

Application Note# 1241

Description for AMP-205x0, AMP-20542 DSUB Cables

The **Cable-44pin-xm** is used to break-out the I/O signals on connector J3 of the AMP-205x0 or AMP-20542. This cable consists of a 44-pin High Density Male DSub connector at one end, and flying leads at the other end. This cable is available in 1 meter or 2 meter lengths, designated by the 'xm' portion of the part number. For example, the part number for the 2 meter length is **Cable-44pin-2m**.

There are four versions of the Cable-44, each version has different pinout color coding. The following describes the three versions and their differences.

Version 1: Cables purchased before January 2004 have a slick black sheath. The part number on the sheath is 0006-0044 REV.-S1. Numbers after the revision information are Lot Codes and will vary.



Fig 1. Version 1 Cable-44 Part Number

For pinout information of this cable, see Table 1 below.

Table 1. First Version of Cable-44, Pinout Color-Code

Pin	Description	Cable Color (Dot)	Pin	Description	Cable Color (Dot)
1	NC/PWMZ/Motor Command Z ¹	White	23	Input4/LatchW	Dark Blue
2	Output 6	White(Black)	24	Input1/LatchX	Dark Blue(White)
3	Output 8	Black	25	NC/PWMX/Motor Command X ¹	Dark Blue(Black)
4	Output 5	Black(White)	26	HOMEX	Dark Blue(Brown)
5	Output 2	Brown	27	HOMEY	Purple
6	Abort	Brown(White)	28	HOMEZ	Purple(White)
7	Input 6	Red	29	HOMEW	Silver
8	Input3/LatchZ	Red(White)	30	Error	Silver(White)

9	NC/SignY/AmpenY ¹	Red(Black)	31	NC/PWMW/Motor Command W ¹	White(Brown)
10	CMP	Red(Purple)	32	+5V	White(Orange)
11	RLSX	Orange	33	+5V	White(Yellow)
12	RLSY	Orange(White)	34	GND	White(Green)
13	RLSZ	Orange(Black)	35	GND	White(Blue)
14	RLSW	Orange(Purple)	36	Input8	White(Purple)
15	FLSW	Yellow	37	Input5	Pink
16	NC/SignW/AmpenW ¹	Yellow(White)	38	Input2/LatchY	Pink(White)
17	NC/SignZ/AmpenZ ¹	Yellow(Black)	39	NC/PWMY/Motor Command Y ¹	Pink(Black)
18	Output1	Yellow(Purple)	40	NC/SignX/AmpenX ¹	Pink(Brown)
19	Output4	Green	41	FLSX	Light Blue
20	Output1	Green(White)	42	FLSY	Light Blue(White)
21	Output3	Green(Black)	43	FLSZ	Light Blue(Black)
22	Input7	Green(Purple)	44	Reset	Light Blue(Brown)

¹ Refer to specific amplifier pinout information in the DMC-21x3 Accessories Manual.

Version 2: Cables purchased between January 2004 and March 2006 a black braided sleeve over the slick black sheath. The part number on the braided sleeve is 0006-0044 REV.-S1 (same as Version 1). Numbers after the revision information are Lot Codes and will vary.



Fig 2. Version 2 Cable-44 Part Number

For pinout information of this cable, see Table 2 below.

Table 2. Second Version of Cable-44, Pinout Color-Code

Pin	Description	Cable Color (Stripe)	Pin	Description	Cable Color (Stripe)
1	NC/PWMZ/Motor Command Z ¹	Black	23	Input4/LatchW	Dark Blue(Black)
2	Output 6	Black(White)	24	Input1/LatchX	Dark Blue(Brown)
3	Output 8	Brown	25	NC/PWMX/Motor Command X ¹	Purple
4	Output 5	Brown (White)	26	HOMEX	Purple(White)
5	Output 2	Red	27	HOMEY	Light Blue
6	Abort	Red(White)	28	HOMEZ	Light Blue(White)
7	Input 6	Red(Black)	29	HOMEW	Light Blue(Black)
8	Input3/LatchZ	Red(Purple)	30	Error	Light Blue(Brown)

