Supply 1	Stabilised	MESSAE	B 1 MES	SSAB 2	PEGUE 1	PEGUE 2		K1 T		SK2		Adjustm	nents et	tc							Company		
	Supply	(3)	(4)	(10)		(12)	(11)	(13)	Volts (AC)	Freq (kH	z) Volts (A	C) Freq	(kHz)												
1																									
2																									
3																									
4																									

<sup>\*:</sup> Insert tick if LED indications are correct to RT/SMS steps Note: Numbers in brackets refer to the test box switch positions



# **Axle Counter - AzL70 (Thales)**

#### Evaluator & Double Rail Contacts Record Card

Form: NR/SMS//T042/AzL 70 Double

Date: March 2018 Issue: 02

(Back)

	Evaluator																	
z	Voltages (\	<b>V</b> )							Waveforms	System Tests*								
Number	DC	DC Stabilised			BUPL	. Jacks			Square Wave *		Ev	aluator Functio	ns		LED'	s/Relay s/Positions	Power S	Supply
	Supply	Supply	1a	1b	2a	2b	3a	3b	(Optional)	Count In	Count Out	System Reset	Count Indication	SVA Card Removal	Section Clear	Section Occupied	Charger Current	Standby Functional
5																		
6																		
7																		
8																		
9																		

	Rail Cont	acts Tests																						
	Voltage (r	nV)													Output \	/oltage & F	requency	Checks						
4	Phase Re	versal Test	s [MESSA	B 1 (10) fo	or SK1 & M	ESSAB 2	(12) for SK	2]																
<u> </u>		Without	Dummy W	/heel				Wit	th Dummy	Wheel					No Dumr	ny Wheel	Dumm	y Wheel o	ver SK1	Dumm	y Wheel ov	ver SK2	Dummy over SK1	
	Count In Count Out 1 Count Out 2 Count In Count Out 1 Count C										Out 2	PEGUE	PEGUE	LED's	LTG1	LED's	LTG1	Freq	LED's	LTG1	Freq	LED's	LTG1	
	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	1 (11)	2 (13)	*	(mV)	*	(mV)	(kHz)	*	(mV)	(kHz)	*	(mV)
5																								
6																								
7																								
8																								
9																								

	Lineside Jun	ction Box (E	AK) Tests													
1_	Voltages (m\	/ & V)						Tx Outputs	S							
Number	Incoming	Stabilised Supply 1	Stabilised	1450045		DEOUE	DE OUE	Sł	<b>&lt;</b> 1	Sk	(2					
ber	Supply	Supply 1	Supply 2 (4)	1 (10)	2 (12)	1 (11)	2 (13)	Volts (AC)	Freg (kHz)	Volts (AC)	Freg (kHz)	Comments : Adjustments etc	Meter	Cianatura	Name &	Data
		(3)	(4)	. (10)	- ()	. ()	2 (10)	, ,	1 ( /	` '	1 \ /	Comments: Adjustments etc	Identity	Signature	Company	Date
5																
6																
7																
8																
9																

<sup>\*:</sup> Insert tick if LED indications are correct to RT/SMS steps Note: Numbers in brackets refer to the test box switch positions



#### Axle Counter - AzL70/30 & AzL70/30s

Evaluator & Rail Contacts Record Card

Form: NR/SMS//T042/03 Date: March 2018

Issue: 01

(Front)

Signal Box / nterlocking:		Location:		Axle Counter Section:		System Type: (Circle)	70/30	70/30S	
Count In Letter/Number:	Count Out (1) Letter/Number:		Count Out (2) Letter/Number:		Rail Contact T	ype:			

	Evaluato	r																				
z	Voltages	(V)											Waveform	System Test	s*							
lumber	DC	DC BUPL Terminals BUPL Jacks Stabilised I I I I I I I I I I I I I I I I I I I											Square Wave *			Evaluator Func	tions		LED's/ Indications/F		Power	Supply
	Supply	Supply	2nd	4th	5th	6th	1a	1b	2a	2b	3a	3b	(Optional)	Count In	Count Out	System Reset	Count Indication	SVA Card Removal	Section Clear	Section Occupied	Charger Current	Standby Functional
1																						
2																						
3																						
4																						

	Rail Con	ntacts Tes	ts																					
	Voltage (	(mV)																Outp	ut Voltage	& Freque	ncy Check	s		
Nur	Phase R	eversal Te	ests [MES	SAB 1 (10)	for SK1 &	MESSAB	2 (12) for	SK2]																
nber		Witho	ut Dummy	Wheel				Wit	h Dummy	Wheel					No Dumr	ny Wheel	Dumm	y Wheel o	ver SK1	Dumm	y Wheel o	ver SK2		Wheel over & SK2
	Count	: In	Count C	Out 1	Count C	Out 2	Coun	t In	Count C	Out 1	Count C	Out 2	PEGUE	PEGUE	LED's	LTG1	LED's	LTG1	Freq	LED's	LTG1	Freq	LED's	LTC4 () ()
	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	1 (11)	2 (13)	*	(mV)	*	(mV)	(kHz)	*	(mV)	(kHz)	*	LTG1 (mV)
1																								
2																								
3																								
4																								

	Lineside	Junction B	ox (EAK) To	ests									Meter Identity			Date
Z	Voltages (	(mV & V)						Tx Output	S			Comments	Motor radiaty	Signature	Name &	Buto
nber	Incoming						DE OUE O	Sł	<b>&lt;</b> 1	SI	<b>&lt;</b> 2	Adjustments etc			Company	
	Supply	Supply 1 (3)	Supply 2 (4)				(13)	Volts (AC)	Freq (kHz)	Volts (AC)	Freq (kHz)				, ,	
1																
2																
3																
4																

<sup>\*:</sup> Insert tick if LED indications are correct to RT/SMS steps Note: Numbers in brackets refer to the test box switch positions



# **Axle Counter - AzL70 (Thales)**

#### Evaluator & Double Rail Contacts Record Card

(Back)

Form: NR/SMS//T042/AzL70 /30

Date: March 2018

	Evaluato	r																				
z	Voltages	(V)											Waveform	System Test	s*							
Number	DC	DC Stabilised	В	UPL T	erminal	s			BUPL	. Jacks			Square Wave *			Evaluator Fund	tions		LED's/ Indications/F		Power	Supply
	Supply	Supply	2nd	4th	5th	6th	1a	1b	2a	2b	3a	3b	(Optional)	Count In	Count Out	System Reset	Count Indication	SVA Card Removal	Section Clear	Section Occupied	Charger Current	Standby Functional
5																						
6																						
7																						
8																						
9																						

	Rail Conta	acts Tests																						
	Voltage (n	nV)													Output \	/oltage & F	requency	Checks						
2	Phase Re	versal Test	s [MESSA	B 1 (10) fo	or SK1 & M	ESSAB 2 (	(12) for SK	2]																
<u> </u>		Without	Dummy W	heel				Wit	h Dummy	Wheel					No Dumr	ny Wheel	Dumm	y Wheel o	ver SK1	Dummy	/ Wheel ov	er SK2	Dummy WI SK1 &	
	Count I	n	Count C	Out 1	Count C	Out 2	Coun	t In	Count C	Out 1	Count C	Out 2	PEGUE	PEGUE	LED's	LTG1	LED's	LTG1	Freq	LED's	LTG1	Freq	LED's	LTG1
	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	SK1	SK2	1 (11)	2 (13)	*	(mV)	*	(mV)	(kHz)	*	(mV)	(kHz)	*	(mV)
5																								
6																								
7																								
8																								
9																				·				

	Lineside Jun	ction Box (E	AK) Tests														
1_	Voltages (m\	/ & V)						Tx Output	S								
Numb	Incoming	Stabilised Supply 1	Stabilised	1450045		DEOUE	DEOUE	SI	<b>K</b> 1	Sk	(2						
ber	Supply	Supply 1	Supply 2	1 (10)	MESSAB 2 (12)	1 (11)	2 (13)	Volts (AC)	Freg (kHz)	Volts (AC)	Freg (kHz)	0	Adjustments etc	Meter	Oine at una	Nama 9 Campany	Data
-		(3)	(4)	1 (10)	2 (12)	. ()	2 (10)	,	1\ /	,	1 ( )	Comments :	Adjustments etc	Identity	Signature	Name & Company	Date
3																	
6																	
7																	
8																	
9																	

<sup>\*:</sup> Insert tick if LED indications are correct to RT/SMS steps Note: Numbers in brackets refer to the test box switch positions



# Track Circuit Aid (TCAID) Test Record Card (Front) NR/SMS/Test/043

Form: NR/SMS/T043/RC/01

Date: August 2004 Issue: 01

Signal Box / Interlocking:		Location:		TC N	umber / Letter:
TC Start (Miles/Yds):	TC Finish (I	Miles/Yds):	Number of TCAIDS on TC:		Jsage: Continuous / Seasonal Delete as appropriate

	TCAID								
No.	Serial No.	Position (Miles/Yds)	Type (& direction if D)	Installed Date	Commissioned Date	De-Commissioned Date	Comments	Signature	Name & Company
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									



#### Track Circuit Aid (TCAID) Test Record Card (Rear) NR/SMS/Test/043

Form: NR/SMS/T043/RC/01 Date: August 2004

z	Tests	3														
Number	Test	1			Test	2			Test	3			Test 4	4		
er	Test OK*	Battery Renewed	Signature Date	Company	Test OK*	Battery Renewed	Signature Date	Company	Test OK*	Battery Renewed	Signature Date	Company	Test OK*	Battery Renewe	Signature Date	Company
1		Yes/No				Yes/No				Yes/No				Yes/No		
2		Yes/No				Yes/No				Yes/No				Yes/No		
3		Yes/No				Yes/No				Yes/No				Yes/No		
4		Yes/No				Yes/No				Yes/No				Yes/No		
5		Yes/No				Yes/No				Yes/No				Yes/No		
6		Yes/No				Yes/No				Yes/No				Yes/No		
7		Yes/No				Yes/No				Yes/No				Yes/No		
8		Yes/No				Yes/No				Yes/No				Yes/No		
9		Yes/No				Yes/No				Yes/No				Yes/No		
10		Yes/No				Yes/No				Yes/No				Yes/No		
11		Yes/No				Yes/No				Yes/No				Yes/No		
12		Yes/No				Yes/No				Yes/No				Yes/No		
13		Yes/No				Yes/No				Yes/No				Yes/No		
14		Yes/No				Yes/No				Yes/No				Yes/No		
15		Yes/No				Yes/No				Yes/No				Yes/No		
16		Yes/No				Yes/No				Yes/No				Yes/No		
17		Yes/No				Yes/No				Yes/No				Yes/No		
18		Yes/No				Yes/No				Yes/No				Yes/No		
19		Yes/No				Yes/No				Yes/No				Yes/No		
20		Yes/No				Yes/No				Yes/No				Yes/No		

<sup>\*</sup> Insert tick if activate and de-activate voltages are correct



# **Treadle Timing and Adjustment**

## Maintenance Test

Form: NR/SMS/T44/Treadle Timing

Date: June 2019

Signal Box /	/ Equipment	Room:		Locat	tion:			Treadle Number:		e Type: 59 / 69 e Arm: Single / D	Double
	Actuating A	ırm Gauge			Return ming		Gauge Type Plump Weight				
Single	Arm	2nd Ar	rm (*)	Single Arm	2nd Arm (*)		& Step Gauge Reading in (mm)				
Rail to Arm gap (mm) Pass / Fail	Height below rail level (mm) Pass / Fail	Rail to Arm gap (mm) Pass / Fail	below rail	(Sec)	Time (Sec)	Meter Identity	Treadle Gauge Insert Pass / Fail	Comments Adjustments, Fluid top up e	tc	Signature & Initials	Date



# Axle Counter - AzLM & AzLE

## **Detection Points Record Card**

Form: NR/SMS /T045/01 Date: September 2018

Signal Box / Interlocking:				Location:		Detection Point Name:	EAK Type	Н	K
mteriocking.						rame.	Contact Type	Н	K
Detection point Shared between ACEs?	Yes	No	ACE(s) I	dentity/Location	Power by:	ACE: OR LOCAL POWER	: Location		

Po Cha	wer	MASSAB 1	(10) mVDC		MASSAB 2	(12) mVDC		Sł	<b>K</b> 1	Sk	(2					
CH 1 (3) VDC	CH 2 (4) VDC	Without Dummy Wheel (+)	With Dummy Wheel (-)	PEGUE 1 (11) mVDC	Without Dummy Wheel (+)	With Dummy Wheel (-)	PEGUE 2 (13) mVDC	Voltage VAC	Freq KHz	Voltage VAC	Freq KHz	Comments	Meter Identity	Signature	Name & Company	Date
																<u> </u>
																<u> </u>
																<u> </u>



## **Thales AzLM & AzLE Axle Counter**

## **Detection Points Record Card**

Form: NR/SMS /T045/01 Date: September 2018

Po Cha	wer annel	MASSAB 1	I (10) mVDC			(12) mVDC		Sł	<b>&lt;</b> 1	Sk	(2					
CH 1 (3) VDC	CH 2 (4) VDC	Without Dummy Wheel (+)	With Dummy Wheel (-)	PEGUE 1 (11) mVDC	Without Dummy Wheel (+)	With Dummy Wheel (-)	PEGUE 2 (13) mVDC	Voltage VAC	Freq KHz	Voltage VAC	Freq KHz	Comments	Meter Identity	Signature	Name & Company	Date
																<u> </u>



#### Level Crossing CCTV Camera Test Record Card (Front) NR/SMS/Test/046

Form: NR/SMS/T046/RC/01

Date: August 2004

Мо	nitoring S	Signal Bo	OX:				Level Crossing:					Car	Camera Types:				
Fisheye Lenses Fitted?: CCU Fitted?:										VRTU Fitted?:			Location of VRTU:				
						<u> </u>											
	Camera	1															
Number	Operation & Settings* Picture Resolution*					Picture Content*				Waveforms & Voltages (V)							
	In Use Ind'tion	In Use Shutter Iris V		Wiper	Cent of Pictu	tre Edges of	Complete & No Skyline	Un- obstructe d	Stop Lines Visible	No Streaking/ Flaring etc	Composite Video (Pk-	Black Level	Video Content Adjustment Comments				
1																	
2																	
3																	
4																	
									ļ								
Camera 2																	
Z						re Resolution*	Picture Content*				Waveforms & Voltages (V)						
Number	In Use Ind'tion	Use Shutter Iris Wiper		Cent of Pictu	of	Complete & No Skyline	Un- obstructe d	Stop Lines Visible	No Streaking/ Flaring etc	Composite Video (Pk-	Black Level	Video Content Adjustment Comments					
1																	
2																	
3																	
4																	
Number	General Comments										Test Equipment	Identity		Signature	Name & Company	Date	
1																	
2																	
3																	
4																	

<sup>\*:</sup> Insert tick if correct to NR/SMS steps



#### Level Crossing CCTV Camera Test Record Card (Rear) NR/SMS/Test/046

Form: NR/SMS/T046/RC/01

Date: August 2004

	Camera	1											
N	Operation	n & Setting	s*		Picture Re	solution*	Picture Cont	ent*			Waveforms	& Voltages	(V)
Number	In Use Ind'tion	Shutter	Iris	Wiper	Centre of Picture	Edges of Picture	Complete & No Skyline	Un- obstructe d	Stop Lines Visible	No Streaking/ Flaring etc	Composite Video (Pk- Pk)	Black Level	Video Content Adjustment Comments
5													
6													
7													
8													
9													
10													
		L	1		•	1	•			•	•		

	Camera 2	2											
Nu	Operation	n & Setting	s*		Picture Re	solution*	Picture Cont	ent*			Waveforms	& Voltages	(V)
Number	In Use Ind'tion	Shutter	Iris	Wiper	Centre of Picture	Edges of Picture	Complete & No Skyline	Un- obstructe d	Stop Lines Visible	No Streaking/ Flaring etc	Composite Video (Pk- Pk)	Black Level	Video Content Adjustment Comments
5													
6													
7													
8													
9													
10													

Number	General Comments	Test Equipment Identity	Signature	Name & Company	Date
5					
6					
7					
8					
9					
10					

