

# appendix



## Balloon whisk

A cooking utensil used in food preparation to blend ingredients smooth, or to incorporate air into a mixture, in a process known as whisking or whipping. Most whisks consist of a long, narrow handle with a series of wire loops joined at the end.





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## appendix



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# connector pin outs 405

## VDC standard connector pin outs

This section contains the standard VDC in-house wiring specifications used with the more common audio multipin connectors found in this catalogue. All systems manufactured at VDC follow these wiring schedules, making maintenance and system expansion a simple procedure. The use of a standard specification also makes the practice of sub-hiring, common in the P.A. industry, an easy and trouble-free exercise. If you require any other VDC wiring specifications please call.

Ch. No.	VDM150	VDM85	VDM54	VDM37	VDM25
1 +	1	A	W	E	A
-	2	B	f	F	E
scr	3	C	r	A	F
2 +	5	E	J	B	G
-	6	F	R	C	C
scr	7	H	a	G	B
3 +	8	J	k	H	D
-	9	K	v	J	H
scr	10	L	AC	D	J
4 +	11	N	E	S	M
-	12	P	M	T	L
scr	13	R	V	K	K
5 +	14	S	e	L	Q
-	15	T	q	M	P
scr	16	U	y	U	N
6 +	17	X	B	V	W
-	18	Y	H	W	S
scr	19	Z	P	N	R
7 +	21	a	Z	P	T
-	22	b	j	R	X
scr	23	c	u	X	Y
8 +	24	d	D	a	Z
-	25	f	L	b	V
scr	26	g	U	g	U
9 +	27	h	d	c	
-	28	l	p	d	
scr	29	j	x	j	
10 +	20	k	A	e	
-	30	m	G	f	
scr	31	n	O	m	
11 +	32	p	Y	n	
-	33	q	h	p	
scr	34	r	t	h	
12 +	35	t	C	r	
-	36	u	K	s	
scr	37	v	T	k	
13 +	38	w	c		
-	39	x	n		
scr	40	y	w		
14 +	41	z	F		
-	42	AA	N		
scr	43	AB	X		
15 +	44	AC	g		
-	45	AD	s		
scr	46	AE	AB		
16 +	47	AF	S		
-	48	AH	b		
scr	49	AJ	m		



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## VDC standard connector pin outs

Ch. No.	DDK73	DDK52	DDK24	EDAC120	EDAC90	EDAC56	EDAC38
1 +	E	A	A	A	A	A	A
-	A	E	E	K	H	E	E
scr	B	L	F	V	R	L	L
2 +	L	B	B	B	B	B	B
-	C	F	G	L	J	F	F
scr	D	M	C	W	S	M	M
3 +	P	C	D	C	C	C	C
-	F	H	H	M	K	J	J
scr	H	N	J	X	T	N	N
4 +	U	D	K	D	D	D	D
-	J	J	R	N	M	K	K
scr	K	P	L	Y	U	P	P
5 +	X	K	M	E	E	R	R
-	M	R	T	P	N	W	S
scr	N	Y	N	Z	V	a	V
6 +	a	S	P	F	F	S	T
-	R	Z	V	R	P	X	U
scr	S	h	Q	AA	W	b	W
7 +	m	T	S	H	X	U	Z
-	c	a	W	S	AE	Y	AA
scr	T	j	X	AB	AM	c	X
8 +	f	U	U	J	Y	V	BB
-	V	b	Y	T	AF	Z	CC
scr	W	c	Z	AC	AN	d	Y
9 +	l	V		AD	Z	k	DD
-	Y	d		AP	AH	p	JJ
scr	Z	l		AY	AP	u	PP
10 +	v	W		AE	AB	l	EE
-	k	e		AR	AJ	r	KK
scr	b	m		AZ	AS	v	RR
11 +	d	Q		AF	AC	m	FF
-	p	X		AS	AK	s	MM
scr	n	f		BA	AT	x	SS
12 +	r	g		AH	AD	n	HH
-	g	p		AT	AL	t	NN
scr	h	w		BB	AU	y	TT
13 +	j	r		AJ	BJ	z	
-	u	x		AU	BS	DD	
scr	t	3		BC	BY	KK	
14 +	q	y		AK	BK	AA	
-	z	4		AV	BT	EE	
scr	y	5		BD	BZ	LL	
15 +	s	u		AL	BL	BB	
-	AB	z		AW	BU	HH	
scr	AA	6		BE	CA	MM	
16 +	AR	n		AM	BN	CC	
-	AE	v		AX	BV	JJ	
scr	w	2		BF	CC	NN	

