

GENERAL

1. Gantry structural steelwork shall be electrically continuous throughout.
2. New gantries are provided with facilities for the termination of electrical earth and lightning protection bonding to avoid damage to gantry protective finish, by the later provision of termination lugs for example.
3. All metallic equipment mounted on the gantry shall be bonded to the gantry structure. Where cabinets are within 2 metres of gantry structure, they should be bonded to the structure to ensure common potential.
4. Bonding details shown on diagram are typical only.

ELECTRICAL EARTHING

5. Electrical earth bonding shall utilise 6mm² (minimum) PVC insulated stranded copper earthing conductor.
6. Earthing cables shall be provided with terminal lugs and shall be bonded to structure (at preprovided bonding points) with suitable nut, bolt and locking washer arrangement. Safety earth labels 'SAFETY ELECTRICAL EARTH DO NOT REMOVE' shall be provided at each bond to the structure.

LIGHTNING PROTECTION

7. The gantry structure when electrically continuous may be considered to be self protecting, provided the resistance to earth does not exceed 10 ohms (in accordance with BS 6651.)
8. Prior to the installation of the gantry, soil resistivity tests shall be carried out to determine the need for the provision of a lightning protection system. Where the resistance to earth exceeds 10 ohms, an appropriate earth electrode system from the gantry legs shall be provided in accordance with BS 6651.
9. Earth electrodes/test pits (as shown on MCX 0509 sheet 2) should be provided as close as practical to gantry legs.
10. Tests shall be carried out after installation of gantries to ensure that the resistance to earth does not exceed 10 ohms.

(REV. D)

This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS

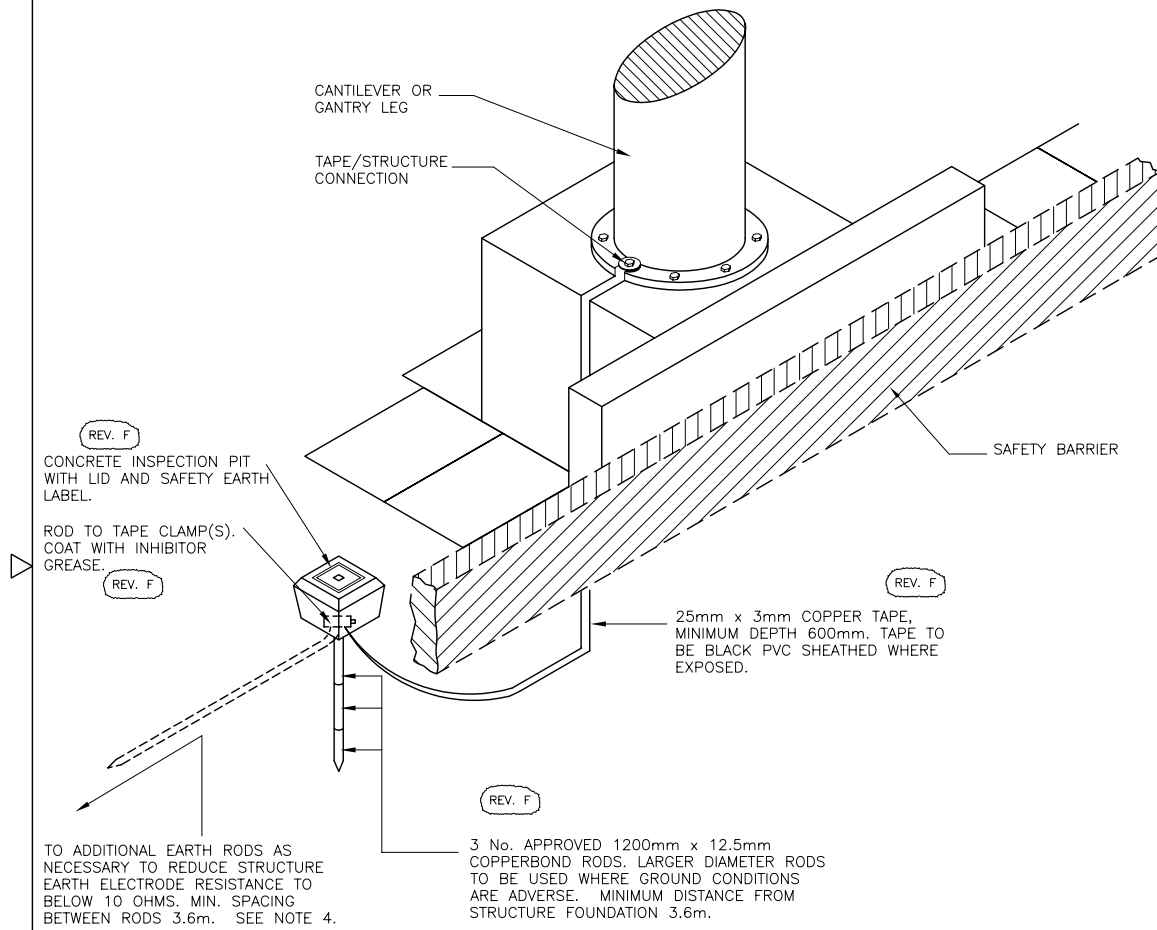
TITLE
INSTALLATION DRAWING
GANTRY EARTHING AND BONDING

ORIGINAL DRAWING SIZE: 297 x 420
ALL DIMENSIONS ARE IN MM
TOLERANCE ± UNLESS OTHERWISE STATED
THIRD ANGLE PROJECTION DO NOT SCALE

D	HA ADDRESS REPLACED BY HCD. NOTE 5 REVISED.	DWE 02.06
C	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
B	NEW DRAWING BLANK	FJC 1.7.97
A	INITIAL ISSUE	MJS 30.1.95
ISSUE	AMENDMENTS	APPD/DATE
DRN	PJS	CHKD
DATE	26.7.94	DATE
DRG. NO.	SCALE	
	MCX 0509	
	SHT. NO.	
	1 of 2	

