



Chetan Cabletronics Put. Ltd.



To constantly persevere for perfection in our chosen field of endeavour by setting new precedents, by breaking new ground and by innovating, and thereby heralding the future in Wires and Cables rather than adapting to it.

in Carlotte



MISSION



To build upon our heritage of trust, loyalty and integrity. To constantly foster growth through leadership without compromising on excellence, dedication and competence. To constantly add value to our solutions through affordability while maintaining impeccable quality standards.



INNOVATION IS NOT AN OPTION. IT'S THE ONLY WAY

hen dependability and quality are of critical importance, when safety and security are the prerequisites, we rise to the occasion by offering a most comprehensive solution bouquet, which defines the industry standard for performance, quality and reliability. And it's been a way of life for us for more than one and half decades. We have never stopped building on this foundation. In today's high speed, digital world, we bring technical expertise, industry-specific solutions, a commitment to new product development and loyalty to customers. We have a bequest of helping customers meet production



and manufacturing challenges with cutting edge solutions. The skills gained through this experience, combined with process knowledge gathered by our in-house research and development, enable us to help customers adapt to future technologies – whatever that future is.

Indeed, innovation has been and will always be our guiding principle. Enabling us to create superior products for specific markets and customized systems solutions for the customers we serve. It means doing things more efficiently to achieve new goals and breakthroughs in every aspect of our business.

PROMISES FLAWLESS QUALITY, DELIVERS MORE THAN EXPECTATIONS

e don't strive to conform to Global Quality Norms. We strive to surpass them. It is this very principle that enables us to constantly set new quality benchmarks for others to follow. We use only the best of materials and equipment complemented by unique and stringent quality checks at every stage of the manufacturing process.



Our success saga is backed by ISO 9001:2000 certification, for quality management, since 2005, ISO 14001:2004 certification, for best environmental practices, since 2006 and IS 694:1990, for complying to state-of-art testing benchmarks since 2007. In the process, we have won renown, globally for insuring superior systems reliability in our chosen field of endeavour.



SUPERIOR INFRASTRUCTURE. UNMATCHED CAPABILITIES

e have achieved the perfect equilibrium between man and machine to manufacture a range of world class wires & cables for our quality savvy clients. Every step is executed by employing the latest standardized machines manned by a team of well trained professionals. We also have an advanced laboratory to conduct various tests and to carry out research and development related activities.



Our fully integrated plant for manufacturing unit of wires and cables is based out of Chopanki Bhiwadi, Rajasthan. Our resource chain includes giants like Hindalco, Sterlite and HCL for copper and Reliance and Shriram Polytech for PVC resin.

The actual capacity of these extruders is more than 50,000 Mtrs. per hour. Our testing lab enjoys the IS:694:1990 certification and the entire testing process complies with international standards.

We also manufacture cables as per ROHS standards to cater our European and American clients. Our tinning and silver plating plants produce material as per ROHS standards.

RENEWED THRUST IN TELECOM. REINVIGORATION IN AUTOMOBILES

he telecom and automobile sectors are both experiencing a boom, hitherto unseen. However the wire and cable applications in these industries have to constantly adapt to changing trends and exacting demands of the major players. We at Chetan, have already established our credentials in these sectors, where change is the only constant. As a part of our strategic growth efforts, we plan a renewed thrust in both these areas with new, custom designed products which fit and suit diverse requirements.

Here is a glimpse of our proposed solution basket for these two industries:

Telecom

RF cable assemblies \cdot Mobile phone-PC data cables \cdot Telecom aerial cables \cdot Networking cables \cdot CAT 6 cable \cdot CAT 5E cables \cdot Phone cords

Automobile

· Automotive wire · Power cords · Jumper cables · Automotive battery terminals

PRODUCT PORTFOLIO : YOU NAME IT. WE HAVE IT

e have the right product for the right application. Our widespanning product roster has both width and depth. Allowing you to source diverse offerings for diverse applications, under one roof.







HOOK UP AND FLEXIBLE WIRES

We provide a host of hook-up and flexible wire offerings which find application in inter-connection circuits, internal wiring of computer and data processing equipment, appliances, lighting, motor leads, heating and cooling equipment, harness fabrication and automotive industry. Our hook-up and flexible wires are available in a range of shades and packages. You may source them off the shelf from our distributors or have them custom-ordered if you have a special requirement.