# connector pin outs 407

## VDC standard connector pin outs

Ch. No.	HD108	HD72	HD64	HD42	DL96	26 OB-Con	19 PA-Con
1 +	1	1	A1	1	A1	A	L
-	2	2	A2	2	B1	B	M
scr	3	3	A3	3	C1	T	K
2 +	19	13	B1	8	A2	C	H
-	20	14	B2	9	B2	D	J
scr	21	15	B3	10	C2	U	G
3 +	37	25	C1	15	A3	E	E
-	38	26	C2	16	B3	F	F
scr	39	27	C3	17	C3	V	D
4 +	55	37	D1	22	A4	G	B
-	56	38	D2	23	B4	H	C
scr	57	39	D3	24	C4	W	A
5 +	73	49	A4	29	A5	J	T
-	74	50	A5	30	B5	K	U
scr	75	51	A6	31	C5	X	S
6 +	91	61	B4	36	A6	L	P
-	92	62	B5	37	B6	M	R
scr	93	63	B6	38	C6	Y	N
7 +	4	4	C4	4	A7	N	
-	5	5	C5	5	B7	P	
scr	6	6	C6	6	C7	E	
8 +	22	16	D4	11	A8	R	
-	23	17	D5	12	B8	S	
scr	24	18	D6	13	C8	Q	
9 +	40	28	A7	18	D1		
-	41	29	A8	19	E1		
scr	42	30	A9	20	F1		
10 +	58	40	B7	25	D2		
-	59	41	B8	26	E2		
scr	60	42	B9	27	F2		
11 +	76	52	C7	32	D3		
-	77	53	C8	33	E3		
scr	78	54	C9	34	G1		
12 +	94	64	D7	39	D4		
-	95	65	D8	40	E4		
scr	96	66	D9	41	G2		
13 +	7	7	A10		D5		
-	8	8	A11		E5		
scr	9	9	A12		G7		
14 +	25	19	B10		D6		
-	26	20	B11		E6		
scr	27	21	B12		G8		
15 +	43	31	C10		D7		
-	44	32	C11		E7		
scr	45	33	C12		F7		
16 +	61	43	D10		D8		
-	62	44	D11		E8		
scr	63	45	D12		F8		



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## VDC standard connector pin outs

Ch. No.	VDM150	VDM85	DDK73	EDAC120	EDAC90
17 +	50	AK	x	U	BP
-	51	AL	AH	AN	BW
scr	52	AM	AF	BH	CD
18 +	53	AP	AJ	BJ	BR
-	54	AR	AU	BR	BX
scr	55	AS	AT	BX	CE
19 +	57	AT	AV	BK	CF
-	58	AU	AK	BS	CN
scr	59	AV	AL	BY	CW
20 +	60	AW	AC	BL	CH
-	61	AX	AN	BT	CP
scr	62	AY	AM	BZ	CX
21 +	63	AZ	AY	BM	CJ
-	64	BA	AP	BU	CR
scr	65	BB	AD	CA	CY
22 +	66	BC	BA	BW	CK
-	67	BD	AZ	BV	CT
scr	68	BE	AS	CB	CZ
23 +	69	BJ	BB	BP	CL
-	70	BK	BF	BW	CU
scr	71	BL	BE	CC	DA
24 +	72	BM	BC	CD	
-	73	BN	BD	CP	
scr	74	BP	AX	CY	
25 +	75			CE	
-	76			CR	
scr	77			CZ	
26 +	78			CF	
-	79			CS	
scr	80			DA	
27 +	82			CH	
-	83			CT	
scr	84			DB	
28 +	85			CJ	
-	86			CU	
scr	87			DC	
29 +	88			CK	
-	89			CV	
scr	90			DD	
30 +	91			CL	
-	92			CW	
scr	93			DE	
31 +	94			CM	
-	95			CX	
scr	96			DF	
32 +	97			EN	
-	98			DH	
scr	99			EB	

# connector pin outs 409

## VDC standard connector pin outs

Ch. No.	HD108	HD72	HD64	DL96
17 +	79	55	A13	L1
-	80	56	A14	K1
scr	81	57	A15	J1
18 +	97	67	B13	L2
-	98	68	B14	K2
scr	99	69	B15	J2
19 +	10	10	C13	L3
-	11	11	C14	K3
scr	12	12	C15	H1
20 +	28	22	D13	L4
-	29	23	D14	K4
scr	30	24	D15	H2
21 +	46	34		L5
-	47	35		K5
scr	48	36		H7
22 +	64	46		L6
-	65	47		K6
scr	66	48		H8
23 +	82	58		L7
-	83	59		K7
scr	84	60		J7
24 +	100	70		L8
-	101	71		K8
scr	102	72		J8
25 +	13			P1
-	14			N1
scr	15			M1
26 +	31			P2
-	32			N2
scr	33			M2
27 +	49			P3
-	50			N3
scr	51			M3
28 +	67			P4
-	68			N4
scr	69			M4
29 +	85			P5
-	86			N5
scr	87			M5
30 +	103			P6
-	104			N6
scr	105			M6
31 +	16			P7
-	17			N7
scr	18			M7
32 +	34			P8
-	35			N8
scr	36			M8