<sup>\*:</sup> Insert tick if correct to NR/SMS steps



# CCTV Tx Systems (Marconi/GEC 14.5MHz AM) Tests

Maintenance Test

Form: NR/SMS/T047/RC/01

Date: 01/09/2018

Moni	itoring S	Signal B	OX:				Level	Crossi	ng:					Numb	er of Rep	peaters	:		
		nission En				\M	-+	Repeat		D () ()		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	. ++		ater (2)	/D		100	- **
Number	To Mod	Supply O	'P (V)	To Laur	nch Amp*	Waveforms* O/P from Modulator	O/P from	To Line	Supply O/ Amp		nch Amp*	Waveforms O/P from Modulator	O/P from		r Supply O	To La Amp*	unch	O/P from Modulator	O/P from Launch
Ť	DC +ve	DC -ve	AC Ripple	DC +ve	AC Ripple		Launch Amp*	DC +ve	AC Ripple	DC +ve	AC Ripple		Launch Amp*	DC +ve	AC Ripple	DC +ve	AC Rippl	e	Amp*
1																			
2																			
3																			
4																			
	Repeat	ter (3)					Repe	ater (4)						Receiver E	End				
Z		Supply O	/P (V)		Waveforn	ns**			O/P		Wave	forms**		Power Su		Wavefo	rms**	Received Pictu	re**
Number	To Line			nch Amp*	O/P from Modulator	O/P from Launch						Го Democ		O/P from		Satisfactory Resolution	Satisfactory Content		
٦	DC +ve	AC Ripple	DC +ve	AC Ripple	Wodulator	Amp*	DC +ve	AC Ripple	DC +ve	AC Ripple	l l	Amp			AC Ripple	Demod	uiatoi	Resolution	Content
1																			
2																			
3																			
4																			
			· · · · · · · · · · · · · · · · · · ·			II.		I	I .	<b>I</b>	1	I							
Number	Comm	ents									Test Equ	ipment Ident	ity		Signa	ture	Name 8	c Company	Date
1																			
2																			
3																			
4																			

<sup>\*:</sup> If fitted to the system \*\*: Insert tick if correct



# CCTV Tx Systems (Marconi/GEC 14.5MHz AM) Tests

Maintenance Test

Form: NR/SMS/T047/RC/01

Date: 01/09/2018

	Transm	ission En	d					Repea	ter (1)					Repeat	ter (2)				
z	Power S	Supply O	'P (V)			Waveforms	**	Power	Supply O/F	P (V)		Waveforms	**	Power	Supply O/F	>		Waveforms	**
Number	To Mod	ulator		To Lau	nch Amp*	O/P from Modulator	O/P from	To Line	e Amp	To Lau	nch Amp*	O/P from Modulator	O/P from	To Line	e Amp	To Lau Amp*	nch	O/P from Modulator	O/P from Launch
	DC +ve	DC -ve	AC Ripple	DC +ve	AC Ripple		Launch Amp*	DC +ve	AC Ripple	DC +ve	AC Ripple		Launch Amp*	DC +ve	AC Ripple	DC +ve	AC Ripple		Amp*
5																			
6																			
7																			
8																			
9																			

	Repea	ater (3)					Repea	ater (4)					Receive	<sup>-</sup> End			
Z	Power	Supply O/F	P (V)		Waveforms	**	Power	Supply C	)/P		Waveforms*	**	Power S	upply O/P	Waveforms**	Received Pict	ure**
Шb	To Lin	e Amp	To Laur	nch Amp*	O/P from	O/P from	To Lin	e Amp	To Laund	ch Amp*	O/P from	O/P from	To Demo	odulator	O/P from	Satisfactory	Satisfactory
er	DC +ve	AC Ripple	DC +ve	AC Ripple	Modulator	Launch Amp*	DC +ve	AC Ripple	DC +ve	AC Ripple	Modulator	Launch Amp*	DC +ve	AC Ripple	Demodulator	Resolution	Content
5																	
6																	
7																	
8																	
9																	

Z	Comments	Test Equipment Identity	Signature	Name & Company	Date
umber					
막					
5					
6					
7					
8					
9					



# **CCTV Tx Systems (Philips FM System) Tests**

Maintenance Test

Form: NR/SMS/T047/RC/02

Date: 01/09/2018

Moni	toring Sig	nal Box:					Lev	el Crossing	:					Nun	nber	of Repea	aters:				
	Transmiss	sion End				Repeat	er (1)						Repe	ater (2)							
Zu	Power Su		Wave	forms**		Coaxial			Waveforms	3		Video		al Cable			Wavefo				Video
Number	DC Voltage	AC Ripple	Modul O/P (c Only)		Launch Amp O/P (Multiburst)*	Loop Resista (Ohms)	nce	Insulation Resistance (Ohms)	Video O/P (Multiburst)	O/P		Picture Quality	Loop Resis (Ohm			lation stance ns)	Video ( (Multibu		FM signal O/P Level (Modulate		Picture Quality
1																					
2																					
3																					
4																					
	Repeater	(2)						Repeater	(4)							D	I				
_	Coaxial C			Wavef	orms		Video	Coaxial C			Waveforms			Video		Receiver E Power Su		٧	Vaveforms	Vid	90
Number	Loop	Insul		Video	O/P FM s	gnal	Picture	Loop	Insulation	on	Video O/P	FM sig	gnal	Picture		DC	AC	N	/lodulated	Pic	ure
ber	Resistance (Ohms)	e Resis	tance	(Multib		.evel ulated)	Quality	Resistanc (Ohms)	e Resistar (Ohms)		(Multiburst)	O/P L		Quality	′	Voltage	Ripple	· C	Carrier I/P	Qua (Pr	ality ocessed
	(Onins)	(01111	13)		(NOC	diated)		(Onins)	(Onins)			(IVIOGO	iatou)							Vid	eo O/P)
1																					
2																					
3																					
4																					
	0												T 1			Ciaus a tu		NI	. 0 0	. 1	Date
Nun	Comment	S											Test Equilidentity	ııpment		Signatu	ire	ivame	e & Company	<i>'</i>	Date
Number																					
1																					
2																					
3																					
4																					
1	I																l.				



# **CCTV Tx Systems (Philips FM System) Tests**

Form: NR/SMS/T047/RC/02 Date: 01/09/2018

Issue: 02

#### Maintenance Test

	Transmiss	sion End			Repeater (1)					Repeater (2)				
Z	Power Su	pply	Waveforms**		Coaxial Cable		Waveforms		Video	Coaxial Cable	•	Waveforms		Video
mber	DC Voltage	AC Ripple	Modulator O/P (carrier Only)	Launch Amp O/P (Multiburst)*	Loop Resistance (Ohms)	Insulation Resistance (Ohms)	Video O/P (Multiburst)	FM signal O/P Level (Modulated)	Picture Quality	Loop Resistance (Ohms)	Insulation Resistance (Ohms)	Video O/P (Multiburst)	FM signal O/P Level (Modulated)	Picture Quality
5														
6														
7														
8														
9														

	Repeater (3)					Repeater (4)					Receiver E	ind		
Z	Coaxial Cable	е	Waveforms		Video	Coaxial Cable	Э	Waveforms		Video	Power Sup	ply	Waveforms	Video
umber	Loop Resistance (Ohms)	Insulation Resistance (Ohms)	Video O/P (Multiburst)	FM signal O/P Level (Modulated)	Picture Quality	Loop Resistance (Ohms)	Insulation Resistance (Ohms)	Video O/P (Multiburst)	FM signal O/P Level (Modulated)	Picture Quality	DC Voltage	AC Ripple	Modulated Carrier I/P	Picture Quality (Processed Video O/P)
5														
6														
7														
8														
9														

Number	Comments	Test Equipment Identity	Technicians SSM Name	Company	Date
5					
6					
7					
8					
9					



## AC Busbar & Earth Test

Maintenance Test

Form:	NR/SMS/	T051/RC0 <sup>-</sup>
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Date: 01/09/2018

Signal Box / Interlocking:	Location / Equipment Room

Busbar:			Busbar:	Busbar:				Meter	AC Busbar	Signature	Name & Company	Date				
Busbar Voltage	V1	V2	Vb	Busbar Voltage	V1	V2	Vb	Busbar Voltage	V1	V2	Vb	Identity	Earth Test Adapter Identity			
1																



## **AC Busbar & Earth Test**

#### Maintenance Test

Form: NR/SMS/T051/RC01

Date: 01/09/2018

Busbar:		Busbar:	Busbar:				Meter	ity Earth Test	Signature	e Name & Company	Date					
Busbar Voltage	V1	V2	Vb	Busbar Voltage	V1	V2	Vb	Busbar Voltage	V1	V2	Vb	Identity	Adapter Identity			
														<u> </u>		



## DC Busbar & Earth Test

Maintenance Test

Date: 01/09/2018

Signal Box / Interlocking:	Location / Equipment Room

			Busbar:			Busbar:			Busbar:			Meter	Meter	Signature	Name & Company	Date
Busbar Voltage	V1 B - E	V2 N - E	Busbar Voltage	V1 B - E	V2 N - E	Busbar Voltage	V1 B - E	V2 N - E	Busbar Voltage	V1 B - E	V2 N - E	Identity	Shunt Identity		Company	
			1	1					1	I		<u>I</u>	l	<u> </u>	1	1



## **DC Busbar & Earth Test**

Maintenance Test

Form: NR/SMS/T051/RC02

Date: 01/09/2018

Busbar: Busbar:				Busbar:				Busbar:			Meter Meter Shunt Identity	Signature	Name &	Date		
Busbar Voltage	V1 B - E	V2 N - E	Busbar Voltage	V1 B - E	V2 N - E	Busbar Voltage	V1 B - E	V2 N - E	Busbar Voltage	V1 B - E	V2 N - E	identity	Identity		Company	



# **Dynamic Earth Test (Power Worked Points)**

Maintenance Test

Form:	NR/SI	MS/T	052/F	SCO.
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Date: 01/09/2018

Signal Box / Interlocking:						ocation /	Equipme	ent Roor	n		Point Number:		Number of Ends:	
DriveDriveVoltageVoltage B toVoltage N toAcrossEarthEarthBusbar		Across	Detect Voltag Earth		Detection Voltage N to Earth		Meter Identity	Comments		Signature	e Name & Company	Date		
N-R	R-N	N-R	R-N		N	R	N	R						



# **Dynamic Earth Test (Power Worked Points)**

Maintenance Test

Form: NR/SMS/T052/RC01

Date: 01/09/2018

	e B to	Maxim Drive Voltage Earth	e N to	Detection Voltage Across Busbar	Detect Voltag Earth	Detection Voltage B to Earth  Detection Voltage N to Earth  Detection Voltage N to Earth		Meter Identity	Comments	Signature	Name & Company	Date	
N-R	R-N	N-R	R-N		N	R	N	R					



# **Dynamic Earth Test (Level Crossing Barriers)**

Maintenance Test

Date: 01/09/2018

Signal Box / Interlocking:					Level Crossing Type:	Level Crossing	Name:	
B24 (Barr)	Maximum	B24 (Barr)	Meter	Comments		Signature	Name &	Date
B24 (Barr) Voltage Across	Maximum Voltage Du Cycle	uring Xing	Identity				Company	
Busbar	Positive to Earth	Negative to Earth						



# **Dynamic Earth Test (Level Crossing Barriers)**

Maintenance Test

Form: NR/SMS/T052/RC/02

Date: 01/09/2018

B24 (Barr) Voltage Across	) Maximum B24 (Barr) Voltage During Xing Cycle		Meter Identity	Signature	Name & Company	Date	
Busbar	Positive to Earth	Negative to Earth					



# Earth Leakage Detector – 930 / P and IR145

**Function Test** 

Form:	NR/SMS/	T053/RC01
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Date: June 2019

Signal Box:	Interlocking:	Location:	ELD Name:

Functio	n Test															
				Weather 1.Wet	1.Wet					Busbar 2: Name / ID				Busbar 3: Name / ID		
Date	Name	Signature	Meter ID	2.Damp 3.Dry 4.Frozen 5.Flooded	Busbar Voltage	Indication on ELD*	If Fault Cleared OK**	ELD Test OK**	Busbar Voltage	Indication on ELD*	If Fault Cleared OK**	ELD Test OK**	: Busbar Voltage	Indication on ELD*	If Fault Cleared OK**	ELD Test OK**
						C/F	Y/N	Y/N		C/F	Y/N	Y/N		C/F	Y/N	Y/N
						C/F	Y/N	Y/N		C/F	Y/N	Y/N		C/F	Y/N	Y/N
						C/F	Y/N	Y/N		C/F	Y/N	Y/N		C/F	Y/N	Y/N
						C/F	Y / N	Y/N		C/F	Y/N	Y/N		C/F	Y/N	Y/N
						C/F	Y/N	Y/N		C/F	Y/N	Y/N		C/F	Y/N	Y/N
						C/F	Y / N	Y/N		C/F	Y / N	Y/N		C/F	Y / N	Y/N
						C/F	Y / N	Y/N		C/F	Y/N	Y/N		C/F	Y / N	Y/N
						C/F	Y / N	Y/N		C/F	Y / N	Y/N		C/F	Y / N	Y/N
						C/F	Y / N	Y/N		C/F	Y / N	Y/N		C/F	Y / N	Y/N
						C/F	Y / N	Y/N		C/F	Y/N	Y/N		C/F	Y / N	Y/N
						C/F	Y / N	Y/N		C/F	Y/N	Y/N		C/F	Y/N	Y/N
						C/F	Y / N	Y/N		C/F	Y/N	Y/N		C/F	Y / N	Y/N
						C/F	Y / N	Y/N		C/F	Y/N	Y/N		C/F	Y / N	Y/N
						C/F	Y/N	Y/N		C/F	Y/N	Y/N		C/F	Y/N	Y/N
						C/F	Y/N	Y/N		C/F	Y/N	Y/N		C/F	Y/N	Y/N
						C/F	Y/N	Y/N		C/F	Y/N	Y/N		C/F	Y/N	Y/N
						C/F	Y / N	Y/N		C/F	Y/N	Y/N		C/F	Y / N	Y/N
						C/F	Y / N	Y/N		C/F	Y/N	Y/N		C/F	Y / N	Y/N
						C/F	Y / N	Y/N		C/F	Y/N	Y/N		C/F	Y / N	Y/N



# Earth Leakage Detector – 930 / P / and IR145

**Calibration Test** 

Form: NR/SMS/T220/RC/01

Date: June 2019

Calibratio	n Test														
				Weather 1.Wet 2.Damp		Busba	1: Name	: / ID	Busbar	2: Name	/ ID	Busbar	Busbar 3: Name / ID		
Date	Name	Signature	Meter ID	3.Dry 4.Frozen 5.Flooded	22Ω Resistor Value	Busbar Voltage	B or BX* Correct	N or NX* Correct	Busbar Voltage	B or BX* Correct	N or NX* Correct	Busbar Voltage	B or BX* Correct	N or NX* Correct	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y / N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y / N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
							Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	
						1	Y/N	Y/N		Y/N	Y/N		Y/N	Y/N	

<sup>\*:</sup> Yes/No, Circle as Appropriate



# Earth Leakage Detector – IR425

Function Test

Form:	NR/SMS/	T053/R	C02
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Date: March 2020

Signal Box:	Interlocking:	Location:	ELD Name:

Function	on Test									
					Weather 1.Wet 2.Damp		n Status arrival	Manual Test		
Date	Name	Company	Signature	Meter ID	3.Dry 4.Frozen 5.Flooded	Ory ozen		ELD Test OK**	If "NO" Error Code	Comments
						CLR/LIT		Y/N		
						CLR/LIT		Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		
						CLR/LIT	CLR/LIT	Y/N		

<sup>\*:</sup> Yes/No, Circle as Appropriate



# Earth Leakage Detector – IR425

**Calibration Test** 

Form: NR/SMS/T053/RC/02 Date: March 2020

	Calibration Test											
			Status	on Arrival		Busbar Name		Busbar Name		Busba Name	-	
Date	Name & Company	Signature	Alarm Indications Clear	Displayed Resistance	22Ω Resistor Value	Alarm 1 Lit	Alarm 2 Lit	Alarm 1 Lit	Alarm 2 Lit	Alarm 1 Lit	Alarm 2 Lit	Comments
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N		Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y / N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y / N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y / N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
			Y/N	Ω	Ω	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	

<sup>\*:</sup> Yes/No, Circle as Appropriate



#### **Cable Insulation**

# Form: NR/SMS/T054/Cable Insulation Date: March 2018

Issue: 03

#### Maintenance Record

Signal Box / Interlocking:	Cable Name/Number:	Cable From:	Cable To:
Cable Length:	Cable Type*: Lineside / Tail	Test Type*: Maintenance / Full	Cable Installation/Commissioning Date(s):
Cable Core Size:	Number of Cores:	Number of Joints:	Type/Condition of Cable Route:
Cable Carrying Reed FDM Transmissions*: Yes / No	Weather Conditions:	Meter Identity:	Voltage Tested To:
Megger Identity#1:	Reed Cable Adaptor Identity#1:	Reed Earth Leakage Tester Identity#1:	Cable Running Parallel to FS2600 TC's or Routes Carrying Class 92 or 373 Trains*#2: Yes/No
Tested By:	Testers Signature:	Company:	Date:

#1: Fill in details as applicable to type of cable test #2: Applicable to cables carrying Reed FDM Transmissions only \*: Delete as applicable

1<sup>st</sup> Reference Core Number: 2<sup>nd</sup> Reference Core Number: Polarity Correct: Yes / No / NA