FLEXIBLE CABLES

FLEXIBLE WIRES

	I LEXIBLE WIRLS									
S. No.	No. of Strands SWG	A.T.C. Cond. Size in mm	Cross sect. area in mm²	Overall dia. in mm	Max. Conductor Resistance ohm/km at 20°C					
1	7/42	0.102	0.0572	0.70	301.57					
2	7/42	0.102	0.0572	1.10	301.57					
3	7/39	0.132	0.957	1.15	180.07					
4	7/38	0.152	0.1269	1.40	135.8					
5	7/37	0.173	0.1644	1.25	104.83					
6	7/37	0.173	0.1644	1.40	104.83					
7	7/36	0.193	0.2047	1.40	84.23					
8	14/40	0.122	0.1636	1.40	105.4					
9	14/39	0.132	0.1915	1.80	90.04					
10	14/38	0.152	0.2539	1.60	67.9					
11	14/38	0.152	0.2539	1.90	67.9					
12	14/37	0.173	0.3289	1.55	52.42					
13	14/36	0.193	0.4094	1.75	42.12					
14	23/38	0.152	0.4171	2.20	41.33					
15	23/36	0.193	0.6725	2.40	25.64					
16	40/36	0.193	0.6725	2.40	25.64					
17	7/.2	0.203	0.2264	1.40	76.14					
18	16/.2	0.203	0.5176	1.90	33.31					
19	128/.2	0.203	4.1407	5.00	4.16					
20	32/.2	0.203	1.0352	2.50	16.65					
21	48/.2	0.203	1.5527	2.95	11.1					
22	80/.2	0.203	2.5879	4.00	6.66					
23	128/.2	0.203	4.1407	5.00	4.16					
24	19/42	0.102	0.1552	1.35	111.11					
25	55/43	0.091	0.3575	4.00	48.22					
26	105/46	0.061	0.3067	2.00	56.21					
27	110/43	0.091	0.7151	1.90	24.11					

HOOK UP WIRES

S. No.	No. of Strands SWG	A.T.C. Cond. Size in mm	Cross sect. area in mm²	Overall dia. in mm	Conductor Resistance (ohm/km) at 20°C
1	1/31	0.295	0.0683	0.70	252.43
2	1/30	0.315	0.0779	1.00	221.32
3	1/28	0.376	0.111	1.15	155.32
4	1/26	0.457	0.1639	1.15	105.19
5	1/25	0.508	0.2026	1.20	85.10
6	1/23	0.61	0.2921	1.50	59.02
7	1/22	0.711	0.3968	1.70	43.45
8	1/20	0.914	0.6558	2.25	26.29



MULTIGORE ROUND CABLES

Right from High and Low Temperature versions to a variety of gauge sizes, dimensions, and insulation materials, shielding configurations, and jacketing materials, our multi core cables are available in an ever expanding range of choices. These cables meet the scientific and industrial demands of varied users and systems including computers, communications, instrumentation, sound, control, audio and data transmission. Each of these cables is designed to protect signal fidelity under decisive environments by reducing hum, noise, and crosstalk.







MULTICORE ROUND CABLES

MULTICORE ROUND CABLE (7/0.152 mm)

S. No.	No. of Core	No. of Strands	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Conductor Resistance (ohm/km) at 20°C
1	2	7	0.152		0.1269	135.80
2	3		"	4.00	"	"
3	4		"	4.35	"	"
4	5		"	4.70		
5	6		"	5.10	"	"
6	8		"	5.60	"	"
7	9		"	5.85		
8	10		"	6.20	"	"
9	12		"	6.50	"	"
10	15		"	7.10	"	"
11	16		"	7.35	"	"
12	18		"	7.70	"	"
13	20		"	8.10	"	"
14	25		"	8.60	"	"
15	50		"	11.70	"	"

MULTICORE ROUND CABLE (14/0.152 mm)