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## VDC standard connector pin outs

Ch. No.	VDM150	EDAC120
33 +	100	DJ
-	101	DT
scr	102	EC
34 +	103	DK
-	104	DU
scr	105	ED
35 +	56	DL
-	81	DV
scr	106	EE
36 +	107	DM
-	108	DW
scr	109	EF
37 +	110	DN
-	111	DX
scr	112	EH
38 +	113	DP
-	114	DY
scr	115	EJ
39 +	116	DR
-	117	DZ
scr	118	EK
40 +	119	DS
-	120	EA
scr	121	EL
41 +	122	
-	123	
scr	124	
42 +	125	
-	126	
scr	127	
43 +	139	
-	128	
scr	129	
44 +	130	
-	131	
scr	132	
45 +	133	
-	134	
scr	135	
46 +	136	
-	137	
scr	138	
47 +	140	
-	141	
scr	142	
48 +	143	
-	144	
scr	145	
49 +		
-		
scr		
50 +		
-		
scr		



# CSA/AWG/IP data 411

## Metric/CSA/AWG comparison

Metric	CSA (mm )	AWG
1/0.25	0.049	30
1/0.32	0.080	28
19/0.08	0.096	28
7/0.16	0.141	26
1/0.50	0.196	24
7/0.20	0.220	24
1/0.64	0.322	22
7/0.25	0.344	22
16/0.20	0.503	22
7/0.32	0.563	20
10/0.25	0.491	20
24/0.20	0.754	20
1/1.13	1.003	18
19/0.25	0.933	18
32/0.20	1.000	18
26/0.25	1.276	16
30/0.25	1.473	16
41/0.25	2.013	14
50/0.25	2.455	14
43/0.25	3.459	12
65/0.25	3.191	12



## IP ratings

IP	SOLID OBJECTS AND DUST
1st digit	
0	Not protected
1	Protected against solid objects of no more than 50mm, e.g. hands
2	Protected against solid objects up to 12mm diameter and not exceeding 80mm long, e.g. fingers
3	Protected against solid objects greater than 2.5mm, e.g. tools
4	Protected against solid objects greater than 1.0mm, e.g. wires
5	Protected against dust. Ingress of dust not totally prevented (no deposit)
6	Dust tight. Totally protected against dust

IP	LIQUIDS
2nd digit	
0	Not protected
1	Protected against vertical drops of water
2	Protected against dripping water at up to 15° from vertical
3	Protected against water when sprayed at up to 60° from the vertical
4	Protected against water when sprayed from any direction. Limited ingress allowed with no detrimental effect
5	Protected against low pressure jets from all directions. Limited ingress allowed with no detrimental effect
6	Protected against strong jets of water with limited ingress allowed
7	Protected against immersion under defined pressure and time
8	Protected against immersion underwater under conditions defined by the manufacturer



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# appendix



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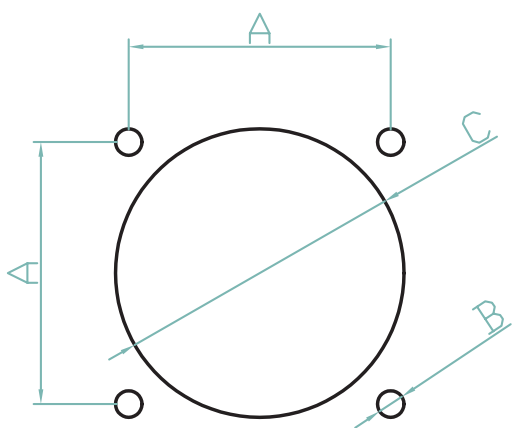


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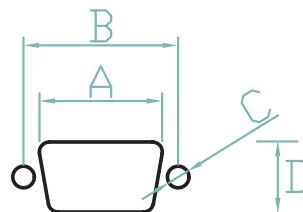