	Insulatio	n Resistan	ce	Loop Re	sistance	
Core	to Earth	Core to	o Core	Core to Core		
Core No.	M Ohms	Core No's.	M Ohms	Core No's.	Ohms	Cable Core Function

	Insulation Resistance			Loop Ro	esistance	
Core	to Earth	Core to	Core	Core to Core		
Core No.		Core No's.	M Ohms	Core No's.	Ohms	Cable Core Function



## **Cable Insulation**

Form: NR/SMS/T054/Cable Insulation

Date: March 2018

Issue: 03

## Maintenance Record

	Insulatio	n Resistano	ce	Loop Resi	stance	
Core	to Earth	Core to		Core to		
Core No.	M Ohms	Core No's.	M Ohms	Core No's.	Ohms	Cable Core Function
	• • • • • • • • • • • • • • • • • • • •					

	Insulation	n Resistand	e	Loop Re	sistance	
Core	to Earth	Core to	Core	Core	to Core	
Core No.	M Ohms	Core No's.	M Ohms	Core No's.	Ohms	Cable Core Function

General Comments or Remarks:		



## Non-Intrusive Earth Leakage for FDM Systems Test (Method A)

Form: NR/SMS/T054/RC02 Date: 01/09/2018

Issue: 03

#### Maintenance Record Card

Earth Lea	Earth Leakage		Line	Weather Conditions	Comments	Adaptor Identity	Meter Identity	Signature	Name & Company	Date
V1 Voltage	V2 Voltage*	Resistance to Earth	Resistance	Conditions		Identity	Identity		Company	

<sup>\*:</sup> Record reading when V2 is lower than V1



## Non-Intrusive Earth Leakage for FDM Systems Test (Method A)

Form: NR/SMS/T054/RC02 Date: 01/09/2018

Issue: 03

#### Maintenance Record Card

Earth Lea	Earth Leakage		Line	Weather Conditions	Comments	Adaptor Identity	Meter Identity	Signature	Name & Company	Date
V1 Voltage	V2 Voltage*	Resistance to Earth	Resistance	Conditions		Identity	Identity		Company	

<sup>\*:</sup> Record reading when V2 is lower than V1



# Non-Intrusive Earth Leakage for FDM Systems (Method B)

Form:	NR/SMS/T054/RC03
Date:	01/09/2018

M	laiı	nter	nance	Rec	cord	l Card
---	------	------	-------	-----	------	--------

Power Sig	nal Box:		Sys	tem:	Location From:		Location To:		
Meter Reading (0-Red)	Resistance to Earth (Ohms)	Weather Conditio	ns	Comments		Meter Identity	Signature	Name & Company	Date
	_								



# Non-Intrusive Earth Leakage for FDM Systems (Method B)

Form: NR/SMS/T054/FDM (B)

Date: March 2018

Issue: 02

## Maintenance Record Card

Meter Reading (0-Red)	Resistance to Earth (Ohms)	Weather Conditions	Comments	Meter Identity	Signature	Name & Company	Date



# **Secondary Cell Test - ALCAD - Vantage**

Maintenance Record Card

Form: NR/SMS/T055/RC01 Date: 1st September 2018

Signal B	ox / Interlocking:		Location:					
Battery N	lame:		Capacity:			Number of C	ells:	Date Installed:
								•
				Charg	er On	Charge	r Off	
Date	Name & Company	Signature	Meter Number	Full Battery Voltage	Average Cell Voltage*	Full Battery Voltage	Time on load (mins)	Adjustments, Topping up Etc



# **Secondary Cell Test - ALCAD - Vantage**

Maintenance Record Card

Form: NR/SMS/T055/RC01 Date: 1st September 2018

				Charg	er On	Charge	r Off	
Date	Name & Company	Signature	Meter Number	Full Battery Voltage	Average Cell Voltage*	Full Battery Voltage	Time on load (mins)	Adjustments, Topping up Etc
		l .				l .		



# Secondary Cell Test (Cyclon)

Maintenance Record Card

Form: NR/SMS/T055/RC/Cyclon Date: 1st September 2018

Signal B	ox / Interlocking:		Location:							
Battery N	lame:		Capacity:			Num	nber of Cells:		•	Date Installed:
Date	Name & Date Company Signatu		Meter Number	Charger On Full Battery Voltage	Charger Full Batt Voltag	tery	Charger On Voltage rise when charger			Comments

<sup>\*:</sup> Insert tick if correct, record any deficiencies in the comments column Note: Full battery voltage = 2.35x number of cells)



## Secondary Cell Test (Cyclon)

Maintenance Record Card

Form: NR/SMS/T055/RC/Cyclon Date: 1st September 2018

				Charger On	Charger Off	Charger On	
						Voltage rise when charger	
Date	Name & Company	Signature	Meter Number	Full Battery Voltage	Full Battery Voltage	when	Comments
Date	Company	Signature	Number	voltage	voitage	Charge	Comments

<sup>\*:</sup> Insert tick if correct, record any deficiencies in the comments column



# Secondary Cell Test - Lead Acid / Alkaline

Form: NR/SMS/T055/RC03 Date: 1st September 2018

Issue: 03

#### Maintenance Record Card

Signal Box / Interlocking:		Location:
Battery Name:	Battery Type:	Manufacturer:
Capacity:	Number of Cells:	Date Installed:
Charger Off / Batt	rery on Load Charger On	2

				Charger Off / Battery on Load			Charger On	Comments	
				Lowest	Obtained F	Reading	Full	Cell voltage increase when	Adjustments, Gassing, Sediment, Topping up, Etc
Date	Name & Company	Signature	Meter Identity	Cell No.	Volts	Specific Gravity*	Battery Voltage	charger switched on? Tick if correct	

<sup>\*:</sup> Lead Acid Cells Only (see NR/SMS/Test/055. task 1.4)



# Secondary Cell Test - Lead Acid / Alkaline

Maintenance Record Card

Form: NR/SMS/T055/RC03 Date: 1st September 2018

				Charger Off / Battery on Load			Charger On	Comments			
				Lowest	Obtained F	Reading	Full	Cell voltage increase when	Adjustments, Gassing, Sediment, Topping up, Etc		
Date	Name & Company	Signature	Meter Identity	Cell No.	Volts	Specific Gravity*	Battery Voltage	charger switched on? Tick if correct			

<sup>\*:</sup> Lead Acid Cells Only (see NR/SMS/Test/055, task 1.4)



# **Secondary Cell Test - Power Box - Modular**

Maintenance Record Card

Form: NR/SMS/T055/RC04 Date: 1st September 2018

Signal Box / Interlocking:			Location:	
Battery Name:	Capacity:	Number of Cells:		Date Installed:

				Charger On	Charger Off	CI	harger On	
Date	Name & Company	Signature	Meter Number	Full Battery Voltage Red 1 – Black 5	Full Battery Voltage Red 1 – Black 5	Time on Load	Voltage rise when charger on?	Comments
Date	Company	Olgridiaic	Hamboi	Tred 1 - Black 5	Ned 1 - Black 3	Loud	onarger on:	Comments



# **Secondary Cell Test - Power Box - Modular**

Maintenance Record Card

Form: NR/SMS/T055/RC04 Date: 1st September 2018

				Charger On	Charger Off	C	harger On	
				Full Battery Voltage	Full Battery	Time	Voltage rise when	
Date	Name & Company	Signature	Meter Number	Voltage Red 1 – Black 5	Full Battery Voltage Red 1 – Black 5	on Load	when charger on?	Comments
Date	Company	Olgridia	Hamber	ited i - black 5	ited 1 – black 3	Load	onarger on:	Comments



#### Avel-Lindberg Static Invertor Tests Record Card (Front) NR/SMS/Test/056

Form: NR/SMS/T56/RC/01

Date: August 2004

Signal Box / Interlocking:	Location:	Inverter Identity:

	Battery Te	ests			Invertor Tes	ts							
Z	Charger C	Off		Charger On	Off Load	On Load							
Number	Cell Avera	age Readings	Total	Trickle	Indications	ons Indications	Voltages (On Load Take-Up)			Voltages (After	Voltages (After 1hr on Load)		
er	Voltage	Specific Gravity	Battery Voltage	Charge Current	(Insert tick if correct)	(Insert tick if correct)	I/P to Switch Cab. (DC)	O/P to Equip. (AC)	BX110 Busbar	I/P to Switch Cab. (DC)	O/P to Equip. (AC)	BX110 Busbar	
1													
2													
3													
4													
5													
6													
7		_		_									
8													

	Generator T	ests		Comments	Meter	Signature	Name &	Date
Z	On Load			Commente	Identity	Oignataro	Company	Bato
Number	Indications				·			
ĕr	(Insert tick if correct)	O/P to Equip. (AC)	BX110 Busbar					
1								
2								
3								
4								
5								
6								
7								
8								



# Avel-Lindberg Static Invertor Tests Record Card (Rear) NR/SMS/Test/056

Form: NR/SMS/T056/RC/01

Date: August 2004 Issue: 01

	Battery Tes	ts			Invertor Tes	ts						
Number	Charger Off	f		Charger On	Off Load	On Load						
1be	Cell Averag	e Readings	Total	Trickle	Indications	Indications	Voltages (On	Load Take-Up)	)	Voltages (After	1hr on Load)	
7	Voltage	Specific Gravity	Battery Voltage	Charge Current	(Insert tick if correct)	(Insert tick if correct)	I/P to Switch Cab. (DC)	O/P to Equip. (AC)	BX110 Busbar	I/P to Switch Cab. (DC)	O/P to Equip. (AC)	BX110 Busbar
9		-										
10												
11												
12												
13												
14												
15												
16												
17												

	Generator T	ests		Comments	Meter	Signature	Name &	Date
Z	On Load			- Commence	Identity	o.g. a.a.	Company	Date
Number	Indications	Voltages			-			
ĕ	(Insert tick if correct)	O/P to Equip. (AC)	BX110 Busbar					
9								
10								
11								
12								
13								
14								
15								
16								
17								



# **Uninterruptible Power Supply - Not TPWS UPS**

Maintenance Test

Form: NR/SMS/T057/RC01

Date: 01/09/2018

Signal Bo	x / Interlock	ing:				Location	:		Minimum UPS O/P Voltage at end of expected load period:									
UPS Off Load	UPS On Loa	d				UPS Off Loa	nd	Comments		Meter Identity	Signature	Name & Company	Date					
		Time on	O/P Voltages (V)				Batteries**			lucility		Company						
Indications *	Indications *	Load (min/secs)	Start of Load Period	Middle of Load Period	End of Load Period	Indications *	Charging											
			<del>                                     </del>															
					<del>                                     </del>													

<sup>\*:</sup> Insert tick if correct \*\*: Were batteries are external to the UPS



# **Uninterruptible Power Supply - Not TPWS UPS**

Maintenance Test

Form: NR/SMS/T057/RC01

Date: 01/09/2018

UPS Off Load	UPS On Loa	d				UPS Off Loa	ad	Comments	Meter Identity	Signature	Name & Company	Date
Indications *	Indications *	Time on Load (min/secs)	O/P Volta	ges (V)		Indications *	Batteries**					
			Start of Load Period	Middle of Load Period	End of Load Period		Charging					



# **Uninterruptible Power Supply - (for TPWS only)**

Maintenance Test

Form: NR/SMS/T057/RC02

Date: 01/09/2018

Signal Box / Interlocking:								n:			TPWS / Signal Name / Number:					
Heaters UPS Off UPS On Load Load										Comments	ts		PowerView	Sig	Nar	Date
\\/orlein a	Working Thermostat setting (°C)	Indications *	Indications	Voltages (V)		Currer	nts (A)	s (A) Freq (Hz)					Control Unit	Signature	Name & Company	(P)
vvorking *			*	I/P	O/P	I/P	O/P	O/P	TPWS Working correctly *				Identity	Ø.	*	
		1				l	ĺ	ĺ								

<sup>\*:</sup> Insert tick if correct



# **Uninterruptible Power Supply - (for TPWS only)**

Maintenance Test

Form: NR/SMS/T057/RC02

Date: 01/09/2018

Heaters		UPS Off Load	UPS On Loa	ad						Comments	PowerView Control Unit Identity	Signature	Name & Company	Date
Marking	Thermostat		Indications	Voltag	es (V)	Currer	nts (A)	Freq (Hz)	TPWS		Unit	natur	ne & npan	(b
Working *	Thermostat setting (°C)	Indications *	Indications *	I/P	O/P	I/P	O/P	O/P	TPWS Working correctly		Identity	е	,	

<sup>\*:</sup> Insert tick if correct



### Primary Cell Test Record Card (Front) NR/SMS/Test/058

Form: NR/SMS/T058/RC/01

Date: August 2004

Signal Box:						Locati	on:			
Battery Name:				Battery Type:			Num	ber of Cells:		
Voltages (V)		Cells	Comments		Meter	1 Oh	ım	Signature	Name &	Date
With 1 Ohm Shunt	Without 1 Ohm Shunt	Renewed	Commente		Identity	Shur	nt	o.g. iatai o	Company	Date
Average Cell Reading	Total Battery Voltage						,			
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								
		Yes / No								



## Primary Cell Test Record Card (Rear) NR/SMS/Test/058

Form: NR/SMS/T058/RC/01

Date: August 2004

Voltages (V)		Cells	Comments	Meter	1 Ohm	Signature	Name &	Date
With 1 Ohm Shunt	Without 1 Ohm Shunt	Renewed		Identity	Shunt Identity	Oignataro	Company	Bato
Average Cell Reading	Total Battery Voltage				,			
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
_	_	Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						
		Yes / No						



# Emergency Signals on Control (ESOC) Test Record Card (Front) NR/SMS/Test/060

Form: NR/SMS/T060/RC/01

Date: August 2004 Issue: 01

Signal Box:

ESOC Test			Comments	Signature	Name &	Date
Interlocking	LED Indications Correct	Relay Energisation Time (secs)		Oignataro	Company	
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					



## Emergency Signals on Control (ESOC) Test Record Card (Rear) NR/SMS/Test/060

Form: NR/SMS/T060/RC/01

Date: August 2004

ESOC Test			Comments	Signature	Name &	Date
Interlocking	LED Indications Correct	Relay Energisation Time (secs)		- 13.12.13.13	Company	
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					
	Yes / No					



# **Relay Timer Test Record Card**

Maintenance Test

1

Date: 01/09/2018 Issue: 02

Signal Box / Interlocking:		Location:		Relay Function:	
Relay Type:	Relay Serial No:	Pin Code:	Last Service Date:	Design Time (sec):	

	Function	Test			Comments	Signature	Name & Company	Date
Relay Function	Actual Time (sec)	Adjustment Made	Time After Adjustment (sec)	Adjustment Aperture Sealed	Comments	Oignature		
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				



# **Relay Timer Test Record Card**

Maintenance Test

Form: NR/SMS/T061/RC01

Date: 01/09/2018

	Function	Test			Comments	Signature	Name &	Date
Relay Function	Actual Time (sec)	Adjustment Made	Time After Adjustment (sec)	Adjustment Aperture Sealed		Oignature	Company	Date
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				
		Yes / No		Yes / No				



### Line Protection Units Record Card (Front) NR/SMS/Test/062

Form: NR/SMS/T062/RC/01

Signal Box:			Start of L	ne Equipment Room / Trackside Apparatus Case	e *: End of I	End of Line Equipment Room / Trackside Apparatus Case *:						
Equipment at Start of Line:			Equipment at End of Line:	Line	Line Protection Equipment Type:							
Unit Identity	LED Ohms Reading				<u> </u>	Test Equipment	Signature	Name & Company	Date			
	Indications #	Low Voltage	High Voltage			Identity						

<sup>\*:</sup> Enter details appropriate to location \*\*: Use columns appropriate to equipment type #: Tick if indications are correct, cross if not and enter details in comments column



### Line Protection Units Record Card (Rear) NR/SMS/Test/062

Form: NR/SMS/T62/RC/01

Date: August 2004

Unit Identity	Line Protection Unit Tests**			Comments	Test Equipment Identity	Signature	Name & Company	Date
	LED	Ohms Re	eading		Equipment		Company	
	LED Indications #	Low Voltage	High		Identity			



Regular Tasks

Form: NR/SMS/T063/RC/01

Date: 03/03/18

Signal Box / System
---------------------

Test 1 Signallers Control Console – Observations. (Inc. any changes made)	NAME	INITIAL	DATE



Regular Tasks

Form: NR/SMS/T063/RC/01

Date: 03/03/18

Test 2 2Wire Dial-up Interfaces – Observations. (Inc any changes made. Confirm all 2&4 wire connections))	NAME	INITIAL	DATE



Regular Tasks

Form: NR/SMS/T063/RC/01

Date: 03/03/18

Test 5 System Current Issues Checks – Observations. (Inc. any action taken and changes made)	NAME	INITIAL	DATE



Maintenance Tests

Form: NR/SMS/T063/RC/02

Date: 03/03/18 Issue: 02

Signal Box / System	

Test 3&4	Basic and Extended Radio Rack Checks – Observations. (Inc. any changes made)	NAME	INITIAL	DATE