NOTES

1. DETAILS SHOWN ARE FOR CANTILEVER OR GANTRY LEG. SEE DRAWING MCX 0583 SHEET 3 FOR LAYOUT AT CANTILEVER HOLDING DOWN SYSTEM.
2. AT EACH STRUCTURE THE MINIMUM REQUIREMENTS AS SHOWN SHALL BE INSTALLED AND TESTS CARRIED OUT TO ASCERTAIN THE STRUCTURE TO EARTH RESISTIVITY. TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS 7430. TEST RESULTS TOGETHER WITH TEST WEATHER CONDITIONS SHALL BE RECORDED IN TABULAR FORM AND FORWARDED TO THE OVERSEEING ORGANISATION.
3. FOR THE TESTS IT IS REQUIRED THAT ALL LIVE SUPPLY CONDUCTORS, POWER CABLE, EARTH CONDUCTORS AND THE ARMOURING OF ALL POWER AND COMMUNICATIONS CABLES BE TEMPORARILY DISCONNECTED FROM THE STRUCTURE. EARTHING CONDUCTORS/ARMOURING SHALL BE DISCONNECTED ONLY AFTER DISCONNECTION OF LIVE CONDUCTORS AND UPON COMPLETION OF TESTING, SHALL BE RECONNECTED BEFORE RECONNECTION OF THE LIVE CONDUCTORS. IT SHOULD BE NOTED THAT NEUTRAL CONDUCTORS CONSTITUTE LIVE CONDUCTORS.
4. THE GANTRY STRUCTURE WHEN ELECTRICALLY CONTINUOUS MAY BE CONSIDERED TO BE SELF PROTECTING, PROVIDED THE RESISTANCE TO EARTH DOES NOT EXCEED 10 OHMS (IN ACCORDANCE WITH BS 6651). WHERE THE RESISTANCE TO EARTH EXCEEDS 10 OHMS AN APPROPRIATE EARTH ELECTRODE SYSTEM FROM THE GANTRY LEGS SHALL BE PROVIDED IN ACCORDANCE WITH BS 6651.
5. AT GANTRY SITES LIGHTNING PROTECTION SHALL BE PROVIDED TO EACH LEG OF THE STRUCTURE WITH IDENTICAL INSTALLATIONS AS SHOWN ON DRAWING MCX 0509 SHEET 1.
6. AT CANTILEVER SITES THE INFRASTRUCTURE CONTRACTOR SHALL SUPPLY COPPER TAPE ONE METRE LONGER THAN REQUIRED FOR THE TEST CONNECTION TO HOLDING DOWN BOLTS. AFTER TESTING THE TEST PLATE SHALL BE UNBOLTED AND THE SPARE COPPER TAPE COILED UP, PROTECTED WITH A POLYTHENE BAG AND BURIED IN THE GROUND ADJACENT TO THE CANTILEVER FOUNDATION.
7. IF GROUND CONDITIONS PROHIBIT THE DRIVING OF EARTH RODS, A SUITABLE EARTH PLATE SYSTEM MAY BE SUBSTITUTED FOLLOWING APPROVAL BY THE OVERSEEING ORGANISATION.
8. APPROVAL FOR EQUIPMENT WHICH IS NOT MANUFACTURED BY FURSE SHALL NOT BE UNREASONABLY WITHHELD WHERE THE CONTRACTOR CAN DEMONSTRATE THAT HIS ADOPTED EQUIPMENT IS IN ALL RESPECTS PHYSICALLY COMPATIBLE WITH THE FURSE EQUIPMENT AND EXHIBITS SIMILAR OR BETTER ELECTRICAL PERFORMANCE CHARACTERISTICS.



REV. F
CONCRETE INSPECTION PIT WITH LID AND SAFETY EARTH LABEL.

REV. F
ROD TO TAPE CLAMP(S). COAT WITH INHIBITOR GREASE.

TO ADDITIONAL EARTH RODS AS NECESSARY TO REDUCE STRUCTURE EARTH ELECTRODE RESISTANCE TO BELOW 10 OHMS. MIN. SPACING BETWEEN RODS 3.6m. SEE NOTE 4.

REV. F
25mm x 3mm COPPER TAPE, MINIMUM DEPTH 600mm. TAPE TO BE BLACK PVC SHEATHED WHERE EXPOSED.

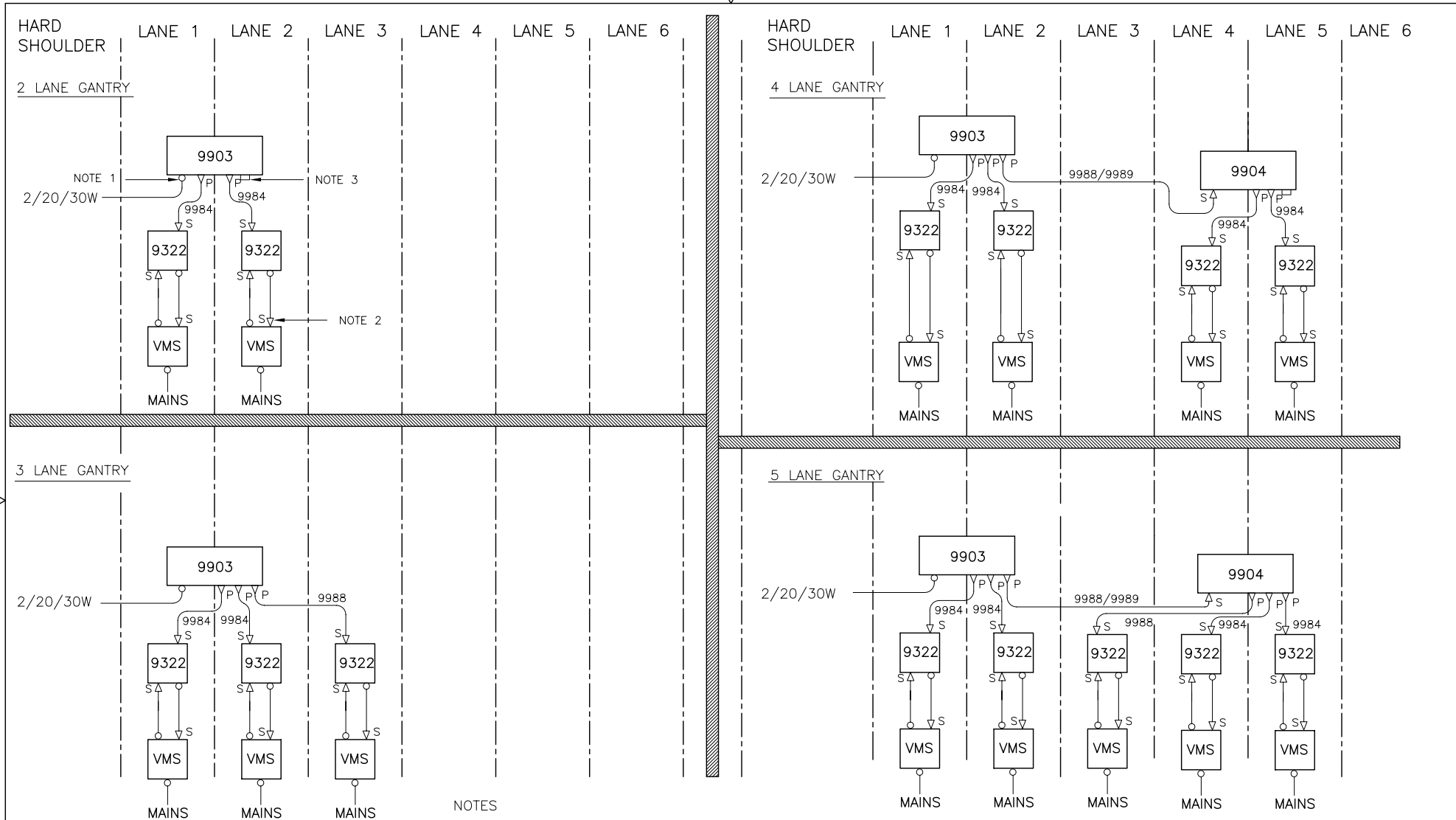
REV. F
3 No. APPROVED 1200mm x 12.5mm COPPERBOND RODS. LARGER DIAMETER RODS TO BE USED WHERE GROUND CONDITIONS ARE ADVERSE. MINIMUM DISTANCE FROM STRUCTURE FOUNDATION 3.6m.