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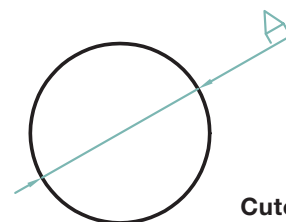
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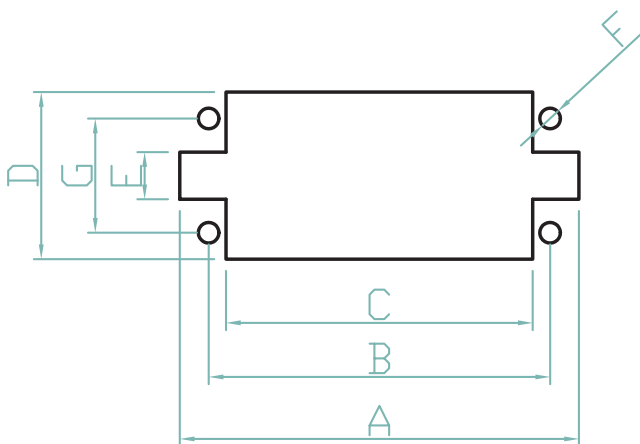
Cutout 1:



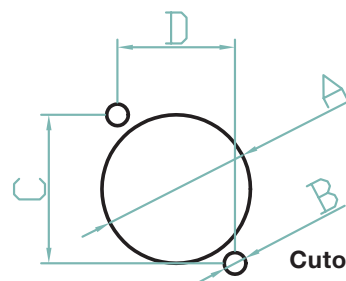
Cutout 4:



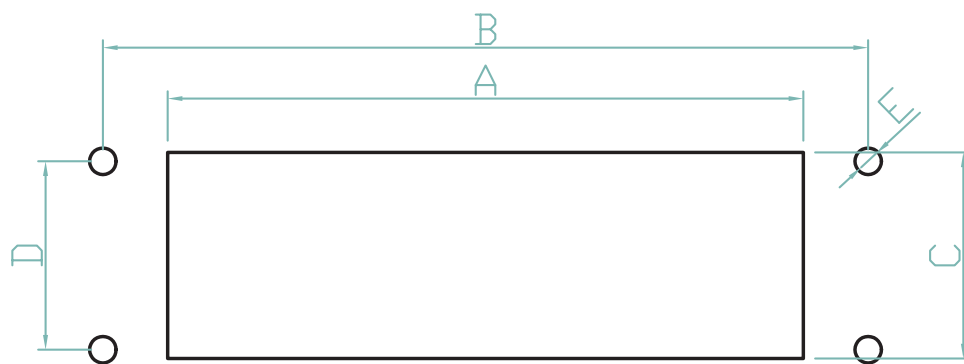
Cutout 5:



Cutout 2:



Cutout 6:



Cutout 3:



# connector cut outs 413

## Dimension data

Connector	A	B	C
<b>Cutout 1</b>			
VDM 25	34.9	3.7	35.3
VDM 37	39.7	3.7	41.5
VDM 54	44.5	4.3	48.0
VDM 85 150	55.6	4.3	60.0
PA-CON 19	29.4	3.2	29.0
DDK 24	35.0	3.8	34.9
DDK 52	44.5	4.3	48.5
DDK 73	49.0	4.3	54.0
26 OB-CON	25.0	3.0	24.0
PA CON 8	31.8	3.2	32.5

Connector	A	B	C	D	E	F	G
<b>Cutout 2</b>							
EDAC 20	32.4	28.6	24.4	16.8	7	2.5	12
EDAC 38	49.3	43	36	20	7	3.5	12
EDAC 56	64.2	58	49.3	20	7	3.5	12
EDAC 90	67.8	57.9	52	28.6	7	3.5	19.4
EDAC 120	68.1	60.3	52.1	36.1	8	3.8	22.2

Connector	A	B	C	D	E
<b>Cutout 3</b>					
HD 24	55	70	37	32	4.5
HD 42	68	83	37	32	4.5
HD 64	115	130	37	32	4.5
HD 72	88	102	35	32	4.5
HD 108	115	130	37	32	4.5
HD 144	88	110	70	65	5.0

Connector	A	B	C	D	E
<b>Cutout 4</b>					
D 9	19.89	25	3.5	11.3	11.3
HD 15	19.89	25	3.5	11.3	11.3
D 15	30.44	33.3	3.5	11.3	11.3
D 25	44.14	47	3.5	11.3	11.3
D 30	59	63.5	3.5	11.3	11.3
D 50	56	61	3.5	15.5	15.5

Connector	A
<b>Cutout 5</b>	
PG 16	23
PG 21	29
PG 29	37
PG 36	48

Connector	A	B	C	D
<b>Cutout 6</b>				
XLR D-TYPE	23.8	3.5	24	19



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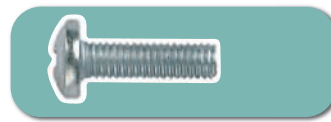
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## Patch bay normalling

A patch bay is normalled when the top jack socket (output) and bottom jack socket (input) of a vertical pair are connected together, allowing the signal to pass through the patch bay, when no patch cords are inserted. There are three methods of normalling a patch bay: half normalling, single normalling and double normalling.