# RETB Radio Systems – Service A

Maintenance Tests

Form: NR/SMS/T063/RC/02

Date: 03/03/18 Issue: 02

Signal Box / System	
---------------------	--

Test 6 Net	twork Data I	ntegrity tests	<b>S</b>		NAME	INITIAL	DATE
Source ID	Sink ID	Bits sent	Errors	Observations. (Inc any repeats or further investigations)			



# RETB System (Six Monthly) Tests Record Card (Front) NR/SMS/Test/063

Form: NR/SMS/T063/RC/03

Date: August 2004 Issue: 01

### Signal Box:

Site / Location	Token Data Le	evel	Comments	Test	Signature	Name & Company	Date
	1200Hz	1800Hz		Equipment Identity		Company	



# RETB System (Six Monthly) Tests Record Card (Rear) NR/SMS/Test/063

Form: NR/SMS/T063/RC/03

Date: August 2004 Issue: 01

Signal Box:

Site / Location	Validity Tests	1	Comments	Signature	Name & Company	Date
	Telegram Bits	Handshakes			Company	
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				
	Pass / Fail	Pass / Fail				



RETB Fixed Site Power Supply Test – Service A Record Card (Sheet 1) NR/SMS/Test/064

Form: NR/SMS/T064/RC/01

Date: 03/03/18 Issue: 02

Signal Box / System	Site	

Test 2 & 3	PSU Che	ecks						NAME / INITIAL	DATE
2.1 - 2.3 Visual OK?	2.4 Site I/F Volt (V)	3.2 Mains Alarm Rec'd?	3.3 / 3.4 LEDs correct?	3.5 Site I/F Voltage (V)	3.2 Mains Clear Rec'd?	3.8 / 3.9 LEDs correct?	Observations. (Inc any repeats or further investigations)		



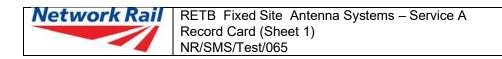
RETB Fixed Site Power Supply Test – Service B
Record Card (Sheet 1)
NR/SMS/Test/064

Form: NR/SMS/T064/RC/02

Date: 03/03/18

Signal Box / System	Site	

Test 4,5 & 6	Battery and	Charger Tests						NAME / INITIAL	DATE
4.3 / 5.3 Batt 1 Volts (V)	4.5 / 5.5 Batt 1 Int Res (mΩ)	4.5 / 5.5 Batt 1 Int Res OK?	5.3 Batt 2 Volts (V)	5.5 Batt 2 Int Res (mΩ)	5.5 Batt 2 Int Res OK?	6.2 DRU1 Volts (V)	6.2 DRU2 Volts (V)		
Observations								<u>-</u>	
	<u> </u>								
Observations								-	
Observations									
Observations	T						1		
Observations								_	
Observations									



Form:	NR/SMS/T065/RC/01	
Date:	03/03/18	

Signal Box / System	

Test 1 Antenna System Inspection – Observations. (Inc. Fixtures, Fittings, Mast Feeder and Antenna.)	NAME	INITIAL	DATE



Signal Box / System

<del>-</del>	_

Date: 03/03/18 Issue: 02

Form: NR/SMS/T065/RC/02

Test 2 Antenna VSWR Measurements									NAME / INITIAL	DATE
Antenna 1. I	D		Antenna 2 II	)		Antenna 3 II	)			
(Cell, Link 1			(Cell, Link 1,			(Cell, Link 1,				
Fwd Power		VSWR	Fwd Power		VSWR	Fwd Power		VSWR		
(W)	(W)	Ratio	(W)	(W)	Ratio	(W)	(W)	Ratio		
Observation	S.									
Observation	S					<u>.</u>				
Observation	S	l	- 1	I	1		I	1		
Observation	S									
Observations										
Observation	S	I	1	l	I	L	l	1		

Site



Network Rail | RETB Fixed Site Radio and Interface Equipment (Pre-Site Visit) Record Card (Sheet 1) NR/SMS/Test/066

Form: NR/SMS/T066/RC/01

Date: 03/03/18 Issue: 02

Signal Box / System	

Test 1 & 2 Pre-	Visit 4 and 2 wire	e line level ch	necks.			NAME / INITIAL	DATE
Site Name	1.3 4Wire Rack Rx Level.	1.3 4Wire FSI RX Level	2.3 2Wire Rack Rx Level.	2.3 2Wire FSI RX Level	Observations. (Inc any repeats or adjustments required.)		



Network Rail RETB Fixed Site Radio and Interface Equipment (Pre-Site Visit) Record Card (Sheet 2) NR/SMS/Test/066

Form: NR/SMS/T066/RC/01

Date: Aug 2017 Issue: 02

Signal Box / System	

Test 3&4 Pre-Vis	t Site Interface and Radio Parameter Checks	NAME	INITIAL	DATE
Site Name	Observations. (Inc. any changes made or required)			



Network Rail RETB Fixed Site Radio and Interface Equipment– Service A (On-Site Checks)

Record Card (Sheet 1) NR/SMS/Test/066 Form: NR/SMS/T066/RC/02

Date: 03/03/18 Issue: 02

Signal Box / System	Site	

Test 5 & 6	Installation & FSI LED Checks – Observations. (Inc. any changes made or required)	NAME	INITIAL	DATE



**Network Rail** RETB Fixed Site Radio and Interface Equipment– Service A (On-Site Checks)

Record Card (Sheet 2) NR/SMS/Test/066

Form: NR/SMS/T066/RC/02

Date: Aug 2017 Issue: 02

Signal Box / System	Site	

Test 7 FS	SI Line Level		NAME / INITIAL	DATE
7.3 7.3 Rx Power Reported Tx Power		Observations. (Inc any repeats or adjustments required.)		



Signal Box / System

Network Rail RETB Fixed Site Radio and Interface Equipment– Service A (On-Site Checks)

Record Card (Sheet 3) NR/SMS/Test/066 Form: NR/SMS/T066/RC/02

Date: Aug 2017 Issue: 02

Site

Test 8 Reported Parameter (checking required)	g for Normal Operation) – Observations.	(Inc. any changes made or	NAME	INITIAL	DATE



Network Rail RETB Fixed Site Radio and Interface Equipment – Service B Record Card (Sheet 1) NR/SMS/Test/066

Form: NR/SMS/T066/RC/03

Date: 03/03/18

Signal Box / System		Site	
Transceiver Type (delete)	CELL / LINK1 / LINK 2 / LINK 3	Transceiver ID#	

Test 8 F	Test 8 Reported Parameters							NAME	INITIAL	DATE		
Supply	(V)	Supply (A	٨)	VSWR	Temp (	<sup>0</sup> C)	Indicators	(ON / OFF	)		1	
Idle	Key	Idle	Key	(1:?)	Int.	PA	Tx Dis	Poor VSWR	Tx Protect			



Network Rail | RETB Fixed Site Radio and Interface Equipment – Service B Record Card (Sheet 2) NR/SMS/Test/066

Form: NR/SMS/T066/RC/03

Date: Aug 2017 Issue: 02

Signal Box / System	Site	

Test 9 Tx C	Test 9 Tx Output Power								NAME INITIAL		DATE	
Antenna 1 (*	delete)		Antenna 2 (*	delete)		Antenna 3 (	'delete)					
	<1 / LINK 2 / L			<1 / LINK 2 / L			K1 / LINK 2 /					
	Fwd Power	Rev Power		Fwd Power			Fwd Power		-			
(W)	(dBm)	(W)	(W)	(dBm)	(W)	(W)	(dBm)	(W)				
1												
Observation	S.											
Observation	I S	I	1	I	I		1					
Observation	S		1		I	1	1					
Observation	S						•					
Observation	S						•	-				
W	5	6	8	10	13	16	20	25	32	40	)	50
dBm	37	38	39	40	41	42	43	44	45	46	3	47



Network Rail RETB Fixed Site Radio and Interface Equipment – Service B Record Card (Sheet 3) NR/SMS/Test/066

Form: NR/SMS/T066/RC/03

Date: Aug 2017 Issue: 02

Signal Box / System	Site	
Radio Path Under Test: (This Site – Neighbouring Site)	This Site Transceiver ID#	
(eg Banavie Cell – Locheilside Link 1 or Dingwall Link 1 – Garve Cell)	Neighbouring Site Transceiver ID#	

Test 10 Received Signal Strength (dBm)	Test 11 Received Signal Strength @ Neighbour (dBm)	Observations.	NAME	INITIAL	DATE



# **SSI Datalinks: Health Check Tests** Record Card (Front) NR/SMS/Test/089

Form: NR/SMS/T089/RC/01

Signal Box:		Interlocking:	Identity:		Datalink:		
Blip Detection	Comments			Test Equipment Identity	Signature	Name & Company	Date
Blips per Hour				,			



# **SSI Datalinks: Health Check Tests**

Record Card (Rear) NR/SMS/Test/089

Form: NR/SMS/T089/RC/01

Telegram Er	ror Detection	Comments	Test Equipment	Signature	Name & Company	Date
Telegram Errors per Hour	Telegram Errors per 24 Hours		Test Equipment Identity	- Signataro		24.0



## SSI Datalinks: Baseband / LDT Tests

Record Card (Front) NR/SMS/Test/089

Signal Box: Interlocking:				Identity:		Data	link:				
Baseban	d Tests					Comments	Test		Signature	Name &	Date
DLM Identity	Telegram Tx Amplitude (V)	Telegram Tx Asymmetry (mV)	Telegram Tx Overshoot (mV)	Noise Level Between Telegrams (mV)	Telegram Amplitude Variation (%)		Equipr Identity	ment y	Ü	Company	



# SSI Datalinks: Baseband / LDT Tests

Record Card (Rear) NR/SMS/Test/089

Form: NR/SMS/T089/RC/	02
-----------------------	----

Signal Box: Interlocking: Identity: Datalink:	•

						Comments	Test	Signature	Name &	Date
LDT Identity	Telegram Tx Amplitude (V)	Telegram Tx Asymmetry (mV)	Telegram Tx Overshoot (mV)	Noise Level Between Telegrams (mV)	Telegram Amplitude Variation (%)		Equipment Identity		Company	



# **Track Circuit Test - DC Track**

Maintenance Test Record Card

Date: 01/09/2018 Issue: 04

Signal Box / Interlocking / Equipment Room:	Location:	TC Number / Letter:

Feed End			Relay En	d		Ballast 1.Wet	Meter Identity	Train Shunt	Comments If a full test has been undertaken,	Signature	Name & Company	Date	
Voltages (V) Train Shunt on Links (Ohms)		Voltage Train Shunt on (V) Links (Ohms)			2.Damp 3.Dry 4.Frozen		Identity	the relevant details shall also be recorded					
Rail to Rail	TFR Coil*	Drop Shunt*	Pick Up Shunt*	TR Coil	Drop Shunt	Pick Up Shunt	5.Flooded						

<sup>\*</sup> Installations Fitted **With** Track Feed Relays Only



## **Track Circuit Test - DC Track**

Full Test

Form: I	NR/SMS/	T251/RC01
---------	---------	-----------

Date: 01/09/2018

ssue: 0	4
---------	---

Signal Box / Interlocking / Equipment Room:	Location:	TC Number / Letter:

	Feed End									Relay End				Track Circuit Extremities **	Ballast 1.Wet
No.	Settings Voltages (V)						Train Shunt Across Rails (Ohms)			Voltages (V)		Train Shunt Across Rails (Ohms)		T/Shunt Across Rails set at 0.5 Ohms	2.Damp 3.Dry 4.Frozen
	Feed Unit#	Resistor #	PSU I/P#	PSU O/P#	Battery #	Rail to Rail	TFR Coil*	Drop Shunt*	Pick Up Shunt*	Rail to Rail	TR Coil	Drop Shunt	Pick Up Shunt	All Extremities (tick if correct)	5.Flooded
1															
2															
3															
4															
5															
6															
7															

No.	Residual Voltage Tests**			Residual Voltage Tests**			Meter	Train Shunt	Comments		Name &	
	D/Away (V)	P/Up (V)	Res Voltage after 120s (V)	Identity	Identity	Transfer of the relevant details to the maintenance test columns shall also be undertaken	Signature	Company	Date			
1												
2												
3												
4												
5												
6												
7												

<sup>\*</sup> Installations Fitted **With** Track Feed Relays Only \*\* Installations **Without** Track Feed Relays

<sup>\* #</sup> Complete Details Appropriate to the Installation



## Track Circuit Test - EBI Track 200

### **Maintenance Test**

Form: NRSMS/T253/RC01

Date: 01/09/18 Issue: 06

Signal Box /	Interlock	king:			Track Circuit ID:					
Equipment R	oom/Loca	ation:			TC length (Tx to Rx) m TC Frequency:			псу:		
Tx Serial No.					Rx Serial No.					
		Normal	Power / Lo	ow Power / Low Power Plus / Single Rail (delete as appropriate						e as appropriate)
				2		3	4	5		
Relay (Rx) End	Voltages (V) & Current (A)	Rail Connections (Rail to Rail	X (Pole)							
			Y (Tx / Rx : Zero)							
		Volts) #1	TZ Ratio #2							
		Rail Current measured in the rail with Rocoil (mA)								
		1Ω Resistor Voltage Drop OR Inow AV (Ave. Current) ☑								
	Train Shunt on Rails (Ω)	Drop Shunt								
		Pick Up Shu	nt							
Side Band Ratio										
Ballast: 1. Wet, 2	2. Damp, 3.	Dry, 4 .Frozei	n, 5. Flooded							
Comments: Tran maintenance tes										
Meter Identities										
Train Shunt Iden										
Name										
Company										
Date										

Note : ■ Readings to be taken from Tx/Rx display.



## Track Circuit Test - EBI Track 200

**Full Test** 

Form: NRSMS/T253/RC02

Date: 01/09/18 Issue: 06

Signal Box /	king	j:							Track Circuit ID:		
Equipment R	atior	ո:				Т	TC length (Tx to Rx) m TC Frequency			ncy:	
Tx Serial No.					Rx Serial No.						
Normal Power / Lo						w Power / Low Power Plus /			Single Rail (delete as appropriate)		
						1		2	3	4	5
DETERMINING	RECEIVE	R SE	T-UP SH	IUNT V	'ALUE						
Irail (Max at Tx end)											
Irail (Min at Rx end)											
Irail ratio as % (Min at RX End ÷ Max Tx end)							%	%	%	%	%
Ballast Impedance Ωkm							Ω	Ω	Ω	Ω	Ω
Commissioning Drop Shunt Value Used to set Ith $(1\Omega, 1.5\Omega \text{ etc.})$							Ω	Ω	Ω	Ω	Ω
			IP V (AC)								
Feed (Tx) End Voltages (V) & Current (A)	Power Su	nnly	OP V (DC)								
	rowel Su	ppiy	O/P A (DC)								
			O/P A (A		;)						
	TX Rail	TX O/P									
	Connections		X (Pole) Y (Tx / Rx : Zero)								
	(Rail to Ra Volts) #1	ail	TZ Ratio #2								
	Rail Current measured in the rail with Rocoil (mA)				ail with						
	1100011 (1111	Rail To		Rail	1						
Impedance Bond(s) *	Voltages (V)		Tan To Tan		2						
					3						
			Across Aux or Tuning Coil*		1						
					2						
					3 1						
					2						
	Impedance ( $\Omega$ ) $3$										
Relay (Rx) End	Voltages (V) & Current (A)			I/P V	(AC)						
				O/P V (DC)							
		Supply O/		(Vpsu)							
				O/P A (DC)							
				(AC+[							
		Rail Connections (Rail to Rail Volts) #1		X (Pole)							
				Y (Tx / Rx : Zero) TZ Ratio #2							
		Rail Current measured in the rail with Rocoil (mA)									

\* Where Fitted, fill in details appropriate to the position and number of bonds

#1: X: EBI Track 200 under test Y: Adjacent EBI Track 200 TC (Additionally note whether this is the Tx or Rx end)

#2: Calculate TZ Ratio (Pole/Zero) and Record whether at Commissioning.



#### **Full Test**

Form: NRSMS/T253/RC02

Date: 01/09/18 Issue: 06

		or Voltage D V (Ave. Cur				
	Track Relay	Coils V (DO				
	Train Drop Shunt					
Polov (Pv) End	Shunt on Rails (Ω) Pick Up Shunt					
Relay (RX) Ellu	selay (Rx) End Settings Rx gain / Ith Threshold 🗵					
			1			
	Straps		2			
	(SMS Tabl	e D1)	I/P 1			
			I/P 2			
	Side Band	Ratio				
Drop Shunt of E	xtremities (N	lo RX) Teste	ed (Yes/No)			
Ballast: 1. Wet, 2	2. Damp, 3.	Dry, 4 .Froz	en, 5. Flooded			
Interference Tes	t (mV)					
Comments: Trar maintenance tes						
Meter Identities						
Train Shunt Identity						
Name						
Company						
Date						

Note : ■ Readings to be taken from Tx/Rx display.