This drawing was generated on computer and must not be manually updated

F	TRADE NAMES DELETED FROM DRAWING NOTES	DWE 02.06
E	SAFETY BARRIER PROFILE REV. ADDRESS BLK REV	DWE 02.04
D	NOTES 2 & 7 REVISED FENCE NOTE REVISED	DWE 01.02
C	NEW DRAWING BLANK	DWE 7.97
B	NOTE 4 AMENDED	MJS 30.1.95
A	INITIAL ISSUE DRG. NO. WAS MCX 0596 SHT. 1 OF 1	PM 18.7.94
ISSUE	AMENDMENTS	APPD/DATE
DRN	SM	CHKD RES
DATE	7.94	DATE 7.94
DRG. NO.	MCX 0509	
		SHT. NO. 2 of 2

HIGHWAY CONSTRUCTION DETAILS	TITLE	INSTALLATION DRAWING NMCS 2 TYPICAL EARTH BONDING SYSTEM FOR GANTRY AND CANTILEVER STRUCTURES
	ORIGINAL DRAWING SIZE:	297 x 420
	ALL DIMENSIONS ARE IN MM	
	TOLERANCE ± UNLESS OTHERWISE STATED	THIRD ANGLE PROJECTION DO NOT SCALE

MCX 0510 – 0514
NOT USED



- NOTES
1. ○ Represents a gland.
 2. ▷ Represents a free plug or socket.
 3. □ Represents a capped plug or socket.

(REV. B)

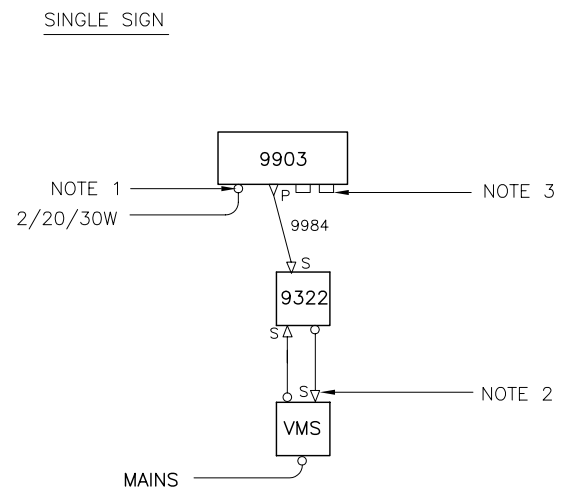
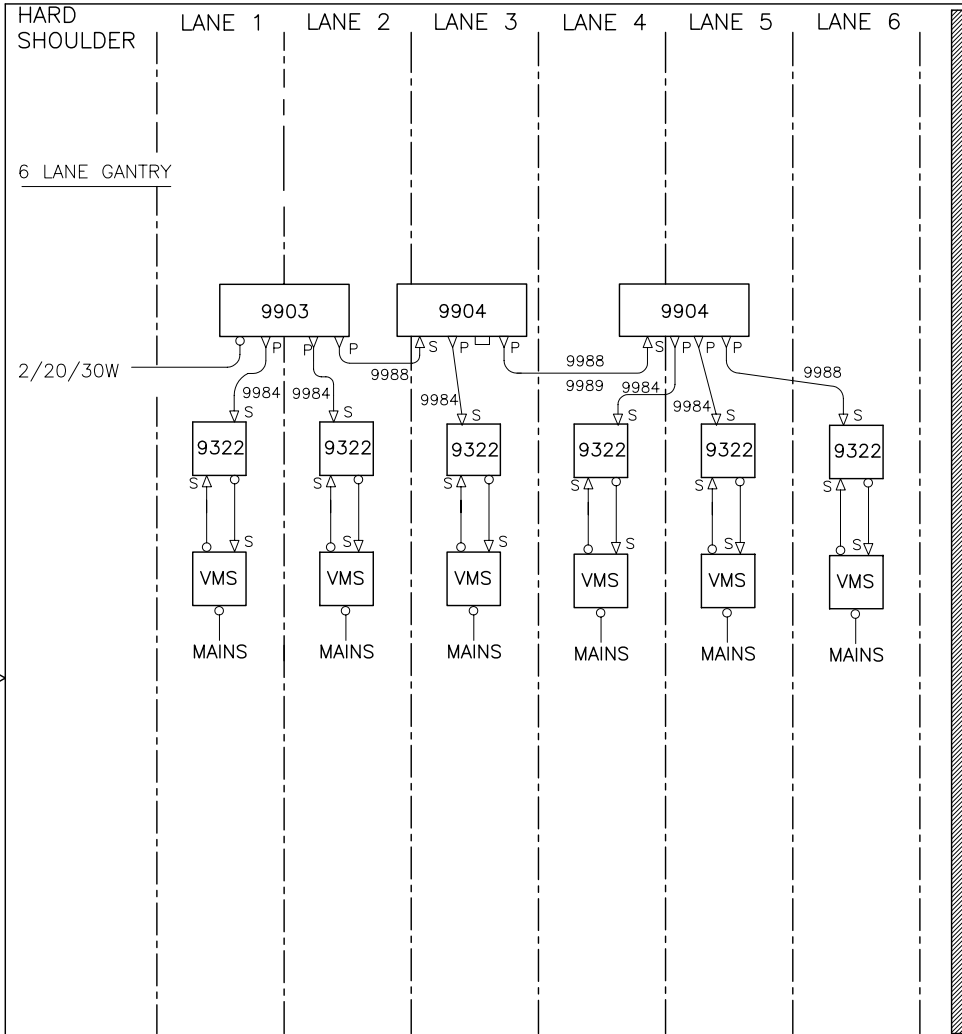
This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS

TITLE
 INSTALLATION DRAWING NMCS 2
 MOTORWAY VMS – INTERCONNECTION OF
 EQUIPMENT ON GANTRIES

ORIGINAL DRAWING SIZE: 297 x 420
 ALL DIMENSIONS ARE IN MM
 TOLERANCE ± UNLESS OTHERWISE STATED
 THIRD ANGLE PROJECTION DO NOT SCALE

E	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
D	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
C	NEW DRAWING BLANK	FJC 1.7.97
A	INITIAL ISSUE	MJC 22.6.89
ISSUE	AMENDMENTS	APPD/DATE
DRN	PJS	CHKD V.S.
DATE	12.12.94	DATE 15.12.94
DRG. NO.	MCX 0515	
		SHT. NO. 1 of 3



- NOTE
1. ○ Represents a gland.
 2. ▷ Represents a free plug or socket.
 3. □ Represents a capped plug or socket.