### Half normalling

When no patch cord is inserted, the signal passes from the top jack (output) to the bottom jack (input) of a vertical pair. When a patch cord is plugged in the top jack, the signal still passes to the bottom jack, allowing a parallel for example. When a patch cord is inserted into the bottom jack, its connection from the top row is broken.

### Single (Full) normalling

When no patch cord is inserted, the signal passes from the top jack (output) to the bottom jack (input) of a vertical pair. When a patch cord is inserted into either the top jack or the bottom jack, the connection is broken.

### Double normalling

When no patch cord is inserted, the signal passes from the top jack (output) to the bottom jack (input) of a vertical pair. The connection can only be broken when a patch cord is inserted into the top and the bottom jacks.

## VDC tail length details

Number of channels	VDC default tail length	Default cable type
2	15cm	Blue series 2 pair
4	30cm	Blue series 4 pair
8	30cm	Blk or Blue series 8 pair
12	65cm	Blk or Blue series 12 pair
16	65cm	Blk or Blue series 16 pair
20	65cm	Blk or Blue series 24 pair
24	1m	Blk or Blue series 24 pair
32	1m	Blk or Blue series 32 pair
40	1.5m	Blk or Blue series 48 pair
48	1.5m	Blk or Blue series 48 pair



## wallbox dimensions

Box size	Width	Depth	Height
8 way	285 mm	100 mm	124 mm
16 way	285 mm	100 mm	170 mm
24 way	285 mm	100 mm	212 mm
24 way extended	412mm	100mm	212mm
32 way	285 mm	100 mm	255 mm
40 way	285 mm	100 mm	300 mm
48 way	285 mm	100 mm	344 mm

Please add 10 mm to the depth if the box is fitted with rubber feet (a stagebox)

## Conversion factors

Inches to centimetres	Multiply by 2.54 (exact)
Centimetres to inches	Multiply by 0.3937
Feet to metres	Multiply by 0.3048
Metres to feet	Multiply by 3.2808
Pounds to kilograms	Multiply by 0.4536
Kilograms to pounds	Multiply by 2.2046

# cable colour codes 415



and various colour codes



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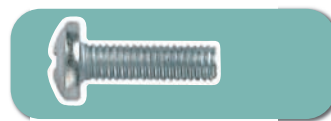
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IEC, Van Damme ext	A +ve		B -ve		VDC digital, Audio 25 pair		Twisted pair, & data cable		Def Stan +
	A +ve	B -ve	A +ve	B -ve	A +ve	B -ve	A +ve	B -ve	
1	White	Blue	White	Blue	Black	Red	Red		
2	White	Orange	White	Orange	Black	White	Blue		
3	White	Green	White	Green	Black	Green	Green		
4	White	Brown	White	Brown	Black	Blue	Yellow		
5	White	Grey	White	Grey	Black	Yellow	White		
6	Red	Blue	Red	Blue	Black	Brown	Black		
7	Red	Orange	Red	Orange	Black	Orange	Brown		
8	Red	Green	Red	Green	Red	White	Violet		
9	Red	Brown	Red	Brown	Red	Green	Orange		
10	Red	Grey	Red	Grey	Red	Blue	Pink		
11	Black	Blue	Black	Blue	Red	Yellow	Turquoise		
12	Black	Orange	Black	Orange	Red	Brown	Grey		
13	Black	Green	Black	Green	Red	Orange	Red/Blue		
14	Black	Brown	Black	Brown	Green	White	Green/Red		
15	Black	Grey	Black	Grey	Green	Blue	Yellow/Red		
16	Yellow	Blue	Yellow	Blue	Green	Yellow	White/Red		
17	Yellow	Orange	Yellow	Orange	Green	Brown	Red/Black		
18	Yellow	Green	Yellow	Green	Green	Orange	Red/Brown		
19	Yellow	Brown	Yellow	Brown	White	Blue	Yellow/Blue		
20	Yellow	Grey	Yellow	Grey	White	Yellow	White/Blue		
21	White/Blue	Blue	Purple	Blue	White	Brown	Blue/Black		
22	White/Blue	Orange	Purple	Orange	White	Orange	Orange/Blue		
23	White/Blue	Green	Purple	Green	Blue	Yellow	Green/Blue		
24	White/Blue	Brown	Purple	Brown	Blue	Brown	Grey/Blue		
25	White/Blue	Grey	Purple	Grey	Blue	Orange	Yellow/Green		
26	Red/Blue	Blue			Brown	Yellow	White/Green		
27	Red/Blue	Orange			Brown	Orange	Green/Black		
28	Red/Blue	Green			Orange	Yellow	Orange/Green		
29	Red/Blue	Brown			Violet	Orange	Grey/Green		
30	Red/Blue	Grey			Violet	Red	Yellow/Brown		
31	Black/Blue	Blue			Violet	White	White/Brown		
32	Black/Blue	Orange			Violet	Dark green	Brown/Black		
33	Black/Blue	Green			Violet	Light blue	Grey/Brown		
34	Black/Blue	Brown			Violet	Yellow	Yellow/Violet		
35	Black/Blue	Grey			Violet	Brown	Violet/Black		
36	Yellow/Blue	Blue			Violet	Black	White/Violet		
37	Yellow/Blue	Orange							
38	Yellow/Blue	Green							
39	Yellow/Blue	Brown							
40	Yellow/Blue	Grey							
41	White/Orange	Blue							
42	White/Orange	Orange							
43	White/Orange	Green							
44	White/Orange	Brown							
45	White/Orange	Grey							
46	Red/Orange	Blue							
47	Red/Orange	Orange							
48	Red/Orange	Green							