#### Track Circuit Test - SF15 / Aster U

Maintenance Test

Form: NR/SMS/T254/RC01

Date: 07/03/2020

Signal E	Box / Interlocking nent Room:		L	ocation:			TC Number / Letter:					Frequency (Hz):
' '												
			Relay (R	k) End							Ballast	
			Voltages	(V)							1.Wet	
			Pow	er Supply	Receiver Relay			Drop	Pick-Un	Train	2.Damp 3.Dry	
Date	Name & Company	Signature	Input (AC)	Output (DC)	Unit T1-T2 (AC)	Coils (DC)	Meter Identity	Shunt (Ω)	Pick-Up Shunt (Ω)	Shunt Identity	4.Frozen 5.Flooded	Comments



#### SF15 / Aster U Track Circuit

Full Test

Form: NR/SMS/T254/RC01

Date: 07/03/2020

Gener	al Informatior	1				Transmitter (Tx) End						
				Train		Power S	Supply (V)	Voltages (V)				
	Name &		Meter	Shunt		Input	Output		Unit	Tuning Unit		
Date	Company	Signature	Identity	Identity		(AC)	(DC)	1-2/3 (AC)	T1-T2 (AC)	T1-T2 (AC)		

Receive	r (Rx) En	<u>ıd</u>													Ballast
						Voltaç	ges (V)		T : 01			Shunt	Track		1.Wet
Power Su	ipply (V)	Receiv	ver Taps &	& Strapping	Rx Unit	Tunin	g Unit	Relay Coils	Train Shu	ınt Kalis	TU T1-T2		Circuit Extremities	Interference Test	2.Damp 3.Dry
Input (AC)	Output (DC)	Rec.1	Rec.2	Strap/s	T1-T2 (AC)	T1-T2 (AC)	I/P T1- T2 (AC)	R1/2 (DC)	Drop	Drop Pick Up		Pick Up	Checked (Tick)	Completed (Tick)	4.Frozen 5.Flooded
									·						·



## Track Circuit Test - HVI

Maintenance Test

Form: NR/SMS/T255/RC01

Date: 01/09/2018 Issue: 04

Signal Box / Interlocking / Equipment Room:	Location:	TC Number / Letter:	Traction Supply (Delete as appropriate):
			$3^{\rm rd}$ Rail DC / AC OHL / DC OHL / Dual / None

Relay End Train Shunt	Voltage	es (V)				Ballast 1.Wet	Meter Identity	Train Shunt	Comments If a full test has been undertaken, the	Signature	Name &	Date
Across Track Transformer Track Terminals	Vollage	(1)				2.Damp 3.Dry 4.Frozen	Identity	Identity	relevant details shall also be recorded		Company	
T1	T3		T4		T5	5.Flooded						
Drop Shunt (Ohms)	Track F Coils ([	Relay DC)	Track Transfo	ormer	Load Test							
	V1	V2	+Ve	-Ve	(DC)							



## Track Circuit Test - HVI

#### Maintenance Test

Form: NR/SMS/T255/RC01

Date: 01/09/2018

Signal Box / Interlocking / Equipment Room:	Location:	TC Number / Letter:	Traction Supply (Delete as appropriate):
			3 <sup>rd</sup> Rail DC / AC OHL / DC OHL / Dual / None

	Relay End							Feed Er	nd					Relay/Feed E	nds	
Number	Train Shunt Across Track Transformer Track Terminals	Train Shunt Across Relay End Rails	Voltaç	ges (V)				Voltages	s (V)				Pulse Rate	External Inter Voltages (V)	External Interference /oltages (V)	
nb <sub>e</sub>	T1	T2	Т3		T4		T5	T6		T7	T8		Т9	T10	T11	
<del>"</del>	Drop Shunt (Ohms)	Drop Shunt (Ohms)		ack Relay Track Load Dils (DC) Transformer Test					Supply	Transmitter Power	Track Transformer		No. of Pulses in	Un-shunted Interference	Shunted Interference	
			V1	V2	+Ve	-Ve	(DC)	Volts (AC)	Current (AC)	(DC)	+Ve	-Ve	Seven Seconds	Test (DC)	Test (DC)	
1																
2																
3																
4																
5																
6																

Number	Ballast 1.Wet 2.Damp 3.Dry 4.Frozen 5.Flooded	Meter Identity	Train Shunt Identity	Comments Transfer of the relevant details to the maintenance test columns shall also be undertaken	Signature	Name & Company	Date
1							
2							
3							
4							
5							
6							



#### **Track Circuit Test - BR-WR Quick Release**

Maintenance Test

Form: NR/SMS/T256/RC01

Date: 01/09/2018

Signal Box / I	Location:			Length	of Track Circuit (Meters)	:	TC Number / Let	ter:			
					1	1			L		T
Relay End	T		Lasa		Last	Meter	Train	Comments	Signature	Name &	Date
Train Shunt Across Rails*	Train Shunt Across Relay Voltages End Links (Remote TR)*		Voltages (V)	1.Wet 2.Damp 3.Dry	1.Wet Full 2.Damp Test		Shunt Identity	If a full test has been undertaken, the relevant details shall also be recorded		Company	
Drop Shunt (Ohms)	Drop Shunt (Ohms)	Drop Away Voltage Across Relay Coils (DC)	Relay Coil (DC)	4.Frozen 5.Flooded				recorded			

<sup>\*</sup> Use Appropriate Column for Method of Test Used



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#### **Track Circuit Test - BR-WR Quick Release**

Full Test

Form: NR/SMS/T256/RC01

Date: 01/09/2018

Sign	al Box / Inte	erlocking / Eq	uipment Room	1:	Location:		Length of Trac	ck Circuit (Mete	rs):	TC Number / I	_etter:
							-1				
	Feed End	t			Relay End				Track Circu	uit Extremities	Ballast
Z	Voltages	(V)		Feed Unit O/P	Voltages (V)		Train Shunt A	cross Rails	T/Shunt Ac	ross Rails set	1.Wet
Number	Power Su	upply	Rail to Rail	Strapping	1 3.11.933 (1)		(Ohms)		at 0.5 Ohm		2.Damp 3.Dry
er	I/P (AC)	O/P (AC)	(AC)		Rail to Rail (AC)	Track Relay Coil (DC)	Drop Shunt	Pick Up Shunt	All Extremit		4.Frozen 5.Flooded
1											
2											
3											
4											
5											
6											

Number	Meter Identity	Train Shunt Identity	Comments Transfer of the relevant details to the maintenance test columns shall also be undertaken	Signature	Name & Company	Date
1						
2						
3						
4						
5						
6						
7				·		
8				·		



## Track Circuit Test - Reed Type RT

Maintenance Test

Form: NR/SMS/T257/RC01 Date: 01/09/2018

Signal Box / Interlocking / Equipment Room:		Location:		TC Number / Letter:		
Jointed / Jointless #	Single Rail / D	ouble Rail #	Centre Feed#? Yes / No	Number of Intermediate Receivers*:		
Number of Impedance Bonds*:	Impedance Bond Type*:		Channel/Frequency:	Intermediate RX / End RX#		

Relay (Rx) End	1			Ballast	Meter	Train	Comments	Signature	Name &	Date	
Train Shunt Across Incoming TC Terminations	Voltages (	V)		1.Wet 2.Damp 3.Dry	Identity	Shunt Identity	If a full test has been undertaken, the relevant details shall also be recorded	Olgriature	Company	Date	
Drop Shunt (Ohms)	RT7202 / RT7212 (AC)	Dummy Amp. (AC)*	Track Relay Coils (DC)	4.Frozen 5.Flooded							

<sup>\*:</sup> If Fitted #: Delete as Applicable



## Track Circuit Test - Reed Type RT

Full Test

Form: NR/SMS/T257/RC01

Date: 01/09/2018

_			ocking /				Loca	ation:							Т	C Num	ber / L	Letter:			
Equi	pment F	Room	•																		
	Join	ited / 、	Jointless #	#	Si	ingle Rail /	Double	Rail #	#		Centr	e Feed#?	Yes / N	lo		lumber Receiver		ermed	liate		
Num Bond	ber of li ds*:	mpeda	ance		Impeda Type*:	ance Bond		Channel/Frequency:						Intermediate RX / End RX#							
										· 					1						<b>-</b>
	Impeda		nds*	1						Feed (Tx)						diate / En	d Rela	y (Rx)			
Nur	Voltage Rail to I			Torque (N	m)		Voltage Fall/Rise as resonating Cct disconnected			Voltages (	(V) & Curre	nts (A)			Voltage	s (V)					
Number	Rail to	1					disconr /Conne correct	cted (tid		NT1202 I/P (AC)	PA I/P (DC)	RT5001 I/P		nt at TF s (AC)	RR9121 I/P (AC)			RT72 RT72	212	Dummy Amp	Track Relay Coils
	1	2	3	1	2	3	1	2	2 3 (DC) (DC) SC OC						(****)	, ,,,	( /	(AC	<i>)</i> *	(AC)*	(DC)
1																					
2																					
3																					
4																					
5																					
	Interme (Rx)	ediate /	End Relay	Track Cir Extremiti		Ballast 1.Wet	Meter		ain	Comme							Sign	ature	Name Comp		Date
z		· h	cross Rails			2.Damp	Identity		nunt entity		r of the rele undertaken	vant details	to the mair	ntenance te	est column	s shall			Comp	Dany	
Number	(Ohms)		cross Rails	T/Shunt / Rails All		3.Dry 4.Frozen		l'ax	onaty	4,00,00	arraortanori										
7	Drop Shun		Pick Up Shunt	Extremiti correct)*	es (tick if *	5.Flooded															
1																					
2																					
3																					
4																					
5																					

<sup>\*</sup> if Fitted \*\* 0.5 Ohms Without Impedance Bond / 0.3 Ohms With Impedance Bond #: Delete as Appropriate



## Track Circuit Test - Rectified AC (Diode)

Maintenance Test

Date: 01/09/2018

Signal Box / Equipment Room:	TC Number / Letter:

Feed	d/Relay	(Near) End						Meter	Train	Signature	Name &	Date			
Feed	d Resis	ter Strapping	Voltages (V)					Train SI Across	nunt TC Links	Ballast 1.Wet	Identity	Shunt Identity	Oignatare	Company	Buto
I/P	O/P	Straps	Across Feed Resister	Relay Coils	y	Rail Rail		Drop Shunt	Pick Up Shunt	2.Damp 3.Dry 4.Frozen					
			(AC)	AC	DC	AC	DC			5.Flooded					



## **Track Circuit Test - Rectified AC (Diode)**

Full Test

Form: NR/SMS/T258/RC01

Date: 01/09/2018

	C Number / Letter:
--	--------------------

	Feed	d/Relay	(Near) End								Diode (Remote) End						Ballast
Number	Feed Resister Strapping		ter Strapping	Voltages (V)			Train Shunt Across Rails (Ohms)				Currents (A)		Train Shunt Across Rails (Ohms)		1.Wet 2.Damp 3.Dry 4.Frozen		
er	I/P	O/P	Straps			Drop Shunt	Pick Up Shunt	Rail to Rail		Dis'ed Diode to Term.		Drop Shunt	Pick Up Shunt	5.Flooded			
				(AC)	AC	DC	AC	DC			AC DC		AC	DC			
1																	
2																	
3																	
4																	
5																	
6																	
7																	

Number	Meter Identity	Train Shunt Identity	Comments Transfer of the relevant details to the maintenance test columns shall also be undertaken	Signature	Name & Company	Date
1						
2						
3						
4						
5						
6						
7						
8						



#### **Track Circuit Test - FS2600**

Maintenance Test

Form: I	NR/SMS/	T259/RC01
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Date: 01/09/2018 Issue: 04

Signal Box / Interlocking / Equipment Room:	Location:	TC Number / Letter:

Date	Name & Company	Signature	Train shunt Identity	Meter Identity	Feed (T	x) End		nediate ice Bond*	, , ,						
					Torque	Torques (Nm)		Torques (Nm)		Torques (Nm)		LED indications (tick if correct)		Voltages (V) at Monitor Point	
					Rail Leads	Bonds #		Bonds	Rail	Bonds	Track Clear	Track Shunted \$	Track	Track Shunted \$	2.Damp 3.Dry 4.Frozen 5.Flooded



#### Track Circuit Test - FS2600

Maintenance Test

Form: NR/SMS/T259/RC01

Date: 01/09/2018

Sig	nal Box /	/ Interlocki	ng / Equi	pment F	Room:					Loc	cation:			TC Number / Letter:						
Ler	ngth of Tr	rack Circu	it (Tx to F	Rx):				Channel	Numbe	er			Num	ber & Ty	pe of I	mpedar	nce Bor	nds:		
	Feed (TX	) End									Intermed	liate Imped	lance Bond*						Relay (R)	() End
	Torqu	ue (Nm)	Powe	r Supply		Transmitt	ter Outpu	its		dance ond	Torque (Nm)		Voltages (V)		R	ail to Rail	voltage f	alls	Torq	ue (Nm)
No.	Rail Leads	Rail Bonde*   I/P V   Tapping   Term						Rail to   Rail to   Rail (AC)   #1			Rail Leads	Bonds	Rail to Rail	Across Aux Coil		en S/C or uning Cap co			Rail Leads	Bonds*
1																				
2																				
3																				
4																				
	Relay (F	Rx) End																		
	LEDir	ndications			Re	ceiver Uni	t				Rx In	npedance l	Bond*			Rx Un	it Set Up			Ballast
No.		f correct)	Supply		nitor Point oltages		n Shunt ms) #3		k Circuit remities	١	oltages (V	vol	Rail to Rail age falls whe /C applied to	Ratio (V)	Monitor Point (V)	Rx	Input Se	ettings (L	inks)	1. Wet 2. Damp 3. Dry
	Track Clear	Track Shunted	I/P V (AC)	Track Clear	Track Shunted	Drop Shunt	Pick Up Shur	lp Rails tick if		Rai	I TO	ux tu	ning capacitorick if correct	. 3	nitor (V)	Α	В	С	D	4.Frozen 5.Flooded
1	1						Silui	it coi	1601#4		C	ווכ				1		+ -		
2																				
3										+								+		
4																				
						1														
No	Phase Stagger Details Meter Identity Train Sh						Shunt Io	dentity	Set Up Bo	x Identi	ty <sub>Transf</sub>	ments er of the relevi os shall also b	ant details to the n	naintenance t	est	Signature	e N	lame & (	Company	Date
1																				
2																				
3																				
4																				

<sup>\*</sup> Where Fitted #1: With S/C across tuning capacitor #2: Without S/C across tuning capacitor #3: Across rails with impedance bond / At Rx unit if no bond #4: Train Shunt set to 0.6 Ohms



## **Track Circuit Test - 50Hz AC**

Maintenance Test

Form: NR/SMS/T260/RC01

Date: 04/06/2022 Issue: 05

Signal Box / Interlocking / Equipment Room:	Location:	TC Number / Letter:	Single Rail / Double Rail #
	!		