(REV. E)

This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS

TITLE
 INSTALLATION DRAWING NMCS 2
 MOTORWAY VMS – INTERCONNECTION OF
 EQUIPMENT ON 6 LANE GANTRY AND SINGLE SIGN

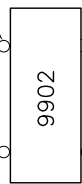
ORIGINAL DRAWING SIZE: 297 x 420
 ALL DIMENSIONS ARE IN MM
 TOLERANCE ± UNLESS OTHERWISE STATED
 THIRD ANGLE PROJECTION DO NOT SCALE

E	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
D	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
C	NEW DRAWING BLANK	FJC 1.7.97
A	INITIAL ISSUE	MJC 22.6.89
ISSUE	AMENDMENTS	APPD/DATE
DRN	PJS	CHKD V.S.
DATE	12.12.94	DATE 15.12.94
DRG. NO.	SCALE	
	MCX 0515	
	SHT. NO.	
	2 of 3	

RS485 LINK
FROM TRANSPONDER

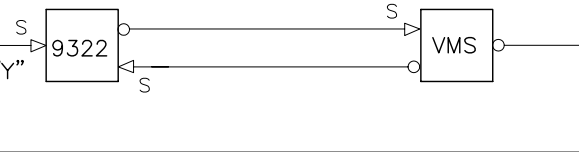
CABINET
609C

NOTE 5



NOTES

1. ○ Represents a gland.
2. ▷ Represents a free plug or socket.
3. Cable #1 is selected from TR2033 cable types.
"X" to "Y" according to length (see table below).
4. Use of 9902 provides impact protection via inertia switch as per post mounted matrix signals.
5. 9902 fitted with gland conversion kit to MCX 0151 sheet 5 for 2 pair cable.
6. Flying lead to signal power unit removed and replaced with mains cabling to VMS.



CABINET
609C
PO OR EB

RS485 LINK TO
OTHER SITES

VMS

CABLE REF. No.	NOMINAL LENGTH
MCX 0071 – 9984	4.0m
" – 9988	8.0m
" – 9989	20.0m

(AS SPECIFIED IN TR 2033)

(REV. B)

This drawing was generated on computer and must not be manually updated

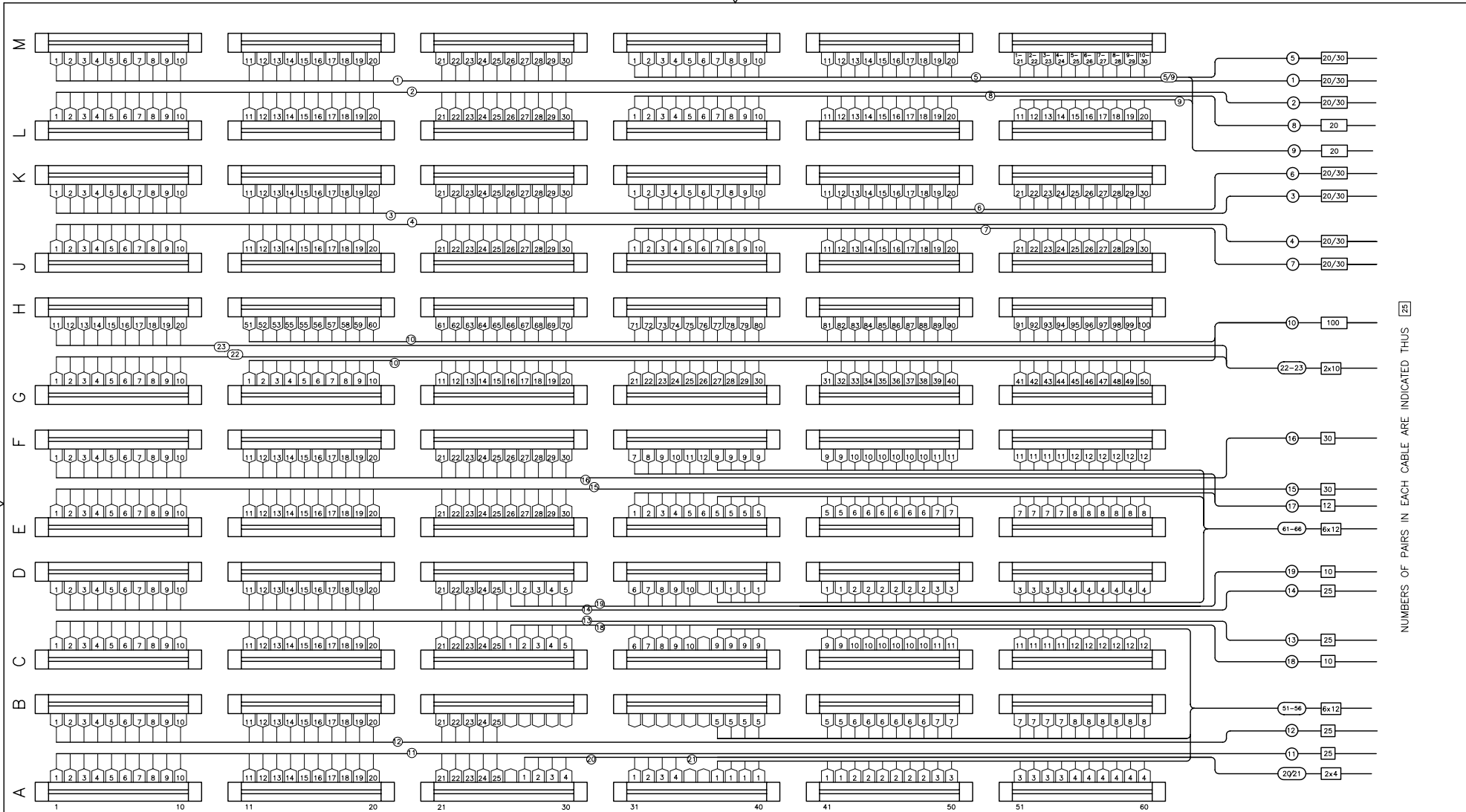
HIGHWAY CONSTRUCTION DETAILS

TITLE
INSTALLATION DRAWING NMCS 2
MOTORWAY VMS – INTERCONNECTION OF
EQUIPMENT ON POSTS

ORIGINAL DRAWING SIZE: 297 x 420
ALL DIMENSIONS ARE IN MM
TOLERANCE ± UNLESS OTHERWISE STATED
THIRD ANGLE PROJECTION DO NOT SCALE