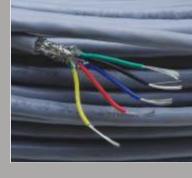
S. No.	No. of Core	No. of Strands	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Conductor Resistance (ohm/km) at 20°C
1	2	14	0.152	4.00	0.2539	67.90
2	3		"	4.50	"	"
3	4		"	4.70	"	
4	5		"	5.20	"	"
5	6		"	5.50	"	"
6	8		"	6.45	"	"
7	10		"	6.80	"	"
8	12		"	7.40	"	"
9	15		"	8.20	"	"
10	16		"	8.50	"	
11	18		"	9.00	"	"
12	20		"	9.35	"	"
13	25		"	10.75	"	"
14	30		"		"	"
15	40		"		"	"
16	50		"		"	"

MULTICORE ROUND CABLE (16/0.2 mm)

S. No.	No. of Core	No. of Strands	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Conductor Resistance (ohm/km) at 20°C
1	3	16	0.203	5.75	0.5176	33.31
2	4		"	6.8		"
3	6		"	8.0		"
4	8		"	8.4		
5	10		"	9.0		
6	12		"	10.0		"
7	16		"	10.8		"

MULTICORE ROUND CABLE (24/0.2 mm)

S. No.	No. of Core	No. of Strands	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Conductor Resistance (ohm/km) at 20°C
1	3	24	0.203	6.7	0.7764	22.21
2	4		"	7.2	"	"
3	6		"	8.2	"	"
4	8		"	9.0	"	"
5	10		"	9.5	"	"
6	12		"	10.3	"	"
7	16	"	"	12.5	"	"



SHIELDED GABLES

Multicore Shielded Cables

Chetan Shielded cable ensures signal integrity and provides confidence in audio and video transmissions, preventing downtime and maintaining sound and picture clarity. Among the shield types available are braid shield, foil shield, combination shields and lapp shields.

Braid Shield: Braid shield consists of groups of tinned or bare or silver plated copper or aluminium strands, one set woven in a clockwise direction and interwoven with another set in a counter clockwise direction.

Braid shields provide superior structural integrity, while maintaining good flexibility and flex life. These shields are ideal for minimizing low frequency interference and have lower DC resistance than foil. Braid shields are effective at audio, as well as RF ranges. Generally, the higher the braid coverage, the more effective the shield. However, the trade-off between cost and braid coverage must be considered. Typical braid coverage are between 80% and 95%. Coverage of 100% is unattainable with a braid shield.

Foil Shield: Foil Shield consists of Aluminium Foil laminated to a polyester or Polypropylene film. The Film gives the shield mechanical strength and bonus insulation. Foil shield provides 100% cable coverage, necessary for electrostatic shield protection. Because of their small size, foil shields are commonly used to shield individual pairs of multipair data cables to reduce crosstalk. Drain wires are used with foil shield to make termination easier and to ground electrostatic discharges. The shortcoming in using the foil shield include higher DC resistance and lower mechanical strength than braid or spiral shield.

Lapp Spiral Shield: A spiral shield consists of wire usually copper wrapped in a spiral around the inner cable core. Superior flexibility and flex life, ease of termination and upto 97% coverage are the advantage of spiral shields. They are best suited for audio applications. As a rule spiral shields are not suitable above the audio frequency range due to coil effect produced by the inductance of the spiral wire strands.

Combination Shields: These consisit of more than one layer of shielding. They provide maximum shield efficiency across the frequency spectrum. The combination foil/Braid shield combines the advantage of 100% foil coverage plus the strength and low DC resistance of the braid.

Most of our shielded cables are available ex-stock in a wide variety of colours and packages. Many of these are available off the shelf from our distributors. If you have a new or unusual requirement, you can contact us.







SHIELDED CABLES

MULTICORE SHIELDED CABLE (7/0.152 mm)

S. No.	No. of Core	No. of Strands	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Conductor Resistance (ohm/km) at 20°C
1	2	7	0.152	3.30	0.1269	135.80
2	3		"	4.15	"	"
3	4		"	4.40	"	"
4	5		"	4.80	"	"
5	6		"	5.10	"	"
6	8		"	5.80	"	
7	9		"	6.00	"	
8	10		"	6.35	"	"
9	12		"	7.00	"	"
10	15		"	7.50	"	
11	16		"	7.80	"	"
12	18		"	8.10	"	"
13	20		"	8.70	"	"
14	25		"	9.40	"	"
15	50		"	12.20	"	"

MULTICORE SHIELDED CABLE (14/0.152 mm)