Relay End	1							Ballast	Meter	Train	Phase	Comments	Si	Z	Date
Control Vo	oltage / Pha	ase Angle	e / Stagger		Across Rails Relays only (Ohms) 3  Relay Stub Time Delay 4			1.Wet 2.Damp 3.Dry	Identity	Shunt Identity	Angle Meter Identity	If a full test has been undertaken, the relevant details shall also be recorded	Signature	Name & Company	ate
TR Control Coil (V)	Phase Angle (°)	Lead or Lag	Stagger Needle Position	2x Lights #2	Relay End	Stub Ends **	Time Delay (seconds)	4.Frozen 5.Flooded						ompany	
															_

<sup>\* \*</sup> Single rail configurations only with the shunt set to 0.5ohm, tick if correct #: Delete as Appropriate #2: Insert tick if correct



#### **Track Circuit Test - 50Hz AC**

Full Test

Form: NR/SMS/T260/RC01

Date: 03/09/2022

Sign	al Box / In	terlocking	g / Equip	oment Ro	om:				Loca	ition:			-	TC Numbe	er / Lette	r:	Sing	le Rail /	Double F	tail#
Leng	th of Trac	k Circuit:							Number o	of Imped	ance Bor	nds:	•	Type o	Impeda	nce Bond	ds:			
	Feed End	i							Feed End In	npedance	Bonds		Interme	ediate Imped	ance Bond	l No.1	Intermed	iate Impe	dance Bond	No.2
N <sub>o</sub>		Voltages (	V)	Curre (A)	nt	Ca <sub>l</sub>	pacitor		Voltage (V)	<u> </u>	R <sub>a</sub>	Ph	С	apacitor	R <sub>a</sub>	T	Сара	acitor	R <sub>a</sub>	(i
	Supply I/P	Across Links/S Arrester	Rail to Rail	To Tra	ck	Voltage Across	Va	llue	Across Aux Coil	Torque (Nm)	Voltage Ratio #2	Phasing #2	Voltag Acros		Voltage Ratio #2	Torque (Nm)	Voltage Across	Value	Voltage Ratio #2	Torque (Nm)
1																				
3																				
4																				
	Relay End	Impedance	Bond*					Relay	/ End											
No	Voltages (V)		Capacitor		Torc	<b>₽</b> <	Р		Voltages (V) Curr. (A				Cont		Phase A	.ngle / Stag	ger	Trai	n Shunt Acro	oss Rails
.0	Across Aux Coil	Voltage Across	Value	Stability Check	Torque (Nm)	Voltage Ratio#2	Phasing #2	Rail to Rail	Across Links/S Arrester	TR Local Coil	TR Control	From Track	Settin (% d max	ng Phase of Angle		Sta Needle Position	2x Light: #2	Drop S Shur		Stub Ends #1
1																				
3																				
4																				
		1		II			I				l		<u> </u>	I						
No	Ballast 1. Wet 2. Damp 3. Dry 4. Frozen 5. Flooded	Meter Identity	Train Shunt Identity	Phase Angle Meter Identity	Deta	ails of Sta	agger of	other E	Block Joints v	vithin the 1	rack circuit	:		Comments Transfer of maintenand undertaken	e test colu		the Iso be	Signature	Name & Company	Date
1																				
2																				
3																				
4																				



## **Track Circuit Test - Rail Circuit**

Maintenance Test

Date: 01/09/2018

Location/Equipment TC Number / Letter	
---------------------------------------	--

General	Information				Run In End					ind			
					Relay Energised (Tick)	Relay	Relay De- energies (Ω)	Relay	Relay Energised (Tick)	Relay	Relay De- energies (Ω)	Relay Voltage (V)	
					Energised	Voltage	energies	Voltage	Energised	Voltage	energies	Voltage	
Date	Name & Company	Signature	Meter ID	Shunt ID	(Tick)	(V)	(Ω)	(V)	(Tick)	(V)	(Ω)	(V)	Comments
			1										



## **Track Circuit Test - DC Coded**

Maintenance Test

Form: NR/SMS/T262/RC01

Date: 01/09/2018

Signal Box / Interlocking / Equipment Room:	Location:	TC Number / Letter:
---	-----------	---------------------

					l End				ay End			Ballast	
					iges (V)			ges (V)		Train Shun	t on Links	1.Wet	
				Rail	to Rail	Rail t	o Rail	CFF	R Coil			2.Damp 3.Dry	
Date	Name	Meter ID	Train Shunt ID	Min	Max	Min	Max	Max	Min	Drop Away (Ω)	Pick-up (Ω)	4.Frozen 5.Flooded	Comments



## **Track Circuit Test - DC Coded**

Full Test

Form: NR/SMS/T262/RC01

Date: 01/09/2018

				Feed End  Resister Voltages (V)									Rel	ay End			Ballast		
				Resi	ster		Vol	tages (\	/)		V	oltage/	es (V)		Shunt	Across	1.Wet		
			Train	Setti	ngs	PS	SU	D	Rail To	Rail	Rail t	o Rail	CF	R			2.Damp 3 Dry	Track Extremities	
Date	Name	Meter ID	Shunt ID	TZO	то	Input	Output (DC)	Battery	Min	Max	Min	Max	Min	Max	Drop Away	Pick Up	3.Dry 4.Frozen 5.Flooded	Extremities Checked	Comments
Date	ivame	טו	טו	120	10	(AC)	(DC)	(DC)	IVIII	IVIAX	IVIIII	wax	IVIII	IVIAX	Away	υp	5.Flooded	(Tick)	Comments



Maintenance Test

Form: T263/RC01 Date: 01/09/2018

Issue: 06

Signal Box /	Interlock	king:					Track Ci	rcuit ID:	
Equipment R	oom/Loca	ation:			TC length (Tx to	Rx)	n	n TC Freque	ency:
Tx Serial No.					Rx Serial No.				
Open I	Line / Sta	ation Area	(delete as appro	priate)	Double F	Rail /	Single R	ail (delete as ap	propriate)
				1	2		3	4	5
			X (Pole)						
		Rail Connections (Rail to Rail	Y (Tx / Rx : Zero)						
	Voltages (V) & Rail Current		TZ Ratio #2						
Receiver 1 (Rx1 End)	Current (A)		measured in a Rocoil (mA)						
(IXI LIIU)		Ith (mA) Threshold Co							
		Inow AV (mA							
	Train Shunt on	Drop Shunt							
	Rails (Ω) Pick Up Shu		nt						
		Rail	X (Pole)						
		Connections (Rail to Rail	Y (Tx / Rx : Zero)						
	Voltages (V) &	Volts) #1	TZ Ratio #2						
Receiver 2 (Rx2 End)	Current (A)	Rail Current the rail with a	measured in a Rocoil (mA)						
(IXX LIIU)		Ith (mA) Threshold Co							
		Inow AV (mA (Average Cu							
	Train Shunt on	Drop Shunt							
	Rails (Ω)	Pick Up Shu							
Ballast: 1. Wet, 2	2. Damp, 3.	Dry, 4 .Frozer	n, 5. Flooded						
Comments: Tran maintenance tes									
Meter Identities	eter Identities								
Train Shunt Iden	rain Shunt Identity								
Name									
Company									
Date						_			

Note : ■ Readings to be taken from Tx/Rx display.



#### Full Test Open Line

Form: T263/RC02 Date: 01/09/20182018

Track Circuit ID			Frequency / Code		1	
Equipment location						
TC length	m	Tx to TU/ETU distance		m	Ambient Temp.	С
Tx Serial No.			Rx Serial No.			

				1					
				1		2		3	1
			Date :						
		Set up / measurements sign	nature :						
		Checked sign	nature :						
DE	TERMINI	NG RECEIVER SET-UP SHUNT VAL	<u>UE</u>	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx
Ira	il (Max at	Tx end)							
Ira	il (Min at F	Rx end)							
Ira	il ratio as	% (Min at RX End ÷ Max Tx end)		%	%	%	%	%	%
Ва	llast Impe	dance Ωkm		Ω	Ω	Ω	Ω	Ω	Ω
	mmission $Ω$ , 1.5 $Ω$ et	ing Drop Shunt Value Used to set Ith c.)		Ω	Ω	Ω	Ω	Ω	Ω
	Test Ref.	Measurement	Units						
Ŕ	2.5	AC signalling power supply voltage	V						
PSU (TX)	2.6 (B)	Tx power supply voltage (Vpsu)	V						
PS	2.7 (A)	Tx power supply current	Α						
	2.8 (C)	Tx output voltage across TM1/TM2	V RMS						
	2.9	OM setting (Step Setting Set to 0R)	Y/N						
	2.10 (D)	OM O/P voltage (Vout) ☑	V						
2	2.11 (E1)	LMU(TU) I/P Voltage (Meter)	V						
	2.12 (E3)	Tx TU/ETU I/P voltage (Meter)	V						
TRANSMITTER	2.13 (G)	Tx TU/ETU Pole (X) track (rail to rail) voltage (Meter)	V						
TRAI	2.14	Rail Current measured in the rail with a Rocoil	mA						
	2.15 (H)	Tx Companion TU Zero (Y) (rail to rail) voltage (Meter)	V						
	2.15 (H)	Tuned Zone Ratio – Pole/Zero (X/Y) #2	Ratio						
				1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx
Ş	2.28	AC signalling power supply voltage	V						
PSU (RX)	2.29 (B)	Rx power supply voltage	V						
PS(	2.30 (A)	Rx power supply current (Relay Up)	Α						



#### Full Test Open Line

Form: T263/RC02 Date: 01/09/20182018

Issue: 06

	ĺ					4 -		4-			
						1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx
	2.32 (K)		/P voltage (Meter		V						
	2.33(G)	Rx TU Pole (X voltage (Meter	<ul><li>() track (rail to rail</li><li>r)</li></ul>	)	V						
	2.34	Rail Current m a Rocoil	neasured in the ra	il with	mA						
(S)	2.35 (H)	Rx Companion rail) voltage (N	n TU Zero (Y) (ra ⁄leter)	il to	V						
RECEIVER(S)	2.35 (H)	Tuned Zone R	Ratio – Pole/Zero	(X/Y)	V						
RECE	2.36 (N)	Rx I/P current AV) ⊠	- clear current (I	now	mA						
	2.37	Rx threshold s	setting (Ith) 🗷		mA						
	2.38 (S)		ed at the Rx 🗵		mA						
	2.39	Rx Quality Fac	ctor (QUAL) 🗷		-						
	2.40 (L)	Rx Output volt	tage (relay voltag	e) 🗷	V						
	2.41 (M)	·	nunt on the rails		Ω						
	2.41 (M)	1	Shunt on the rail	S	Ω						
	2.44 (P)	Cross Talk ar (Interference)		P/F							
S	2.45	Shunt at Tx ex	tremity (Pole)		P/F						
MITIE	2.45	Shunt at Rx ex			P/F						
EXTREMITIES	2.45	Shunt at non F (Non detected			P/F						
	Test Ref.	M	easurement		Units						
		IRJ Insulation			P/F						
	Q	Earth Continui	ity Tests		P/F						
	R	Surge Arresto	r Integrity		P/F						
		IRJ Inspection	/ Test		P/F						
					1 /1						
				1	V						
Ж	2.18	Voltages (V)	Rail To Rail	1 2							
	2.18	Voltages (V)			V						
D(S)	2.18	Voltages (V)	Rail To Rail	2	V						
BOND(S)	2 10	Voltages (V)  Voltages (V)	Rail To Rail  Across Aux or	3	V V V						
BOND(S)	2 10		Rail To Rail	2 3 1	V V V						
BOND(S)	2 10	Voltages (V)	Rail To Rail  Across Aux or Tuning Coil	2 3 1 2	V V V V						
PEDANCE BOND(S)	2.19 2.21 to		Rail To Rail  Across Aux or Tuning Coil	2 3 1 2 3	V V V V						
PEDANCE BOND(S)	2 10	Voltages (V)	Rail To Rail  Across Aux or Tuning Coil	2 3 1 2 3 1	V V V V V Ω						
M IMPEDANCE BOND(S)	2.19 2.21 to 2.25 Illast: 1. We	Voltages (V)	Rail To Rail  Across Aux or Tuning Coil	2 3 1 2 3 1 2 3	V V V V V Ω Ω						
a Ba IMPEDANCE BOND(S)	2.19 2.21 to 2.25	Voltages (V) Impedance (Ω tt, 2. Damp, 3. D	Rail To Rail  Across Aux or Tuning Coil	2 3 1 2 3 1 2 3	V V V V V Ω Ω						
R R R IMPEDANCE BOND(S)	2.19 2.21 to 2.25 Illast: 1. We	Voltages (V) Impedance (Ω et, 2. Damp, 3. Dening?	Rail To Rail  Across Aux or Tuning Coil	2 3 1 2 3 1 2 3	V V V V V Ω Ω						
Ba Re At Me	2.19  2.21 to 2.25  Illast: 1. We marks Commission	Voltages (V) Impedance (Ω st, 2. Damp, 3. D ning?	Rail To Rail  Across Aux or Tuning Coil	2 3 1 2 3 1 2 3	V V V V V Ω Ω						
Ba Re At Me Tra	2.19  2.21 to 2.25  Ilast: 1. We marks Commission	Voltages (V) Impedance (Ω st, 2. Damp, 3. D ning?	Rail To Rail  Across Aux or Tuning Coil	2 3 1 2 3 1 2 3	V V V V V Ω Ω						
Ba Re At Me Tra Na	2.19  2.21 to 2.25  Illast: 1. We marks Commission eter Identitie ain Shunt Idente	Voltages (V) Impedance (Ω st, 2. Damp, 3. D ning?	Rail To Rail  Across Aux or Tuning Coil	2 3 1 2 3 1 2 3	V V V V V Ω Ω						

Note: ■ Readings to be taken from Tx/Rx display.

# Where Fitted, fill in details appropriate to the position and number of bonds



#### Full Test - Station Area

Form: T263/RC03 Date: 10/09/2018

Track Circuit ID			Frequency / Code		1							
Equipment location												
TC length	m	Tx to SATU/CU distant	ce	m	Ambient Temp.	С						
Tx Serial No. Rx Serial No.												
Set-Up Drop Shunt Value U	Set-Up Drop Shunt Value Used (1.5 ohm etc.) $\Omega$ (Ohms)											

		Shurit Value Osed (1.5 Orini etc.)		mms)					
					1		2		3
			Date :						
		Set up / measurements sig	nature :						
		Checked sig	nature :						
T	est Ref.	Measurement	Units						
(XX)	2.5	AC signalling power supply voltage	V						
PSU (1	2.6 (B)	Tx power supply voltage (Vpsu) 🗷	V						
R	2.7 (A)	Tx power supply current	Α						
	2.8 (C)	Tx output voltage across TM1/TM2	V RMS						
	2.9	OM setting (Step Setting, 48R/0R) 48R for TC feed<750m, 0R for TC feed>750m to 2km	Y/N						
2	2.10 (D)	OM O/P voltage (Vout) 区	V						
ΙË	2.12 (E)	Tx SATU/CU I/P voltage (Meter)	V						
TRANSMITTE	2.13 (G)	Tx SATU/CU Pole (X) track (rail to rail) voltage (Meter)	V						
TRA	2.14	Rail Current measured in the rail with a Rocoil	mA						
	2.15 (H)	Tx Companion SATU Zero (Y) (rail to rail) voltage (Meter)	V						
	2.15 (H)	Tuned Zone Ratio – Pole/Zero (X/Y) #2	Ratio						
				1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx
×	2.28	AC signalling power supply voltage	V						
PSU (RX)	2.29 (B)	Rx power supply voltage	V						
PS	2.30 (A)	Rx power supply current (Relay Up)	Α						
	2.32 (K)	Rx SATU/CU O/P voltage (Meter)	V						
	2.33(G)	Rx SATU/CU Pole (X) track (rail to rail) voltage (Meter)	V						
	2.34	Rail Current measured in the rail with a Rocoil	mA						
S)	2.35 (H)	Rx Companion TU Zero (Y) (rail to rail) voltage (Meter)	V						
ER(	2.35 (H)	Tuned Zone Ratio – Pole/Zero (X/Y) #2	V						
SCEIV	2.35 (H) 2.36 (N) 2.37	Rx I/P current - clear current (Inow AV)	mA						
2	2.37	Rx threshold setting (Ith)	mA						
	2.38 (V)	ITOT measured at the Rx 区	mA						
	2.39	Rx Quality Factor (QUAL) 🗵	-						
	2.40 (L)	Rx Output voltage (relay voltage)	V						
	2.41 (M)	Track Drop Shunt on the rails	Ω						
	2.41 (M)	Track Pick Up Shunt on the rails	Ω						



Full Test - Station Area

Form: T263/RC03 Date: 10/09/2018

Issue: 06

		l									
						1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx	1 <sup>st</sup> Rx	2 <sup>nd</sup> Rx
	2.44 (P)	Cross Talk and (Interference)	l Feed through		P/F						
	2.45 (S)	RX I/P (Inow A) extremity (Pole)	√) with 0.2Ω Shun ) <b>坚</b>	t at Tx	mA						
ITIES	2.45 (S)	centre point			mA						
EXTREMITIES	2.45 (S)	RX I/P (Inow A) extremity (Pole	V) with 0.2Ω Shun ) <b>坚</b>	t at Rx	mA						
	2.45 (S)	RX I/P (Inow A) non Rx extremite	V) with 0.2Ω Shun ty (Non detected s	t at spur)	mA						
	2.46 (T)	TX Tuned Zone	Impedance 🗷		Ω		(TX end)		(TX end)		(TX end)
	2.46 (U)	RX Tuned Zone	e Impedance 🗵		Ω						
٦	Γest Ref.	Me	easurement		Units						
		IRJ Insulation			P/F						
	Q	Earth Continuity	y Tests		P/F						
	R	Surge Arrestor	Integrity		P/F						
		IRJ Inspection /	Test		P/F						
				1	V						
Ж		Voltages (V)	Rail To Rail	2	V						
S				3	V						
BOND(S)				1	V						
E B(	2.19	Voltages (V)	Across Aux or Tuning Coil	2	V						
S			9	3	V						
IMPEDANCE	2.21			1	Ω						
APE	to	Impedance $(\Omega)$		2	Ω						
=	2.25			3	Ω						
Ba	allast: 1. W	/et, 2. Damp, 3. [	Ory, 4 .Frozen, 5. I	Flooded							
1	emarks Commission	oning?									
M	eter Identi	ties									
Tr	ain Shunt	Identity									
	ame										
_	ompany										
Da	ate										

Note: Readings to be taken from Tx/Rx display.