Van Damme extension colour code 49 - 64

A +ve	B -ve	A +ve	B -ve	
49	Red/Orange	Brown	57	Yellow/Orange
50	Red/Orange	Grey	58	Yellow/Orange
51	Black/Orange	Blue	59	Yellow/Orange
52	Black/Orange	Orange	60	Yellow/Orange
53	Black/Orange	Green	61	White/Green
54	Black/Orange	Brown	62	White/Green
55	Black/Orange	Grey	63	White/Green
56	Yellow/Orange	Blue	64	White/Green

NOTE: Lines 1–36 are the standard IEC colour code. Lines 37–64 are the Van Damme extension.



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## Resistor colour code

### four colour band carbon film resistor

#### Bands 1 and 2

Value	
Black	0
Brown	1
Red	2
Orange	3
Yellow	4
Green	5
Blue	6
Violet	7
Grey	8
White	9

### five colour band carbon film resistor

Bands 1, 2 and 3 are value Band 4 is multiplier. Band 5 is tolerance.

#### Band 3 Multiplier

Silver	÷ by 100
Gold	÷ by 10
Black	x by 1
Brown	x by 10
Red	x by 100
Orange	x by 1000
Yellow	x by 10000
Green	x by 100000
Blue	x by 1000000

#### Band 4 Tolerance

Brown	± 1%
Red	± 2%
Gold	± 5%
Silver	± 10%

## TIA/EIA-568-B.1-2001 Category 5E and 6 colour codes & pin out

VDC, in common with the majority of the UK, default to the T568-B standard

Holding the 8P8C connector with the latch underneath and contacts facing away from you, pin 1 is on the left hand side.

RJ45 (8P8C) pin no.	T568A colour	T568B colour
1	White/Green	White/Orange
2	Green	Orange
3	White/Orange	White/Green
4	Blue	Blue
5	White/Blue	White/Blue
6	Orange	Green
7	White/Brown	White/Brown
8	Brown	Brown

## TIA (Telecommunications Industry Association) and ISO Standards

### • Category Cables Standards and Class Limits

	TIA	ISO
Category 5e	ANSI/TIA-568-C.2	Class D ISO/IEC 11801 2nd Edition
Category 6	ANSI/TIA-568-C.2	Class E ISO/IEC 11801 2nd Edition
Category 6A	ANSI/TIA-568-C.2	Class E <sub>A</sub> ISO/IEC 11801 2nd Edition, amendment 1
Category 7 (600 MHz)	Not ratified	Class F ISO/IEC 11801 2nd Edition
Category 7 (1000 MHz)	Not ratified	Class F <sub>A</sub> ISO/IEC 11801 2nd Edition, amendment 1