S. No.	No. of Core	No. of Strands	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Conductor Resistance (ohm/km) at 20°C
1	1	14	0.152	3.50	0.2539	67.90
2	2		"	4.40	"	"
2 3	2 3		"	5.00	"	"
4	4		"	5.50	"	"
5	5		"	5.60	"	"
6	6		"	6.40	"	"
7	8		"	7.00	"	"
8	9		"	7.65	"	"
9	10		"	7.70	"	"
10	12		"	8.20	"	"
11	16		"	9.00	"	"
12	18		"	9.40	"	"
13	20		"	10.35	"	"
14	25		"	10.80	"	"
15	30		"		"	"
16	40		"		"	"
17	50	"	"		"	"

MULTICORE SHIELDED CABLE (16/0.2 mm)

S. No.	No. of Core	No. of Strands	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Conductor Resistance (ohm/km) at 20°C
1	1	16	0.203	4.00	0.50	33.31
2	2	"	"	5.75		
3	3	"	"	6.00		"
4	4			7.00		"
5	6			7.90		"
6	8			8.65		"
7	10		"	9.60		"
8	12			10.50		"
9	16	"	"	12.00		"

MULTICORE SHIELDED CABLE (24/0.2 mm)

S. No.	No. of Core	No. of Strands	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Conductor Resistance (ohm/km) at 20°C
1	1	24	0.203	4.30	0.75	22.21
2	2		"	7.00	"	"
3	3		"	6.85	"	"
4	4		"	8.25	"	"
5	6		"	9.00	"	"
6	8		"	9.80	"	"
7	10		"	10.60	"	"
8	12		"	11.60	"	"
9	16	"	"	13.40	"	"



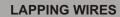


SHIFLDED GABLES



PICK UP WIRES

S. No.	No. of Core	No. of Strands SWG	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Max. Conductor Resistance (ohm/km) at 20°C
1	1	7/38	0.152	2.20	0.1269	135.80
2	2	7/38	0.152	2.20	0.1269	135.8
3	1	14/38	0.152	3.50	0.2539	67.9
4	1	14/36	0.193	3.60	0.4094	42.12
5	1	7/36	0.193	2.40	0.2047	84.23
6	2	7/36	0.193	2.40	0.2047	84.23





S. No.	No. of Core	No. of Strands SWG	A.T.C. Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Max. Conductor Resistance (ohm/km) at 20°C
1	1	14/44	0.081	2.00	0.0721	239.11
2	2	14/44	0.081	2.60	0.0721	239.11
3	1	40/44	0.081	2.80	0.0206	83.69
4	2	40/44	0.081	4.40	0.2060	83.69
5	1	80/44	0.081	3.50	0.4120	41.84
6	2	80/44	0.081	5.65	0.4120	41.84
7	2	7/42	0.102	2.45	0.0572	301.57
8	1	7/42	0.102		0.0572	301.57

EARTHING WIRES



Product Code	No. of Strands	Overall dia. in mm	Cross sect. area in mm²	Max. conductor (ohm/km) Resistance at 20°C	Ohms per meter
2243 SPC	24 x.09mm	0.5	0.1526	112.98	0.09
2342 SPC	36 x.09mm	0.65	0.2289	75.32	0.08
6342 SPC	48 x.09mm	0.75	0.3052	56.49	0.05
25243 SPC	52 x.09mm	0.8	0.3306	52.14	0.05
27843 SPC	78 x.09mm	4.00/.35	0.4959	34.76	0.04
2644 SPC	60 x.09mm	0.8	0.3815	45.19	0.05
6742 SPC	112 x.09mm	1.1	0.7121	24.20	0.03
4944 SPC	216 x.08mm	6	1.0851	15.89	0.02
41141 SPC	264 x.11mm	7	2.5076	6.87	0.01
425 ABC	65 x.1mm	3/0.33	0.51025	33.78	0.06
427 ABC	91 x.1mm	4.3/0.35	0.7143	24.13	0.05





PROJECTOR CABLES

We at Chetan manufacture S-Video, RGB and RGBHV cabels.

Applications

These cables are ideal for high resolution monitor and projection imaging in the following situations and facilities-Corporate Boardrooms, command and control centres, multipurpose auditoriums, teleconferencing centres, home theatres, post production facilities.