器 Where Fitted, fill in details appropriate to the position and number of bonds



## **Signal Visibility**

**Routine Maintenance** 

Date: September 2018 Issue: 02

Signal Box / Interlocking /	Location:	Signal Number:
Equipment Room:		

				Metho	d Used to (	Check Visib	oility (#)	Un-	Partially	Totally	
Date	Name	Company	Signature	1	2	3	4	Obscured	Partially Obscured	Obscured	Actions Taken



## **Train Describer Electro Mechanical** Record Card (Front) NR/SMS/TD11

Form: NR/SMS/TD11/RC/01

Signal Box (Main / Fringe*): *Delete as Appropriate	If Fringe, Main Signal Box Name:
Delete as Appropriate	

Service A	A Tasks									
		Power S	Supplies			Comments	Motor		Nama 8	
50V	DC	18V	DC	12V AC	6V AC	Commence	Meter Identity	Signature	Name & Company	Date
DC Voltage	AC Ripple	DC Voltage	AC Ripple	Voltage	Voltage		,		, ,	



## **Train Describer Electro Mechanical** Record Card (Rear) NR/SMS/TD11

Form: NR/SMS/TD11/RC/01

Service A	\ Tasks									
		Power S	Supplies				Meter		Name &	
50V	DC	18V	DC	12V AC	6V AC	Comments	Identity	Signature	Name & Company	Date
DC Voltage	AC Ripple	DC Voltage	AC Ripple	Voltage	Voltage		,			



## Train Describer Hewlett Packard 21MX (2100 series) Record Card (Front) NR/SMS/TD21

Form: NR/SMS/TD21/RC/01

Signal Box (Main / Fringe*):	If Fringe, Main Signal Box Name:
*Delete as Appropriate	

Service A	Tasks														<del>_</del>	S	ΩZ	D
				er Supplies (							Mod	em 1			est quij lent	ign	am om	Date
5.5		-24		-24		-24		-24		Sta	Sto	Sta	Sta	Comments	Test Equipment Identity	Signature	Name & Company	
DC Voltage	AC Ripple	b 1	Sta b 2	b 3	b 4		ent	ė	У									
							<u> </u>			<u> </u>								



#### Train Describer Hewlett Packard 21MX (2100 series) Record Card (Rear) NR/SMS/TD21

Form: NR/SMS/TD21/RC/01

	Service B	Tasks															
Z							Compute	r Voltages							Standb	Modem C	ther Types
Number	+30	0V	+2	0V	+1	2V	+4	.5V	-2	.V	-12	2V	-20	VC	у	Enter Details	as Appropriate
ē	DC Voltage	AC Ripple	DC Voltage	Voltages	Indications*												
1																	
2																	
3																	
4																	
5																	
6																	
7																	

	Service B Tasks	1												
z		M	odems Pye D200	0Ε (Enter amoι	ınt & readings in t	he appropriate co	umns)			Co	ommon Serv	ice Modul	es	
Numb	-24	11.7	+12	2)./		SV	+6'	\/			Switch F	Position		
ber	-22	· V	*14	2 V		) V	+0	100		)V	180	)V	2k	V
	DC Voltage	AC Ripple	DC Voltage	AC Ripple	DC Voltage	AC Ripple	DC Voltage	AC Ripple	Voltage	Ripple	Voltage	Ripple	Voltage	Ripple
1														
2														
3														
4														
5														
6														
7														

No	Comments	Test Equipment Identity	Signature	Name & Company	Date
1					
2					
3					
4					
5					
6					
7					



#### Train Describer Hewlett Packard 21MX (2108 series) Record Card (Front) NR/SMS/TD21

Form: NR/SMS/TD21/RC/02 Date: August 2004

Signal Box (Main / Fringe*):	If Fringe, Main Signal Box Name:
olghar box (main / i finge ).	in thinge, Main Oighar Box Name.
*Delete as Appropriate	

	Service A	Tasks																
_	Power Su	pplies																
Number				C1 C	Cubicle							C4 to C8 (	Cubicle				C5 to C7	Cubicle
าbe	Advanc	e +5vL	Advance	e+5vR	WBS -	+24vL	WBS-	+24vR	WBS	+6V	WBS-	+9.5V	WBS	+18V	WBS-	+24V	Advan	ce+5V
	DC Voltage	AC Ripple																
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

	Service A	Tasks														<del>~</del> m ⊣	S	0.2	
_	Power Su	pplies									AVS					est qui den	ign	Name Compa	Date
Number			C5 to C7	Cubicle				C6 Cı	ubicle		S	S	S	S	Comments	Test Equipment Identity	Signature	Name & Company	
ηbe	Advanc	e +12V	Advance	e –12V	WBS+	5VReg	WBS+	5VReg	WBS+1	2VReg	Stab	Stab	Stab	Stab	Comments	ant	ē	~	
	DC Voltage	AC Ripple		2	ω	4													
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			



# Train Describer Hewlett Packard 21MX (2108 series) Record Card (Rear) NR/SMS/TD21

Form: NR/SMS/TD21/RC/02

Num						Computer Vo	ltages						Standby Ba	attery Module
nber	TP1 -	-12V	TP3+	-12V	TP4	-2.3V	TP6	+5V(m)	TP9 +	12V(m)	TP10-	-12V(m)	Charge	Discharge
Ξ,	DC Voltage	AC Ripple	DC Voltage	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	Voltage	Voltage
1														
2														
3														
4														
5														
6														

	Service B Ta	sks										
z	HP Battery	Module C5/C7		(	Common Se	rvice Modu	les					
mg	Olympia	D - 11			Switch	Position			Test Equipment Identity	Signature	Name & Company	Date
ber	Charge Voltage	Battery Voltage	10	0V	18	0V	2	!kV				
	Voltage	oltage Voltage	Voltage	Ripple	Voltage	Ripple	Voltage	Ripple				
1												
2												
3												
4												
5						•						
6												

No	Comments
1	
2	
3	
4	
5	
6	



## Train Describer Vaughan Type 4M Record Card (Front) NR/SMS/TD31

Form: NR/SMS/TD31/RC/01 Date: August 2004

Signal Box (Main / Fringe*): *Delete as Appropriate	If Fringe, Main Signal Box Name:
Delete as Appropriate	

	Service	A Tasks																	
Z				P	ower Supp	lies								Line I	Levels				
Number	I/P	+ (	5V	+1	I2V	+12	V I/F	-12\	/ I/F	Lin	k 1	Linl	<b>&lt;</b> 2	Lin	k 3	Lir	nk 4	Lin	k 5
ěř	AC Volts	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	Tx	Rx	Tx	Rx	Tx	Rx	Тх	Rx	Tx	Rx
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			

2	Comments	Test Equipment Identity	Signature	Name & Company	Date
2					
;					
4					
;					
(					
č					
,					



## Train Describer Vaughan Type 4M Record Card (Rear) NR/SMS/TD31

Form: NR/SMS/TD31/RC/01

	Service	e A Tasks	}																
Z					Power Supp	olies								Line I	Levels				
Number	I/P	+;	5V	+	12V	+12	:V I/F	-12\	/ I/F	Link 1		Link 2		Link 3		Link 4		Lin	ık 5
Ĕ	AC Volts	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	Tx	Rx	Tx	Rx	Tx	Rx	Тх	Rx	Тх	Rx
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18							_												
19																			

No	Comments	Test Equipment Identity	Signature	Name & Company	Date
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					



#### Train Describer Vaughan Type Small (Ex BR-WR) Record Card (Front) NR/SMS/TD32

Form: NR/SMS/TD32/RC/01

Date: August 2004

Signal Box (Main / Fringe*): *Delete as Appropriate	If Fringe, Main Signal Box Name:
Delete as Appropriate	

	Service	A Tasks								Line Levels										
Z				F	ower Supp	lies								Line I	Levels					
Number	I/P	+ [	5V	+′	I2V	+12	V I/F	-12\	/	Linl	k 1	Link	( 2	Lin	k 3	Lir	nk 4	Lin	k 5	
er	AC Volts	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	Tx	Rx	Tx	Rx	Tx	Rx	Тх	Rx	Тх	Rx	
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				

No	Comments	Test Equipment Identity	Signature	Name & Company	Date	
1						
2						
3						
4						
5						
6						
7						
8				_		
9						Ī



# Train Describer Vaughan Type Small (Ex BR-WR) Record Card (Rear) NR/SMS/TD32

Form: NR/SMS/TD32/RC/01

	Service	e A Tasks	;																
Ę					Power Supp	plies								Line I	Levels				
Number	I/P	+!	5V	+	12V	+12	V I/F	-12\	/	Lin	k 1	Lin	k 2	Lin	k 3	Lir	nk 4	Lin	nk 5
ğ	AC Volts	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	Tx	Rx	Тх	Rx	Tx	Rx	Тх	Rx	Тх	Rx
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			

No	Comments	Test Equipment Identity	Signature	Name & Company	Date
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					



## Train Describer GEC/GE Micro Processor Based Record Card (Front) NR/SMS/TD37

Form: NR/SMS/TD37/RC/01

Signal Box (Main / Fringe*): *Delete as Appropriate	If Fringe, Main Signal Box Name:

	Service A	Tasks															
Z	Equipmer	nt Room & C	IS														
Z				Power Sup	plies (+5V)							Power Sup	plies (Other	-)			Valtage drep
lmb	+5\	/ (1)	+5\	V (2)	+5\	/ (3)	+5V (4)		+12V		-1	2V	+2	.4V	+5	50V	Voltage drop across PSU diodes
er	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	Tick if all correct										
1																	
2																	
3																	
4																	

	Service	A Tasks																
Z	SB Oper	rating Floor																-
lun			Power Su	pplies (1)					Power St	upplies (2)					Power St	upplies (3)		,
nber	+	5V	+12	2V	-1	2V	+5V		+12V		-12V		+5V		+12V		-12V	
	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple												
1																		
2																		
3																		
4																		

	Service A	A Tasks									
7	SB Oper	rating Floor									
l un			Power S	upplies (4)			Comments	Test Equipment	Signature	Name &	Date
hber	+	5V	+1	2V	-1	2V	Commonio	Identity	Olgridia	Company	Date
7	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple					
1											
2											
3											
4											



## **Train Describer GEC/GE Micro Processor Based** Record Card (Rear) NR/SMS/TD37

Form: NR/SMS/TD37/RC/01

			1417/	Olvio/ i i															
	Service	Δ Tacke																	
	Equipment Room & CIS																		
Number	Power Supplies (+5V)							Power Supplies (Other)											
	+5	5V (1)	+5\	+5V (2)		+5V (3)		+5V (4)		+12V		-12V		+24V		+50V		Voltage drop across PSU diodes	
	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple		Tick if all correct	
5																			
6																			
7																			
	Service	A Tacke																	
Number	Service A Tasks SB Operating Floor																		
	Power Supplies (1)						Power Supplies (2)						Power Supplies (3)						
	+5V +12V			2V	-12V		+5V		+12V		-12V		+5V		+12V		-12V		
	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC volts	AC Ripple	DC Volts	AC Ripple	
5	VOILS	Пірріє		Пірріє	VOILS	Ttippie	VOILS	Пірріе	VOILS	Rippie	VOILS	Nippie	VOILS	TTIPPIE	VOILS	Nippie	VOILS	Νίρριο	
6																			
7																			
						1	l							1	1				
Number	Service A Tasks						Comments Test Iden												
	SB Operating Floor					Toot Ea							uinmont	Techni	oiono				
	Power Supplies (4) +5V +12V -12V					Identity							uipineni	SSM		Company	Date		
	DC AC			DC Volta AC		DC AC													
	Volts	Ripple	DC Voits	Ripple	Volts	Ripple													
5																			
6																			
7																			
Service E	R Tasks										Co	mments				. 1		I _	
PSU	Earth Continuity Checks (Ohms):													Sign	Nam	Date			
Fringe Boxes Only	Enter d	etails of ea	orthing in the a	appropriate	columns										Equipment Identity	Signature	Name & Company		
AC I/P Volts	One: Two: Three: Four:					Fi	ve:	Six	:										



## **Train Describer GETS Dual** Record Card (Front) NR/SMS/TD40

Form: NR/SMS/TD40/RC/01

Date: August 2004 Issue: 01

0:		/h / - ! /	F								16 E.i		2: I. D	N.I						
	nai Box ete as Ap <sub>l</sub>		Fringe*)	):							If Fring	je, Main S	Signal B	ox Name	:					
		A Tasks																		
	Power	Supplies						-					Т							
Nun				A		3AC-AF	/SP Modu	les		В						6PP-B N	lodules		I	В
Number	12V	Logic		nterface	-12\/ lr	nterface	12\/	Logic		nterface	-12\/ lr	nterface	12\/	Logic		nterface	-12\/	nterface		Logic
	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC
	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple
1																				
2																				
3																				
4																				
	1			•								II.							1	
		A Tasks Supplies																		
z	Fower		Modules							6PP-C	Modules									
Number			В					A						В			AP-H	Module		uipment ntity
ĕr		nterface	-12V Ir			logic		ogic		terface		Logic		.ogic		terface				· · · · · · ·
	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple	DC Volts	AC Ripple		
1																				
2																				
3																				
4																				
					l .								l	l	l	l			l	
S	Comme	ents														Signatu	re Nar	ne & Compa	any	Date
1																				
2																				
3																				
4																				



## **Train Describer GETS Dual** Record Card (Rear) NR/SMS/TD40

Form: NR/SMS/TD40/RC/01

Date: August 2004 Issue: 01

	Service	A Tasks																		
	Power	Supplies																		
Num						3AC-AF	SP Modu	les								6PP-B M	lodules			
l mb				A						В					,	4			I	3
ber	12V	Logic	+12V Ir	nterface	-12V Ir	iterface	12V I	Logic	+12V I	nterface	-12V In	terface	12V	Logic	+12V I	nterface	-12V Ir	nterface	12V	Logic
	DC Volts	AC Ripple																		
5																				
6																				
7																				
8																				
9																				

	Service	A Tasks																	
	Power	Supplies																	
Num		6PP-B I	Modules							6PP-C	Modules								Test Equipment
l mb			В					A						В			AP-H I	Module	Identity
ber	+12V I	nterface	-12V In	iterface	5V I	ogic	7V L	.ogic	12V In	iterface	5V L	.ogic	7V L	ogic	12V In	terface			,
	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	DC	AC	
	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	Volts	Ripple	
5																			
6																			
7																			
8																			
9																			

No	Comments	Signature	Name & Company	Date
5				
6				
7				
8				
9				



## TPWS Test: Equipment Associated with Signals Record Card (Front) NR/SMS/TP11 –Test/025

Form: NR/SMS/TP11/T25/RC/01

Date: December 2009

	signai	Box /	interio	ocking	g: 							Signai	Number	•										Oppos S <i>app</i>			tion		
	Trans	smitter L	oops a	and Mo	dule I	ndicatio	ns																						
		Stop S																	Over	Speed S	ensor (	OSS)							
Number	Centre Signal (	Loo	tre	Loop Heig			Signal ( Signal O					Signal On ignal On*							Arming loop(±	Trigg Sign	Loop	tre	Loop			n Signa Signa	al Off I On**		
nber	´+` ∪	Line Spe		Ar	Tri	LED'	Arming Loop	J	Trigg Loop		LED'	Arming L	oop		Trigg	ger Loop			Arming to Trigger loop(± 0.5m) #	Trigger Loop to Signal (± 25m)	Line Spe		Ar	Tri	LED,	Armi Loop		Trigge Loop	
	oint to 0.1m)#	Arm	Trig	Arming	Trigger	D, s	O/P(m	V)*	O/P(	mV)*	D' S	f (LU=)	O/P(r	nV)*	f /	(kHz)	O/P(mV	/)*	rigg 1) #	m) to	Arm	Trig	Arming	Trigger	D's	O/P	(mV)	O/P (ı	mV)
	#	m	ig	3	'	#	CJ	MJ	CJ	MJ	*	f. (kHz)	CJ	MJ	1. (	(KПZ)	CJ	MJ	er		m.	ig		,	*	CJ	MJ	CJ	MJ
1																													
2																													
3																													
4																													
5																													
	Main	Speed Signal Signal C	On	r (OSS	)					odules	Equipme Voltage		Module	Voltage	e Outp	puts (V)		E M	/Box quipmer lodule V	oltage		Meter Identity	Test Aeri		Supervisors	Technicia	Company		Date
Number	LED' s#	Arming f. (kHz	Loop	/P(mV) J M	1	Trigger L f. (kHz)		mV) MJ	SII		Main Sig	Sub Sig Supp	TSS Arming Loop (V)	Trige Loc	ор	OSS Arming Loop (V)	Trigge Loop (V)	er	В	N1 (V)	Sinny	potity	Test Aerial Identity		ors Name	ans/	*		

<sup>\*</sup> CJ: Commissioning Jig used / MJ: Maintenance Jig Used (Fill in voltages in the appropriate column for the type of jig used) \*\* If fitted to the installation # Insert tick if correct Frequencies to be entered to five digit resolution. All voltages to one tenth of a volt / millivolt as applicable. Trigger loops always 65.x50 kHz. Loop frequencies max deviation + or - 0.010kHz.