### • Performance criteria glossary

<a href="#">NEXT Loss (dB)</a>	Near-end Crosstalk	<a href="#">PSELFEXT (dB)</a>	Power Sum Equal Level Far-End Crosstalk
<a href="#">PSNEXT Loss (dB)</a>	Power Sum Near-End Crosstalk	<a href="#">PSACRF (dB)</a>	Power Sum Attenuation to Crosstalk Ratio, Far End
<a href="#">ACR (dB)</a>	Attenuation to Crosstalk Ratio	<a href="#">PSANEXT (dB)</a>	Power Sum Alien Near-End Crosstalk
<a href="#">PSACR (dB)</a>	Power Sum Attenuation to Crosstalk Ratio	<a href="#">PSAACRF (dB)</a>	Power Sum A lien Attenuation to Crosstalk Ratio, Far-End
<a href="#">ELFEXT (dB)</a>	Equal Level Far-End Crosstalk	<a href="#">TCL (dB)</a>	Transverse Conversion Loss
<a href="#">ACRF (dB)</a>	Attenuation to Crosstalk Ratio, Far-End	<a href="#">ELTCTL (dB)</a>	Equal Level Transverse Converse Transfer Loss

# IEC classifications 417

Standards performance comparison at 100 MHz

	Cat 5e/Class D	Cat 6/Class E	Cat 6A/ Class E <sub>A</sub>	Class F	Class F <sub>A</sub>
Frequency Range (MHz)	1-100	1-250	1-500	1-600	1-1000
Insertion Loss (dB)	24.0	21.3 (TIA) 21.7 (ISO)	20.9	20.8	20.3
NEXT Loss (dB)	30.1	39.9	39.9	62.9	65.0
PSNEXT Loss (dB)	27.1	37.1	37.1	59.9	62.0
ACR (dB)	6.1	18.6	18.6	42.1	46.1
PSACR (dB)	3.1	15.8	15.8	39.1	41.7
ELFEXT (dB)	17.4	23.3	n/a	n/a	n/a
ACRF (dB)	n/a	n/a	23.3 (TIA) 25.5 (ISO)	44.4	47.4
PSELFEXT (dB)	14.4	20.3	n/a	n/a	n/a
PSACRF (dB)	n/a	n/a	20.3 (TIA) 22.5 (ISO)	41.4	44.4
Return Loss (dB)	10.0	12.0	12.0	12.0	12.0
PSANEXT (dB)	n/a	n/a	60.0	n/a	67.0
PSAACRF (dB)	n/a	n/a	37.0	n/a	52.0
TCL (dB)	n/a	n/a	20.3	20.3	20.3
ELTCTL @ 30 MHz (dB)	n/a	n/a	0.5 (TIA) 0 (ISO)	0	0
Propagation delay (ns)	548	548	548	548	548
Delay skew (ns)	50	50	50	30	30



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## Van Damme Marine Grade cables IEC classifications



### IEC 60332.1 Fire retardancy of a single cable

A single vertically suspended cable is subjected to direct flame from a Bunsen burner for a pre-specified time dependant on the overall diameter of the cable. To pass this test the cable must stop burning when the flame is removed and evidence of charring or burning of the cable must not extend 50mm beyond the directly flame exposed section of the cable.

**Criteria:**

- Overall diameter ≤ 25mm                      time under flame 60 seconds
- Overall diameter >25mm and ≤ 50mm      time under flame 120 seconds



Test equipment

### IEC 60332.3C Fire retardancy of bunched cables

IEC 60332.1 proves the fire retardancy of a single cable under flame; where cables are bunched together as in a typical installation IEC 60332.3 is the test used. Cables which are individually proven as fire retardant may, when bunched together, still propagate flame.

Test cables (minimum installed length 2.5 metres) are vertically suspended on a ladder within a fire test cabinet 1 metre wide by 4 metres high by 2 metres deep A propane burner is used to subject the bottom of the bunched cable run to flame. Air within the cabinet must be refreshed at a rate of 5000 litres ± 500 per minute and the temperature maintained at 750°C.

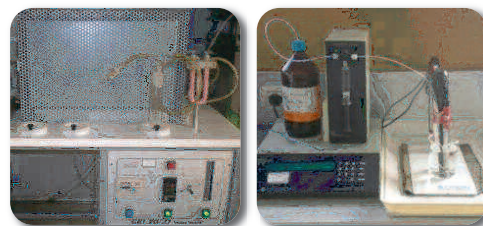


Test equipment

Category C definitions for this test are for cables with 1.5 cubic litre of insulating material per 1 metre of cable; time under flame is 20 minutes. To pass this test the cables must self-extinguish when the burner is removed and the flame must not have propagated over 2.5 metres.