E	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
D	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
C	NEW DRAWING BLANK	FJC 1.7.97
A	INITIAL ISSUE	MJC 22.6.89
ISSUE	AMENDMENTS	APPD/DATE
DRN	PJS	CHKD V.S.
DATE	12.12.94	DATE 15.12.94
DRG. NO.	MCX 0515	
	SCALE	SHT. NO.
	NTS	3 of 3

MCX 0516 – 0541
NOT USED



NUMBERS OF PAIRS IN EACH CABLE ARE INDICATED THUS [25]

FOR NOTES SEE SHEET 2

(REV. 9)

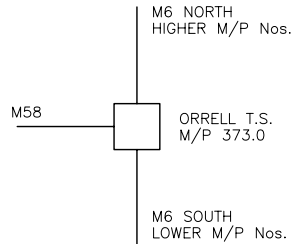
This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS	TITLE	INSTALLATION DRAWING CABINET 2303 TERMINATIONS AND WIRING (TRANSMISSION STATION)	ORIGINAL DRAWING SIZE: 297 x 420 ALL DIMENSIONS ARE IN MM TOLERANCE ± UNLESS OTHERWISE STATED THIRD ANGLE PROJECTION DO NOT SCALE	DRN PJS DATE 13.3.89	CHKD DO DATE 6.5.94	SCALE NTS
				DRG. NO.	MCX 0542	SHT. NO. 1 of 4

G	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
F	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
E	NEW DRAWING BLANK	FJC 1.7.97
A	INITIAL ISSUE	4.9.90
ISSUE	AMENDMENTS	APPD/DATE

NOTES FOR SHEET 1

1. SHEET 1 ILLUSTRATES THE MAXIMUM AMOUNT OF EQUIPMENT THAT MAY BE TERMINATED IN A CABINET, I.E. 2 CARRIER INTERFACE EQUIPMENTS, 2 AUDIO RACKS, 5 MOTORWAY CABLES, 2 PW CABLES, 2 CO TIE CABLES, 60 PAIRS FOR SECTOR SWITCH, 100 PAIRS FOR PCM EQUIPMENT, 12 PAIRS FOR LCC/TLC, 8 PAIRS FOR ALARMS, 2 OFF 10 PR TIE CABLES TO OPTICAL FIBRE DISTRIBUTION FRAME (ODF) AND 2 OFF 12 PR TIE CABLES TO RCC/MODEM RACK.
2. AUDIO RACK K3 JUMPERING BLOCKS ARE ONLY FITTED AT CARRIER TERMINAL SITES AND TRANSMISSION STATIONS DEALING WITH THE LINK TO CONTROL OFFICES.
3. LONGITUDINAL MOTORWAY CABLES 1 TO 4 ARE EITHER 20 PAIR OR 30 PAIR AND TERMINATED SEQUENTIALLY.
4. THE MOTORWAY CABLES 1-4 ARE ALLOCATED FIRSTLY ACCORDING TO MOTORWAY PRIORITY (MOTORWAY WITH LOWEST NUMBER IS HIGHEST PRIORITY), AND SECONDLY MOTORWAY SOURCE—FOR EXAMPLE AT ORRELL T.S. (SEE DIAGRAM) M6 HAS PRIORITY OVER M58, THEREFORE THE M58 CABLE IS CABLE 3. THE M6 SOURCE IS SOUTH OF ORRELL (LOWER M/P Nos.), THEREFORE CABLE 1 IS M6 SOUTH. CABLE 2 IS M6 NORTH.

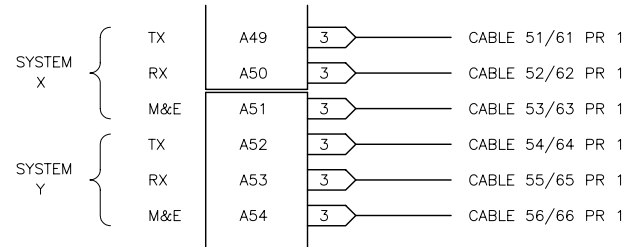


5. BLOCK ALLOCATIONS

A1 TO A25	AUDIO RACK 1 K1	CABLE 11
A26	SPARE	
A27	BAT VLT LOW	CABLE 20
A28	CHARGER VLT LOW	CABLE 20
A29	CHARGER O/P FL	CABLE 20
A30	MAINS I/P FL	CABLE 20
A31	M/C 1 CH FL	CABLE 21
A32	M/C 1 ALL CH FL	CABLE 21
A33	M/C 2 CH FL	CABLE 21
A34	M/C 2 ALL CH FL	CABLE 21
A35 TO A36	SPARE	
A37 TO A60	CARRIER 1 CHANNELS 1 TO 4	CABLE 51/56
B1 TO B25	AUDIO RACK 1 K2	CABLE 12
B26 TO B36	SPARE	
B37 TO B60	CARRIER 1 CHANNELS 5 TO 8	CABLE 51/56
C1 TO C25	AUDIO RACK 2 K2	CABLE 13
C26 TO C35	RCC/MODEM	CABLE 18
C36	SPARE	
C37 TO C60	CARRIER 1 CHANNELS 9 TO 12	CABLE 51/56
D1 TO D25	AUDIO RACK 2 K2	CABLE 14
D26 TO D35	RCC/MODEM	CABLE 19
D36	SPARE	
D37 TO D60	CARRIER 2 CHANNELS 1 TO 4	CABLE 61/66
E1 TO E30	AUDIO RACK 1 K3/SECTOR SW	CABLE 15
E31 TO E36	LCC/TLC	CABLE 17
E37 TO E60	CARRIER 2 CHANNELS 5 TO 8	CABLE 61/66
F1 TO F30	AUDIO RACK 2 K3/SECTOR SW.	CABLE 16
F31 TO F36	LCC/TLC	CABLE 17
F37 TO F60	CARRIER 2 CHANNELS 9 TO 12	CABLE 61/66
G1 TO G10	ODF TIE CABLES	CABLE 22
G11 TO G60	PCM TIE CABLE	CABLE 10
H1 TO H10	ODF TIE CABLES	CABLE 23
H11 TO H60	PCM TIE CABLE	CABLE 10
J1 TO J30	20/30 PAIR MW CABLE	CABLE 4
J31 TO J60	20/30 PAIR CO TIE 2 OR RADIO	CABLE 7
	SYSTEM 1	

K1 TO K30	20/30 PAIR MW CABLE	CABLE 3
K31 TO K60	20/30 PAIR CO TIE 1 OR RADIO	CABLE 6
L1 TO L30	20/30 PAIR MW CABLE	CABLE 2
L31 TO L50	20 PAIR ADDITIONAL MW CABLE	CABLE 8
L51 TO L60	PAIRS 1 TO 20 OF 20 PAIR PW 2	CABLE 9
M1 TO M30	20/30 PAIR MW CABLE	CABLE 1
M31 TO M60	20/30 PAIR PW 1 TIE CABLE 1 TO PW 1/F	CABLE 5

6. (CABLE 5 IS A 20/30 PAIR PW TIE CABLE 1 TO PW INTERFACE. CABLE 9 IS A 20 PAIR PW TIE CABLE 2 TO PW INTERFACE.) IF PW CABLE IS 30 PAIR THEN A SECOND CABLE IS NOT REQUIRED. IF THE PW CABLE IS 20 PAIR AND A SECOND PW CABLE IS REQUIRED, IT WILL BE TERMINATED IN PLACE OF PAIRS 21 TO 30 OF CABLE 1.
7. CARRIER CHANNEL TERMINATIONS ARE WIRED AS SHOWN, AT SITES WHERE THERE ARE ONLY TWO CARRIER TERMINALS INSTALLED, TERMINATIONS A36 TO A60, B36 TO B60 AND C36 TO C60 ARE TO BE USED.