9	NC/SignY/AmpenY ¹	Orange	31	NC/PWMW/Motor Command W ¹	Silver
10	CMP	Orange(White)	32	+5V	Silver(White)
11	RLSX	Orange(Black)	33	+5V	Pink
12	RLSY	Orange(Purple)	34	GND	Pink(White)
13	RLSZ	Yellow	35	GND	Pink(Black)
14	RLSW	Yellow(White)	36	Input8	Pink(Purple)
15	FLSW	Yellow(Black)	37	Input5	White
16	NC/SignW/AmpenW ¹	Yellow(Brown)	38	Input2/LatchY	White(Black)
17	NC/SignZ/AmpenZ ¹	Green	39	NC/PWMY/Motor Command Y ¹	White(Brown)
18	Output7	Green(White)	40	NC/SignX/AmpenX ¹	White(Red)
19	Output4	Green(Black)	41	FLSX	White(Yellow)
20	Output1	Green(Purple)	42	FLSY	White(Green)
21	Output3	Dark Blue	43	FLSZ	White(Blue)
22	Input7	Dark Blue(White)	44	Reset	White(Purple)

¹ Refer to specific amplifier pinout information in the DMC-21x3 Accessories Manual.

Version 3: Cables purchased from March 2006 onward which are RoHS-compliant, have a slick black sheath(similar to Version 1). The part number on the sheath is 89140-03044 REV.-S1. Numbers after the revision information are Lot Codes and will vary.

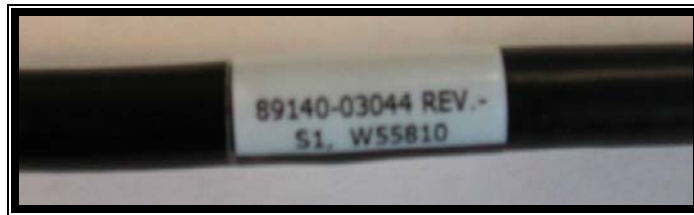


Fig 3. Version 3 Cable-44 Part Number

For pinout information of this cable, see Table 3 below.

Table 3. Third Version of Cable-44, Pinout Color-Code

Pin	Description	Cable Color (Stripe)	Pin	Description	Cable Color (Stripe)
1	NC/PWMZ/Motor Command Z ¹	Black	23	Input4/LatchW	Green(Black)
2	Output 6	Brown	24	Input1/LatchX	Gray(Black)
3	Output 8	Red	25	NC/PWMX/Motor Command X ¹	Pink(Black)
4	Output 5	Orange	26	HOMEX	Pink(Red)
5	Output 2	Yellow	27	HOMEY	Pink(Blue)
6	Abort	Green	28	HOMEZ	Pink(Green)
7	Input 6	Blue	29	HOMEW	Light Blue
8	Input3/LatchZ	Purple	30	Error	Light Blue(Black)

9	NC/SignY/AmpenY ¹	Gray	31	NC/PWMW/Motor Command W ¹	Light Blue(Red)
10	CMP	White	32	+5V	Light Blue(Blue)
11	RLSX	Pink	33	+5V	Light Blue(Green)
12	RLSY	Light Green	34	GND	Gray(Red)
13	RLSZ	Black(White)	35	GND	Gray(Green)
14	RLSW	Brown(White)	36	Input8	Purple(Black)
15	FLSW	Red(White)	37	Input5	Blue(Black)
16	NC/SignW/AmpenW ¹	Orange(White)	38	Input2/LatchY	Light Green(Black)
17	NC/SignZ/AmpenZ ¹	Green(White)	39	NC/PWMY/Motor Command Y ¹	Light Green(Red)
18	Output7	Blue(White)	40	NC/SignX/AmpenX ¹	Light Green(Blue)
19	Output4	Purple(White)	41	FLSX	Light Green(Green)
20	Output1	Red(Black)	42	FLSY	Light Yellow
21	Output3	Orange(Black)	43	FLSZ	Light Yellow(Black)
22	Input7	Yellow(Black)	44	Reset	Light Yellow(Red)

¹ Refer to specific amplifier pinout information in the DMC-21x3 Accessories Manual.

Version 4: Cables purchased from late 2007 onward, which are RoHS-compliant, have a slick white sheath. The part number on the sheath is 89140-03044 REV.-S1. (same as version 3) Numbers after the revision information are Lot Codes and will vary.



Fig 4. Version 4 Cable-44 Part Number

For pinout information of this cable, see Table 4 below.