## TPWS Test: Equipment Associated with Signals Record Card (Rear) NR/SMS/TP11-Test/025

Form: NR/SMS/TP11/T25/RC/01

Date: December 2009

	Transı	mitter	Loops	and M	odule	Indicat	ions																					
	Train S	Stop S	Sensor	(TSS)														Over S	peed Se	nsor (	OSS)							
Number	Centre Signal	Loop	tre	Loop Heigh			Signal Signal C					Signal On Signal On**						Arming loop(± (	Trigg Sign	Loop	tre	Loop Heig		Mair Sub	n Signa Signal	al Off On**		
ber	Poir (± 0.	Line Spe		Arr	Tri	LED'	Armin Loop	g	Trigg Loop		LED'	Arming Loc	pp		Trigger Loop			y to 0.5	Trigger Loop to Signal (± 25m)	Line Spec		Arr	Tri	LED'	Armii Loop	•	Trigge Loop	er
	t to	Arm	Trig	Arming	Trigger	O,	O/P(n	۱V)*	O/P(	mV)*	v, s	f (kU=)	O/P(ı	mV)*	f (kU=)	O/P(n	nV)*	Trigger m)#	m) to	Arm	Trig	Arming	Trigger	O's	O/P	(mV)	O/P (r	mV)
	#	Ħ	ij	)		#	CJ	MJ	CJ	MJ	#	f. (kHz)	CJ	MJ	f. (kHz)	CJ	MJ	er		Ħ	ig		•	#	CJ	MJ	CJ	MJ
6																												
7																												
8																												
9																												
10																		·										
11																		·										

	Maii	er Speed Se n Signal Or Signal On	` 1	OSS)					n Equipmo		Module \	/oltage Out	puts (V)		Failui Indica	ment** re ation Unit	Meter Identity	Test Aerial	Technicians/ Supervisors	Company	Date
Number		Arming Lo	оор		Trigger Lo	ор		SIM	Main	Sub	TSS		OSS		(FIU)	BN12	itity	l Identity	ıs <i>l</i> rs Name		
	LED'	f. (kHz)	O/P(r	nV)	f. (kHz)	O/P(r	mV)		Sig	Sig Supp **	Arming Loop	Trigger Loop	Arming Loop	Trigger Loop	LED, :	(V)		ty	าе		
	s #		CJ	MJ		CJ	MJ				(V)	(V)	(V)	(V)	*						
6																					
7																					
8																					
9																					
10																					
11																					

<sup>\*</sup> CJ: Commissioning Jig used / MJ: Maintenance Jig Used (Fill in voltages in the appropriate column for the type of jig used) \*\* If fitted to the installation # Insert tick if correct Frequencies to be entered to five digit resolution. All voltages to one tenth of a volt / millivolt as applicable. Trigger loops always 65.x50 kHz. Loop frequencies max deviation + or - 0.010kHz.



## TPWS Test: Equipment Associated with PSR's & Buffer Stops Record Card (Front) NR/SMS/TP11-Test/025

Form: NR/SMS/TP11/T025/RC/02 Date: August 2004

Signal Box / Interlocking:	TPWS Identity	Normal / Opposite Direction Delete as appropriate

Transmi	tter Loops	and Mo	dule Ind	icatior	าร								Location	n Equipmen	t	S/Box Equipme	ent**	Meter Identity	Test	Technicians SSM Name	Company	Date
				٥١	er Spe	eed Sei	nsor (OS	S)										r Ide	Aeria	nicia e	pany	
Armir loop	Tri <sub>e</sub> Boa	Cent	oop re Line pec #	Lo Heiç	oop ght #		T	Loc	Loops Energised ming Loop Trigger Loop			Module Voltage Inputs	Module Outpu	Voltage its (V)	Indicat	lure ion Unit IU)*	ntity	Test Aerial Identity	ns	,		
Arming to Trigger loop(± 0.5m) #	Trigger Loop to Board/Buffers			Arı	Tri	LED,	Arı	ming Lo	ор	Tri	gger Lo	оор		_			В		/			
rigge m) #	op fers	Arming	Trigger	Arming	Trigger		f.3	O/P(	(mV)*	f.2	O/P	(mV)*	ToSIM	To Armin	To Trigge r Loop	LED,	BN12 (V)					
<u> </u>		ρ	er			s #	(kHz)	CJ	MJ	(kHz)	CJ	MJ	Ζ		ре	s #	3					
		-																				
		1																				
		1																				

<sup>\*</sup> CJ: Commissioning Jig Used / MJ: Maintenance Jig Used (Fill in voltages in the appropriate column for the type of jig used) \*\* If fitted to the installation #Insert 4if correct



# TPWS Test: Equipment Associated with PSR's & Buffer Stops Record Card (Rear) NR/SMS/TP11-Test/025

Form: NR/SMS/TP11/T025/RC/02

Date: August 2004

Transmi	itter Lo	oops a	nd Mod	dule Ind	ication	ns								Location	n Equipmen	t	S/Box Equipme	ent**	Mete	Test	Technicians SSM Name	Corr	Date
Over Sp	eed S	ensor	(OSS)											lnp ≤ Mc					Meter Identity	Aeria	inicia 1	Company	
Armin Trigge 0.5m)	Board	Trigge	Loop	e Line	Loop Heig	o ght#	Loops	s Energis	ed					Module Voltage Inputs	Module V Outputs (\	oltage V)	Failure Indication (FIU)*	on Unit	ntity	Test Aerial Identity	ns	`	
Arming to Trigger loop(± 0.5m) #	Board/Buffers	Trigger Loop	in Spe		Arming	Trigger	LED,	Arming	Loop		Trigger	Loop		To	To Ar	こせる		В		2			
i <del>T</del>	0,		Arming	Trigger	g	4	s #	f.3	O/P(m	1V)*	f.2	O/P(r	nV)*	To SIM	To Arming Loop	To Trigge r Loop	LED,	BN12 (V)					
			g	r				(kHz)	CJ	MJ	(kHz)	CJ	MJ		J		s #	3					

<sup>\*</sup> CJ: Commissioning Jig Used / MJ: Maintenance Jig Used (Fill in voltages in the appropriate column for the type of jig used) \*\* If fitted to the installation # Insert tick if correct



#### TPWS Test: Self Powered OSS (SPOSS) Record Card (Front) NR/SMS/TP11-Test/025

Form: NR/SMS/TP11/T025/RC03

Date: August 2004

Signal Box / Interlocking:		TPWS Identity / PSR Identity	-Name:
Distance from Treadle Arm to Arming Loop (± 0.5m):	Distance from Arming to Trigger Loop (± 0.5m)	:	Distance from Trigger Loop to PSR (± 25m):
Height of Arming Loop Below Rail Level (60-100mm):		Height of Trigger Loop Below	Rail Level (60-100mm):

Transn	nitter Lo	ops										Location	Equipme	nt							
				C	Over Spe	eed Sensor (	OSS)									_					
Armi Trio	Trig Boa	Cer	op ntre e in		oop ght#		L	oops E	nergised			Indica	Arming Loop Fault	Trigger Loop Fault	Battery F	Battery F	Treadle Checked	Battery Changed	Technicians SSM		
Arming to Trigger loop(±	Trigger Loop to Board I(±25m)#		ec#	≱	7	Armin	g Loop		Trigge	er Loop	)	Indication Fault	Loop F	Loop F	Fault (Batt 1)	ault (Batt	) Chec	'Chan	Name	Company	Date
op(±	op to 5m) ;	Arming	Trigger	Arming	Trigger		O/P(ı	mV)*	(0/111)	O/P	(mV)*	i i	-ault	-ault	3att 1	3att 2)	ked	ged			
	# 0	ng	er			f.3(kHz)	CJ	MJ	f.2(kHz)	CJ	MJ				)	٥					
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			

<sup>\*</sup> CJ: Commissioning Jig Used / MJ: Maintenance Jig Used (Fill in voltages in the appropriate column for the type of jig used) # Insert tick if correct



#### TPWS Test: Self Powered OSS (SPOSS) Record Card (Rear) NR/SMS/TP11-Test/025

Form: NR/SMS/TP11/T025/RC/03

Date: August 2004

Transmitter Loops (2002)												Location	cation Equipment								
	_	•		C	Over Spe	ed Sensor (	OSS)								п	В					
Armi Trig	Trig Boa	Cer	op ntre e in		oop ght#		Lo	oops E	nergised			Indica	Arming Loop Fault	Trigger Loop Fault	Battery Fault (Batt 1)	Battery Fault (Batt 2)	Treadle	Battery	Technicians SSM	Company	Date
Arming to Trigger loop(±	Trigger Loop to Board I(±25m) #		ec#	Arming	Trigger	Armin	ig Loop	ı	Trigge	r Loop	)	Indication Fault	Loop Fa	Loop Fa	ault (Ba	ault (Ba	Treadle Checked	Battery Changed	Name	Jompany	Bate
ρ(±	p to m)#	Arming	Trigger	iing	lger .	f.3(kHz)	O/P(r	mV)* MJ	f.2(kHz)	O/P	(mV)* MJ	=	ault	ault	att 1)	ıtt 2)	ed	ed			
							00	1010		00	1010	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
-												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			
<u> </u>												Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N			

<sup>\*</sup> CJ: Commissioning Jig Used / MJ: Maintenance Jig Used (Fill in voltages in the appropriate column for the type of jig used) \*\* If fitted to the installation # Insert tick if correct



#### TPWS Test: OSS+ Loops at TPWS+ Installations Record Card (Front) NR/SMS/TP11/Test 025

Form: NR/SMS/TP11/T025/RC04

Date: 07/03/2020

Signal Box / Interlocking:	TPWS Identity	Normal / Opposite Direction Delete as appropriate
		Delete de appropriate

Transmi	tter Loops	and Mo	dule Indi	icatior	าร								Location	n Equipmen	t	S/Box Equipme	ent**					
				Ov	er Spe	ed Sen	sor (OSS	i+)											Te			
Arming to Trigger loop(± 0.5m) #	Triç Boa	Cent	oop re Line pec #	Lo Hei	oop ght #			Loc	ps Energ	jised			Module Voltage Inputs	Module Outpu	Voltage its (V)	Indicat	lure ion Unit U)*	Meter Identity	Test Aerial Identity	Technicians SSM Name	Company	Date
ng to T ν(± 0.5	Trigger Loop to Board/Buffers		1	Ar	Tr.	LED,	Arr	ming Lo	ор	Tri	gger Lo	оор					ш	entity	dentit	ans	ny	
rigge m) #	oop ffers	Arming	Trigger	Arming	Trigger		f.3	O/P(	(mV)*	f.2	O/P	(mV)*	ToSIM	To Armin	To Trigge r Loop	LED,	BN12 (V)		~			
<u> </u>		υg	Ф			s #	(kHz)	CJ	MJ	(kHz)	CJ	MJ	Ζ		ФФ	s #	3					

<sup>\*</sup> CJ: Commissioning Jig Used / MJ: Maintenance Jig Used (Fill in voltages in the appropriate column for the type of jig used) \*\* If fitted to the installation # Insert tick if correct



## TPWS Test: OSS+ Loops at TPWS+ Installations Record Card (Rear)

Record Card (Rear) NR/SMS/TP11/Test 025 Form: NR/SMS/TP11/T025/RC/04

Date: 07/03/2020

Transm	Γransmitter Loops and Module Indications  Over Speed Sensor (OSS+)													Location	n Equipmen	nt	S/Box Equipme	ent**					
					Ov	er Spe	ed Sen	sor (OSS	6+)											ط و			
Armii loop	Boa	Tri	Lo Centr in Sp	op e Line	Lo Heiç	oop ght #		T	Loo	ps Energ	gised			Module Voltage Inputs	Module Outpu	Voltage uts (V)	Failure Indication Unit (FIU)*		Meter Identity	Test Aerial Identity	Technicians SSM Name	Company	Date
Arming to Trigger loop(± 0.5m) #	to Board/Buffers	Trigger Loop			Arr	Tri	LED'	Ar	ming Lo	ор	Tri	gger Lo	ор				_		entity	Identity	ans	ny	
igge n)#	fers	ğ	Arming	Trigger	Arming	Trigger	)' s#	f.3	O/P(	mV)*	f.2	O/P	(mV)*	To SIM	To Armin	To Trigge r Loop	LED'	BN12 (V)					
Ť			g	er			#	(kHz)	CJ	MJ	(kHz)	CJ	MJ	M	ו	P 0	s #	3					

<sup>\*</sup> CJ: Commissioning Jig Used / MJ: Maintenance Jig Used (Fill in voltages in the appropriate column for the type of jig used) \*\* If fitted to the installation # Insert tick if correct



# Indusi Trainstops: Magnetic Trainstop (Associated with Stop Signals) Record Card (Front) NR/SMS/TS20

Form: NR/SMS/TS20/RC/01 Date: December 2009

Issue: 01

Signal / Indusi Magnet Name / Number:

Magnet Position (mm)  Rail Top of		Current (Str				Trainstop			
Top of Magnet	Signal (200	at Stop 0Hz)	Signal at Proceed (1000Hz)		Comments	Magnet Tester	Signature	Name & Company	Date
to Crest of Rail	1000Hz	2000Hz	2000Hz	1000Hz		Identity			
	Top of Magnet to Crest	Top of Signal Magnet (200 to Crest	Top of Signal at Stop (2000Hz)	Top of Signal at Stop Signal at Magnet (2000Hz) (100 to Crest	Top of Signal at Stop Signal at Proceed Magnet (2000Hz) (1000Hz) to Crest	Top of Magnet (2000Hz) Signal at Proceed (2000Hz) (1000Hz) Comments	Top of Magnet Current (Strom) Readings (MA)  Trainstop  Magnet (2000Hz) Signal at Proceed  Magnet (2000Hz) (1000Hz)  Tomments  Comments  Identity	Top of Magnet (2000Hz) Signal at Proceed (2000Hz) Comments  Comments  Trainstop Magnet Trainstop Magnet Tester Identity	Top of Magnet Current (Strom) Readings (MA)  Top of Signal at Stop Signal at Proceed (2000Hz)  Top of (2000Hz) (1000Hz)  Top of (2000Hz) (1000Hz)  Top of (2000Hz) (2000Hz) (2000Hz)  Top of (2000Hz) (2000Hz) (2000Hz)  Top of (2000Hz) (2000Hz) (2000Hz)  Trainstop (Magnet Tester (2000Hz) (2000Hz) (2000Hz)  Top of (2000Hz) (200



# Indusi Trainstops: Magnetic Trainstop (Associated with Stop Signals) Record Card (Rear) NR/SMS/TS20

Date: December 2009

Form: NR/SMS/TS20/RC/01

Magnet Po	sition	Magnet C	Current (St	rom) Readi	ngs (mA)		Trainstop			
Rail edge to centre of	Top of Magnet to Crest	Signal (200	at Stop 0Hz)	Signal at Proceed (1000Hz)		Comments	Magnet Tester	Signature	Name & Company	Date
centre of magnet	to Crest of Rail	1000Hz	2000Hz	2000Hz	1000Hz		Identity			



#### Indusi Trainstops: Magnetic Trainstop (Associated with Speed Control) Record Card (Front) NR/SMS/TS20

Form: NR/SMS/TS20/RC/02 Date: December 2009

Indusi Magnet Name / Number:	Indusi Speed Control Time (secs):

Magnet Po	sition	Time (secs)	Magnet C	Current (Sti	rom) Readi	ings (mA)					
Rail edge to	Top of Magnet	Treadle Operation	Speed Active (2	Control 2000Hz)	Speed Control Inactive (1000Hz)		Comments	Trainstop Magnet Tester	Signature	Name & Company	Date
centre of magnet	to Crest of Rail	to Magnet Change of State	1000Hz	2000Hz	2000Hz	1000Hz		Identity		, ,	



### **Indusi Trainstops: Magnetic Trainstop (Associated with Speed Control)** Record Card (Rear) NR/SMS/TS20

Issue: 01

Date: December 2009

Form: NR/SMS/TS20/RC/02

Magnet Po	osition	Time (secs)	Magnet C	Current (Str	om) Readi	ngs (mA)		Tueineten			
Rail edge to	Top of	Treadle Operation	Speed Active (2	Control 2000Hz)	Speed Inactive	Control (1000Hz)	Comments	Trainstop Magnet Tester	Signature	Name & Company	Date
edge to centre of magnet	Magnet to Crest of Rail	to Magnet Change of State	1000Hz		2000Hz	1000Hz		Identity		Company	



### **Train Stop – Manchester Metro**

#### Maintenance Record Card

Date: March 2018

Issu	ıe:	01
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Location Case.	Beacon Number:	Beacon Serial Number:

Date	Name	Company	Signature	Meter Identity	Beacon Secure (Tick)	Beacon Volts (DC)	Beacon Current (DC mA)	Comments