8. AT A CARRIER REPEATER CABLES 51 TO 56 AND 61 TO 66 ARE OMITTED.
9. ALL CABLES SHOULD BE RUN AND SECURED TO THE VERTICAL SECURING BARS.
10. IF THERE IS THE REQUIREMENT FOR THE TERMINATION OF A THIRD CARRIER FLEXIBILITY SHELF, TSS TRANSMISSION SECTION WILL ADVISE ALLOCATIONS.
11. ALL BLOCKS ARE 10 PR INSULATION DISPLACEMENT CONNECTORS (IDC).
12. DETAILED CONNECTIONS FOR THE SECTOR SWITCH, LCC, RCC AND TLC SHALL BE SOUGHT FROM TSS TRANSMISSION SECTION.

CABLE IDENTIFICATION

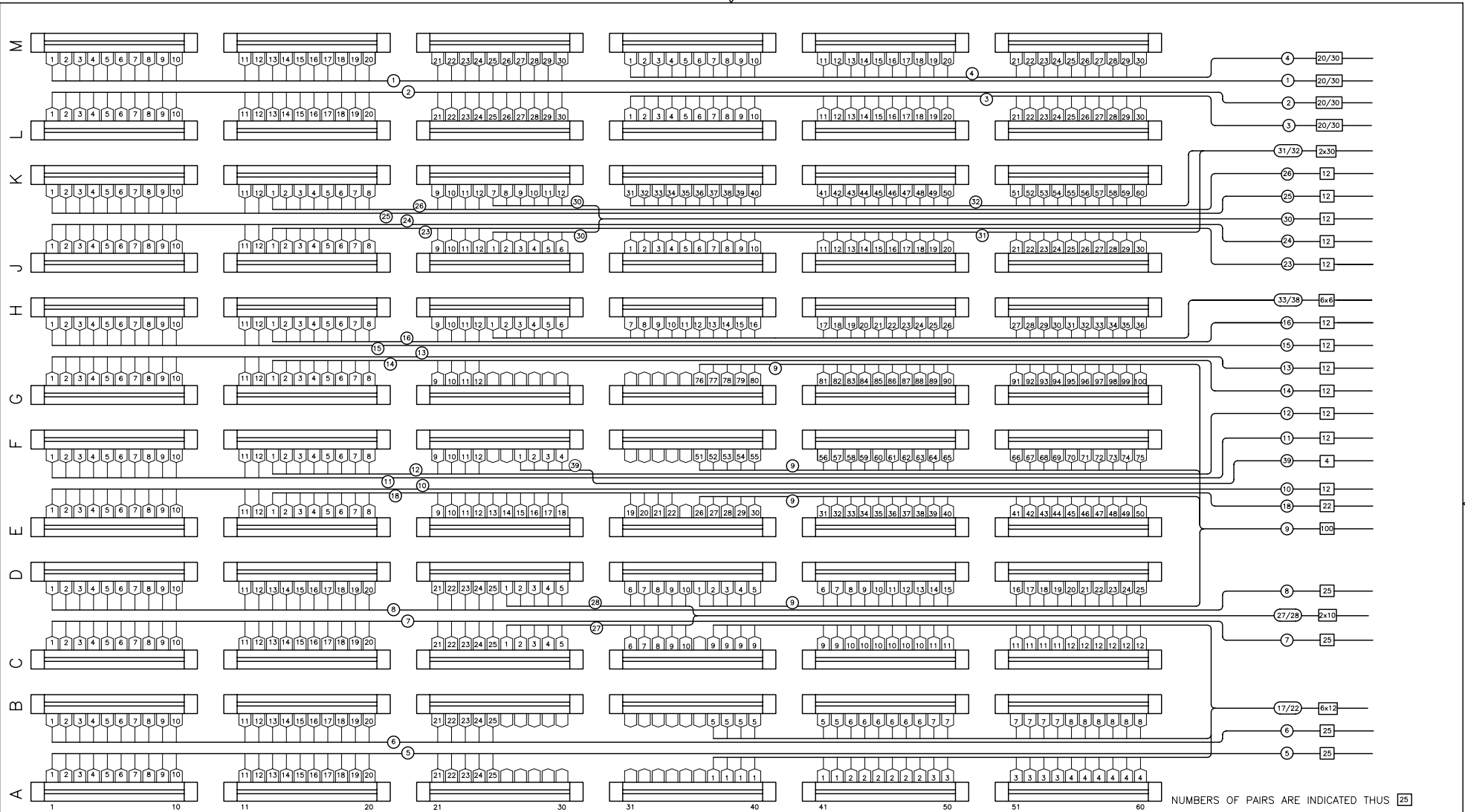
- | | |
|----------------------------|---------------------------------|
| 1. MOTORWAY CABLE 1 | 15. AUDIO RACK 1 K3/SECT SWITCH |
| 2. MOTORWAY CABLE 2 | 16. AUDIO RACK 2 K3/SECT SWITCH |
| 3. MOTORWAY CABLE 3 | 17. LCC/TLC |
| 4. MOTORWAY CABLE 4 | 18. RCC/MODEM RACK |
| 5. PW 1/F CABLE 1 | 19. RCC/MODEM RACK |
| 6. CO TIE CABLE 1 | 20. ALARMS (POWER/CHARGER) |
| 7. CO TIE CABLE 2 | 21. ALARMS (MINI CARRIER) |
| 8. MOTORWAY CABLE (SPARE) | 22. ODF TIE CABLE 1 |
| 9. PW 1/F CABLE 2 (NOTE 6) | 23. ODF TIE CABLE 2 |
| 10. PCM TIE CABLE | |
| 11. AUDIO RACK 1 K1 | 51-56. CARRIER 1/F 1 |
| 12. AUDIO RACK 1 K2 | 61-66. CARRIER 1/F 2 |
| 13. AUDIO RACK 2 K1 | |
| 14. AUDIO RACK 2 K2 | |

(REV. G)