Configuration

Conductor- 26 AWG
Dielectric-Polythylene
Velocity of propagation-66%
Nominal Impedance – 64 ohm to 70 ohm

We at Chetan also make OB Van cables with application in outdoor live media coverage.

SNAKE CABLE

Snake cables are used to connect multiple audio channels in low-level (microphone) and high-level (line) componentry such as console board equipment for recording studios, radio, television stations, post-production facilities, and sound system installations. With Chetan's individually shielded and jacketed snakes, pairs can be split out of the overall jacket for any length and connectorized directly without the need for heat shrink tubing or costly and time-consuming preparation. Jacketed pairs are individually color coded for easy identification.

Snake cables are available in 4,6,8,16 and 24 pair configurations.

Product Description

Stranded (24x. 10mm) bare copper conductor. Polyethylene insulation. Pairs individually lapped with bare copper and alum. Foil, .45mm tinned copper drain wire.

Coloured PVC inner jackets with overall Matte Black PVC jacket and 0.61 mm tinned copper drain wire.

Specifications

Nominal OD – Conductor 0.61 mm

Nominal OD – Insulation 1.2 mm

Inner Pair Jacket OD – 3.5 mm

Temperature Rating 75° C

Nominal Impedance 40 ohm

Nominal Velocity of Propagation 66%

Nominal Capacitance

Between Conductors and Shield 39 pF/Ft. (129 pF/m)



SHIELDED GABLES

MICROPHONE CABLES

Chetan Microphone cable is used for connecting flow level microphones or musical instruments. Key properties of microphone cable (Mike) are ruggedness, flexibility, flex life and interference immunity.

Mike cable construction utilizes either 1/2/3 or 4 conductor configuration. Cable selection depends on whether the mike or instrument is of a high or low impedance design. High impedance requires unbalanced single conductor cable while low impedance utilizes 2/3 or 4 designs.

4 conductor mike cable-Quad mike cables are connected by attaching 2 white conductors to 1 pin and 2 Red Conductors to the other pin in a balanced line XLR type connecter. Conductors joint in this manner lower the possibility of induced noise.

Digital audio has been around for over 25 years, only recently has ben there an effort to standardize specifications. The audio engineering society (U.S) and the European broadcast union have established an international standard called AES / EBU. The detailed specifications of this standard are

• Sampling Rate: from 32 KHz to 192 Khz

• Bandwidth: from 4.096 MHz to 24.5 Mhz

• Impedance: 110 ohm ± 20 %

The key difference between twisted pair specification for digital audio cable and standard analog audio cable is the impedance specification.

Standard analog audio cable impedance is 45 ohm to 70 ohm. This potential amount of mismatch can result in signal reflection and jitter causing bit errors at the receiver. For this reason Chetan recommends 100 to 120 ohm shielded twisted pair cables.

Most of our Mike Cables are available ex-stock in a wide variety of colours and packages. Many of these are available off the shelf from our distributors. If you have a new or unusual requirement, you can contact us.



S. No.	No. of Core	No. of Strands SWG	Cond. Size in mm	Overall dia. in mm	Cross sect. area in mm²	Max. Conductor Resistance (ohm/km) at 20°C
1	2	19/40 ABC	0.122	6.10	0.2220	77.66
2	2	19/40 ATC	0.122	6.10	0.2220	77.66
3	1	19/40	0.122	5.00	0.2220	77.66
4	2	14/36 ATC	0.193	6.10	0.4094	42.12
5	2	16/.2 ATC	0.203	6.80	0.5176	33.31
6	2	24/.2 ATC	0.203	7.40	0.7764	22.21
7	1	14/36 ATC	0.193	5.50	0.4094	42.12
8	1	40/40 ABC	0.122	5.50	0.4673	36.89
9	2	19/42 ABC	0.102		0.1552	111.11

SHIELDED CABLES

CCTV CABLES

The Closed Circuit TV / Video Surveillance business is the fastest growing part of our portfolio of products. Through the convergence of Security and I.P. camera systems and card access are now under direction of the corporate IT Department.

There is a tremendous demand currently in the video recording world. Digital Video Recording has taken place of old analog tape systems. End users now can designate space on their network and store footage digitally. This technology upgrade is comparable to how compact disks have led to the demise of cassette players. Remote access is now a standard offering, which requires the assignment of an IP address to your network.