Table 4. Fourth Version of Cable-44, Pinout Color-Code

Pin	Description	Cable Color (Stripe)	Pin	Description	Cable Color (Stripe)
1	NC/PWMZ/Motor Command Z ¹	Black	23	Input4/LatchW	Light Blue(Black)
2	Output 6	White	24	Input1/LatchX	Light Green(Black)
3	Output 8	Red	25	NC/PWMX/Motor Command X ¹	Pink(Black)
4	Output 5	Yellow	26	HOMEX	Orange(White)
5	Output 2	Violet	27	HOMEY	Red(White)
6	Abort	Blue	28	HOMEZ	Violet(White)
7	Input 6	Brown	29	HOMEW	Brown(White)
8	Input3/LatchZ	Green	30	Error	Green(White)

9	NC/SignY/AmpenY ¹	Gray	31	NC/PWMW/Motor Command W ¹	Blue(White)
10	CMP	Light Blue	32	+5V	Gray(Red)
11	RLSX	Orange	33	+5V	Light Green(Red)
12	RLSY	Light Green	34	GND	Light Blue(Red)
13	RLSZ	Pink	35	GND	Pink(Red)
14	RLSW	White(Black)	36	Input8	Yellow(Red)
15	FLSW	Red (Black)	37	Input5	Violet(Red)
16	NC/SignW/AmpenW ¹	Yellow (Black)	38	Input2/LatchY	Gray(Green)
17	NC/SignZ/AmpenZ ¹	Violet(Black)	39	NC/PWMY/Motor Command Y ¹	Orange(Green)
18	Output7	Green(Black)	40	NC/SignX/AmpenX ¹	Red(Green)
19	Output4	Orange(Black)	41	FLSX	Violet(Green)
20	Output1	Blue(Black)	42	FLSY	Brown(Green)
21	Output3	Brown(Black)	43	FLSZ	Light Blue(Green)
22	Input7	Gray(Black)	44	Reset	Light Green(Green)

¹ Refer to specific amplifier pinout information in the DMC-21x3 Accessories Manual.

The **Cable-15pin-xm** is used to break out the encoders and hall signals on connector J4, J5, J6, & J7 of the AMP-205x0 or AMP-20542. This cable consists of a 15-pin High Density Male DSub connector at one end, and flying leads at the other end. This cable is available in 1 meter or 2 meter lengths, designated by the 'xm' portion of the part number. For example, the part number for the 1 meter length is **Cable-15pin-1m**.

There are two versions of the Cable-15, each version has different pinout color coding. The following describes the two versions and their differences.

Version 1: Cables purchased before July 2007 have a slick black sheath with part number 0006-0045 REV.A S1. Numbers after the revision information are Lot Codes and will vary.

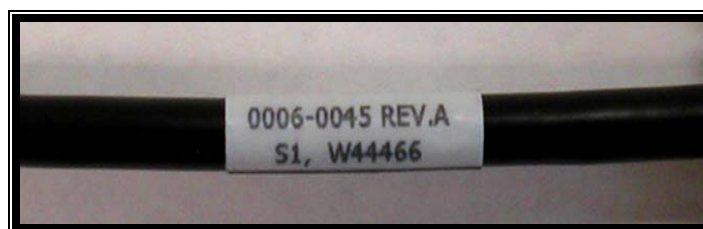


Fig 5. Version 1 Cable-15 Part Number

For pinout color code information of this cable, see Table 5 below.

Table 5. First Version of Cable-15, Pinout Color-Code

Pin	Description	Cable Color (Stripe)	Pin	Description	Cable Color (Stripe)
1	Index +	Black	9	Aux A-	Green
2	Main B+	Black(White)	10	Hall U	Blue
3	Main A+	Brown	11	Aux A+	Purple
4	Aux B+	Brown(White)	12	Aux B-	Silver
5	GND	Red	13	Hall V	White
6	Index -	Red(White)	14	Hall W	Pink
7	Main B-	Orange	15	5V	Light Green
8	Main A-	Yellow			

Version 2: Cables purchased after July 2007 Are RoHS compliant and have a slick black sheath with part number 89140-03015 REV.A S1 (1 meter) and 89140-06015 REV.A S1 (2 meter). Numbers after the revision information are Lot Codes and will vary.



Fig 6. Version 2 Cable-15-1M Part Number

For pinout color code information of this cable, see Table 6 below.

Table 6. Second Version of Cable-15, Pinout Color-Code

Pin	Description	Cable Color (Stripe)	Pin	Description	Cable Color (Stripe)
1	Index +	Black	9	Aux A -	Green
2	Main B +	Black (White)	10	Hall U	Blue
3	Main A +	Brown	11	Aux A +	Purple
4	Aux B +	Brown(White)	12	Aux B -	Grey
5	GND	Red	13	Hall V	White
6	Index -	Red(White)	14	Hall W	Pink
7	Main B -	Orange	15	5 V	Light Green
8	Main A -	Yellow			