This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS	TITLE	INSTALLATION DRAWING CABINET 2303 TERMINATIONS AND WIRING (TRANSMISSION STATION) - NOTES	
	ORIGINAL DRAWING SIZE:	297 x 420	
	ALL DIMENSIONS ARE IN MM		
	TOLERANCE ± UNLESS OTHERWISE STATED	THIRD ANGLE PROJECTION DO NOT SCALE	
	DRN EED	CHKD PJS	SCALE
	DATE 13.12.93	DATE 25.1.94	NTS
	DRG. NO.	MCX 0542	SHT. NO. 2 of 4

G	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
F	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
E	NEW DRAWING BLANK BLOCK ALLOCATION NOTES REVISED	DCB 17.6.97
A	INITIAL ISSUE	4.4.90
ISSUE	AMENDMENTS	APPD/DATE



FOR NOTES SEE SHEET 4

REV. 3

This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS

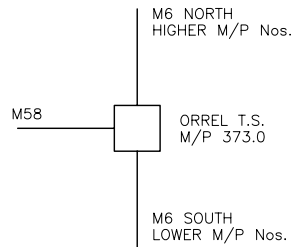
TITLE
 INSTALLATION DRAWING
 CABINET 2303
 TERMINATIONS AND WIRING (CONTROL OFFICE)

ORIGINAL DRAWING SIZE: 297 x 420
 ALL DIMENSIONS ARE IN MM
 TOLERANCE ± UNLESS OTHERWISE STATED
 THIRD ANGLE PROJECTION DO NOT SCALE

G	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
F	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
E	NEW DRAWING BLANK	FJC 1.7.97
A	INITIAL ISSUE	4.4.90
ISSUE	AMENDMENTS	APPD/DATE
DRN PJS	CHKD DJM	SCALE
DATE 13.12.93	DATE 7.2.94	NTS
DRG. NO.	MCX 0542	SHT. NO.
		3 of 4

NOTES FOR SHEET 3

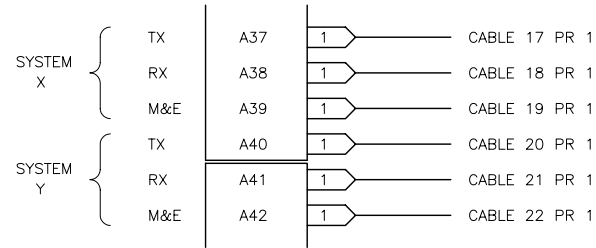
1. SHEET 3 ILLUSTRATES THE MAXIMUM AMOUNT OF EQUIPMENT THAT MAY BE TERMINATED IN THE CABINET.
2. MOTORWAY/TIE CABLES 1-3 ARE EITHER 20 PAIR OR 30 PAIR & TERMINATED SEQUENTIALLY.
3. THE MOTORWAY CABLES 1-4 ARE ALLOCATED FIRSTLY ACCORDING TO MOTORWAY PRIORITY (MOTORWAY WITH LOWEST No IS HIGHEST PRIORITY), AND SECONDLY MOTORWAY SOURCE- FOR EXAMPLE AT ORREL T.S. (SEE DIAGRAM) M6 HAS PRIORITY OVER M58, THEREFORE THE M58 CABLE IS 3, THE M6 SOURCE IS SOUTH OF ORREL (LOWER M/P Nos) THEREFORE CABLE 1 IS M6 SOUTH, CABLE 2 IS M6 NORTH



4. BLOCK ALLOCATIONS.

A1 TO A25	AUDIO RACK 1 K1	CABLE 5
A26 TO A36	SPARE	
A37 TO A60	CARRIER CHANNELS 1-4	CABLE 17/22
B1 TO B25	AUDIO RACK 1 K2	CABLE 6
B26 TO B36	SPARE	
B37 TO B60	CARRIER CHANNELS 5-8	CABLE 17/22
C1 TO C25	AUDIO RACK 2 K1	CABLE 7
C26 TO C35	ODF TIE	CABLE 28
C35 TO C36	SPARE	
C37 TO C60	CARRIER CHANNELS 9-12	CABLE 17/22
D1 TO D25	AUDIO RACK 2 K2	CABLE 8
D26 TO D35	ODF TIE	CABLE 27
D29 TO D35	SPARE	
D36 TO D60	PCM TIE	CABLE 9
E1 TO E12	ICO LINKS	CABLE 10
E13 TO E34	MODEM TIE	CABLE 18
E35	SPARE	
E36 TO E60	PCM TIE	CABLE 9
F1 TO F12	RAMP METERING	CABLE 11
F13 TO F24	RAMP METERING	CABLE 12
F27 TO F30	DBP	CABLE 39
F36 TO F60	PCM TIE	CABLE 9
G1 TO G12	C.C.T.V.	CABLE 13
G13 TO G24	C.C.T.V.	CABLE 14
G25 TO G35	SPARE	
G36 TO G60	PCM TIE	CABLE 9
H1 TO H12	TELEMETRY	CABLE 15
H13 TO H24	TELEMETRY	CABLE 16
H25 TO H60	TLC	CABLE 33/38
J1 TO J24	302/304	CABLE 23/24
J25 TO J30	LCC	CABLE 30
J31 TO J60	SECT.SWITCH	CABLE 31
K1 TO K24	NMCS1	CABLE 25/26
K25 TO K30	LCC	CABLE 30
K31 TO K60	SECT.SWITCH	CABLE 32
L1 TO L30	MOTORWAY/TIE	CABLE 2
L31 TO L60	MOTORWAY/TIE ANCILLARY	CABLE 3
M1 TO M30	MOTORWAY/TIE	CABLE 1
M31 TO M60	PW/TIE CABLE	CABLE 4

5. CARRIER CHANNEL TERMINATIONS ARE WIRED AS SHOWN



6. ALL CABLES SHOULD BE RUN & SECURED TO THE VERTICAL SECURING BARS.
7. ALL BLOCKS ARE 10 PR INSULATION DISPLACEMENT CONNECTORS (IDC)
8. DETAILED CONNECTIONS FOR THE SECTOR SWITCH, LCC, DBP AND TLC SHALL BE SOUGHT FROM TSS TRANSMISSION SECTION.