### IEC 60754.1 Determination of the amount of halogen gases

A sample of the cable (500 – 1000mg) is burned in a ventilated combustion furnace at 800°C for 20 minutes and the resulting fumes are forced into gas washing containers. Using chemical titration it is then possible to determine the amount of halogen gas relative to the original mass of the sample. This test requires the relative amount of halogen gases to be ≤ 0.5%; however with halogen free materials a result of ≤ 0.3% is usually expected.



Test equipment



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## Van Damme Marine Grade cables IEC classifications (continued)



Test equipment



### IEC 60754.2 Determination of the degree of acidity of gases.

A 1000mg sample of the cable is burned in a ventilated combustion furnace at 935°C for 30 minutes and the resulting fumes are forced into gas washing containers. Using the relevant laboratory test equipment the acidity of any gases present and their conductivity is measured. To pass this test pH value must be  $\geq 4.3$  and conductivity must be  $\leq 100\mu\text{S/cm}$ .



Test equipment



### IEC 61034.2 Measurement of smoke density under defined conditions

A sample of the cable is suspended over a tray containing 1 litre of alcohol in a test chamber that contains a light source on one side and a photovoltaic cell on the other. The alcohol is ignited, air is allowed to circulate and smoke will be emitted. The test finishes either after 40 minutes or when the density of the smoke within the cabinet has not increased over a 5 minute period. Using the light source and photovoltaic cell light intensity is measured and to pass this test the light transmittance factor must be  $\geq 60\%$ .



## digital coaxials transmission lengths

### Van Damme HD Vision digital coaxial cables

	SMPTE 259				SMPTE 292	SMPTE 424
Data rate (clock)	143Mb/s	177Mb/s	270Mb/s	360Mb/s	1.485Gb/s	2.97Gb/s
½ Clock Rate	72MHz	89MHz	135MHz	180MHz	743MHz	1485MHz
Stock code	Recommended transmission length					
278-975-000	316m	284m	230m	188m	58m	42m
278-175-000	443m	399m	328m	287m	90m	64m
278-475-000	730m	652m	510m	466m	144m	99m
278-775-000	148m	132m	108m	66m	29m	20m

### Van Damme HD Vision flexible digital coaxial cables

	SMPTE 259				SMPTE 292	SMPTE 424
Data rate (clock)	143Mb/s	177Mb/s	270Mb/s	360Mb/s	1.485Gb/s	2.97Gb/s
½ Clock Rate	72MHz	89MHz	135MHz	180MHz	743MHz	1485MHz
Stock code	Recommended transmission length					
268-275-000	249m	224m	145m	128m	47m	31m
268-175-000	320m	288m	172m	152m	63m	41m
268-475-000	420m	379m	311m	273m	85m	60m
268-675-000	420m	379m	311m	273m	85m	60m

### Van Damme SDI Vision Ecoflex

	SMPTE 259				SMPTE 292	SMPTE 424
Data rate (clock)	143Mb/s	177Mb/s	270Mb/s	360Mb/s	1.485Gb/s	2.97Gb/s
½ Clock Rate	72MHz	89MHz	135MHz	180MHz	743MHz	1485MHz
Recommended transmission length	264m	237m	196m	172m	54m	36m



# IEC classifications 419



## and cd cable reel dimensions

Stock Code	Type	Flange mm	Height mm	Width mm	Depth mm	Hub width mm
805-002-000	VDSP240	240	315	240	200	135
805-004-000	VDSP300	305	365	305	210	135
805-006-000	VDHT300	300	365	300	200	135
805-008-000	VDHT380	380	450	380	230	178
805-010-000	VDHT460	460	545	460	250	178
805-012-000	VDSK4600	460	510	460	513	280
805-014-000	VDSK4601	460	510	460	613	280
805-016-000	VDSK4602	460	510	460	763	280
805-020-000	VDGT310.FL	310	367	310	284	170
805-030-000	VDGT310.PL					
805-040-000	VDGT310.DR	310	367	310	229	170
805-022-000	VDGT380.FL	380	491	380	346	236
805-032-000	VDGT380.PL					
805-042-000	VDGT380.DR	380	491	380	291	236
805-024-000	VDGT450.FL	445	555	310	365	296
805-034-000	VDGT450.PL					
805-044-000	VDGT450.DR	445	555	310	310	296
866-002-000	CD1	320	400	230	230	90
866-004-000	CD2	450	540	520	350	230
866-006-000	CD3					
866-012-000	CD3-T	450	540	520	500	230
866-015-000	CD3.45					
866-014-000	CD3.45-T	450	540	520	650	230
866-016-000	CD3.6-T	450	540	520	800	230

See the VDC website for an interactive cable drum capacity calculator.



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