CABLE IDENTIFICATION

1. MOTORWAY/TIE CABLE 1
 2. MOTORWAY/TIE CABLE 2
 3. MOTORWAY/TIE ANCILLARY CABLE
 4. PW TIE CABLE
 5. AUDIO RACK 1 K2
 6. AUDIO RACK 1 K1
 7. AUDIO RACK 2 K2
 8. AUDIO RACK 2 K1
 9. PCM TIE CABLE
 10. ICO LINKS
 - 11-12. RAMP METERING
 - 13-14. CCTV CABLE
 - 15-16. TELEMETRY CABLE
 - 17-22. CARRIER I/F
 - 23-24. 302/304
 - 25-26. NMCS 1
 - 27-28. DDF TIE CABLES
 30. LCC
 - 31-32. SECTOR SWITCH
 - 33-38. TLC
 39. DBP
 18. RCC/MODEM RACK
- } MOTORWAY SURVEILLANCE EQUIPMENT

(REV. 9)

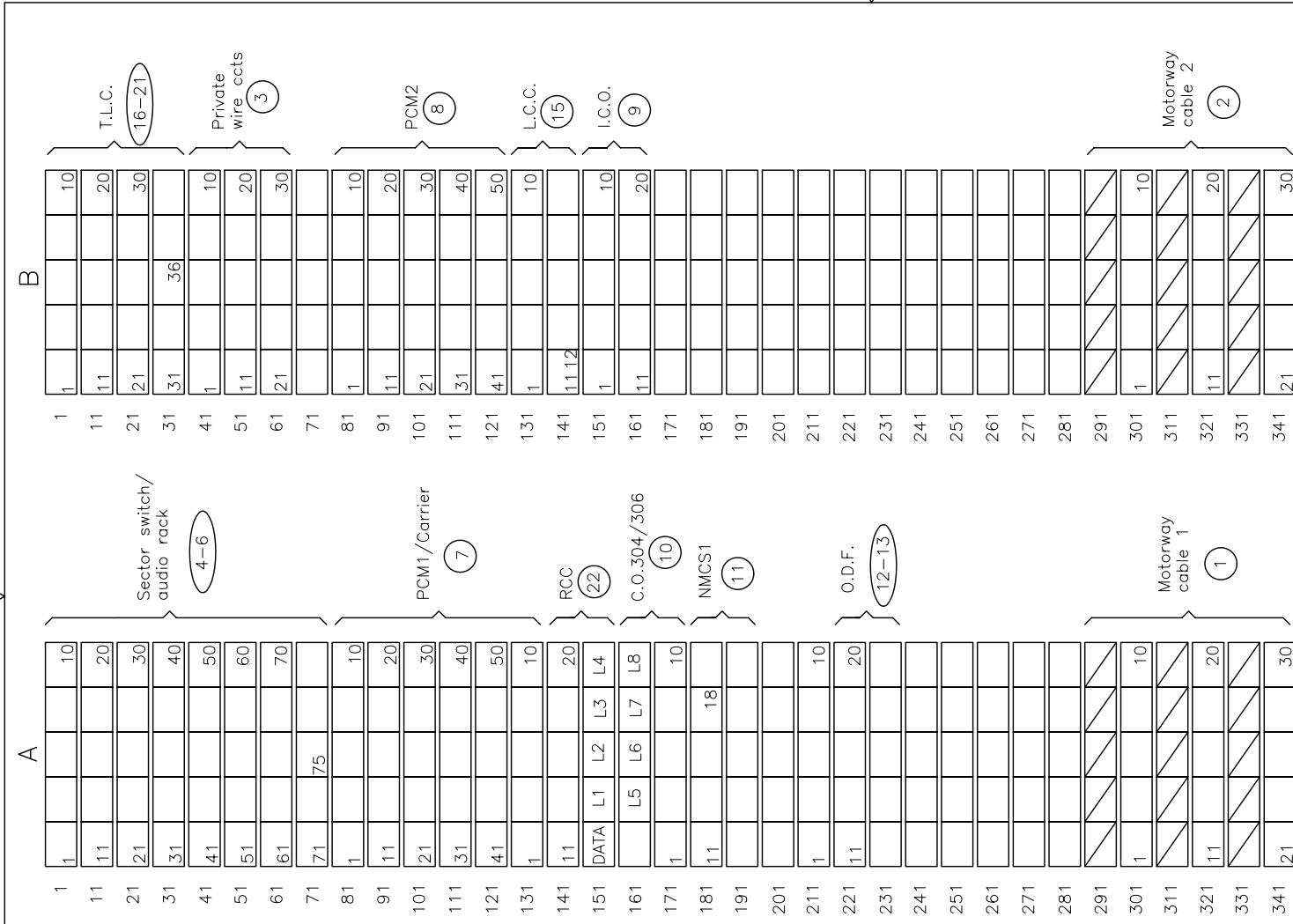
This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS

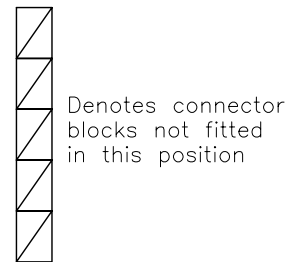
TITLE
INSTALLATION DRAWING
CABINET 2303 TERMINATIONS AND WIRING
(CONTROL OFFICE) - NOTES

ORIGINAL DRAWING SIZE: 297 x 420
ALL DIMENSIONS ARE IN MM
TOLERANCE ± UNLESS OTHERWISE STATED
THIRD ANGLE PROJECTION DO NOT SCALE

G	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
F	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
E	NEW DRAWING BLANK	FJC 1.7.97
A	INITIAL ISSUE	4.4.90
ISSUE	AMENDMENTS	APPD/DATE
DRN EED	CHKD PJS	SCALE
DATE 13.12.93	DATE 25.1.94	NTS
DRG. NO.	MCX 0542	SHT. NO. 4 of 4



- CABLE IDENTIFICATION**
- 1. 20/30Pr motorway cable 1
 - 2. 20/30Pr motorway cable 2
 - 3. 20/30Pr private wire ccts
 - 4-6. 3x25Pr audio/sector switch
 - 7-8. 2x50Pr PCM/carrier
 - 9. 20Pr I.C.O.
 - 10. 20Pr C.O. 304/306
 - 11. 20Pr NMCS1
 - 12-13. 2x10Pr O.D.F. tie cables
 - 15. 12Pr L.C.C.
 - 16-21. 6x6Pr T.L.C.
 - 22. 20Pr RCC



(REV. 9)

This drawing was generated on computer and must not be manually updated

HIGHWAY CONSTRUCTION DETAILS	TITLE INSTALLATION DRAWING CABINET 2304 CABLE TERMINATIONS	ORIGINAL DRAWING SIZE: 297 x 420	DRN PJS	CHKD DF	SCALE
		ALL DIMENSIONS ARE IN MM	DATE 19.5.93	DATE 4.6.93	NTS
		TOLERANCE ± UNLESS OTHERWISE STATED	DRG. NO. MCX 0543		SHT. NO.
		THIRD ANGLE PROJECTION DO NOT SCALE			1 of 1

G	HA ADDRESS REPLACED BY HIGHWAY CONSTRUCTION DETAILS	DWE 02.06
F	ADDRESS & LOGO REVISED COPYRIGHT NOTICE REMOVED	DWE 02.02
E	NEW DRAWING BLANK	FJC 1.7.97
A	INITIAL ISSUE	1.11.91
ISSUE	AMENDMENTS	APPD/DATE

MCX 0544 – 0551
NOT USED