In short, Digital Video Recording:

- 1. Eliminates the time and effort designated for changing tapes.
- 2. Allows for quick playback with enhanced viewing clarity.
- 3. Enables easy remote access from multiple designated PC's.
- 4. Offers simplified storage on your network.

S. No.	Item Name	Overall dia. in mm	A.T.C. Cond. Size in mm	Cross sect. area in mm²	Max. Conductor Resistance (ohm/km) at 20°C
1	14/40 (2+1)	5.4	0.122	0.1636	105.40
2	14/40 (3+1)	5.7	0.122	"	"
3	14/40 (4+1)	5.9	0.122	"	"
4	14/40 (6+1)	6.8	0.122	"	"
5	14/38 (3+1)	5.7	0.152	0.2539	67.90

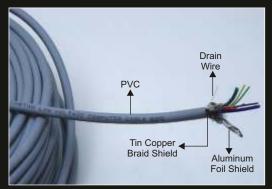
Video Graphics Array (VGA)

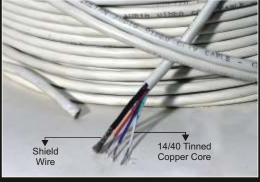
The VGA color system is backwards compatible with the EGA and CGA adapters, and adds another level of configuration on top of that. VGA adapters usually support both a monochrome and a color text mode, though the monochrome mode is rarely used. We can use it as an extension cable for connecting PC/Laptops to Computer Monitors and Projectors.

VGA MONITOR CABLES

S. No.	Item	Overall dia. in mm	Core insulation (7/36)	Lapping core (7/38)	Drain (SWG=27 No.)
1	3+4	8.4	Diameter =1.20 mm	Diameter =2.40 mm	cond.Size = 0.417 mm
2	3+6	8.75	cond. Size = 0.193 mm	cond. Size = 0.152 mm	Area = 0.1365 mm²
3	3+7	8.9	Area = 0.2047 mm²	Area = 0.1269 mm²	Cond.Resistance = 126.30 Ω/km at 20°C
4	3+8	9.10	Cond. Resistance = 84.23 Ω/km at 20°C	Cond.Resistance = 135.80 Ω/km at 20°C	

CCTV CABLE - SHIELD









SPEAKER CABLES

Speaker cables are used to link speakers with receivers or power amplifiers. They are also used for the internal wiring of the speakers per se. High conductivity copper which is 99.95% pure and which makes audio cable performance comparable to that of oxygen free copper cable is what we use to manufacture our CAT 5 cables.





CABLE SELECTION GUIDE

			0.1212 01120 11011 00121							
AWG	Cross Section mm square	4 0	hm Spea	ker	8 0	hm Spea	ker	7	0V Speak	er
					Power(%	6) Loss (dB/Ft.)			
		11% (0.5)	21% (1)	50% (3)	11% (0.5)	21% (1)	50% (3)	11% (0.5)	21% (1)	50% (3)
12	3.30	140	305	1150	285	610	2285	6920	14890	56000
14	2.09	90	195	740	185	395	1480	4490	9650	36300
16	1.33	60	125	470	115	250	935	2840	6100	222950
18	0.82	40	90	340	85	190	685	2070	4450	16720
20	0.51	25	50	195	50	105	390	1170	2520	9500
22	0.32	15	35	135	35	70	275	820	1770	6650
24	0.20	10	25	85	20	45	170	520	1120	4210
26	0.13	5	15	50	10	25	130	450	860	3210

The number of feet of cable you can run for a given loss and performance budget

How to use the above guide?

- 1. select the appropriate speaker impedance column
- 2. select the appropriate power loss column deemed to be acceptable.
- 3. select the applicable wire gauge size and follow the row over to the columns determined in steps 1 & 2.

The number listed is the maximum cable run length

Example: The maximum run for 12 AWG in a 4 ohm speaker system with 11% power or .5dB loss is 140 ft.



SPEAKER CABLES

DOUBLE FLEXIBLE WIRES

S. No.	No. of Strands SWG	Conductor Size in mm	Cross sect. area in mm²	Overall dia. in mm	Conductor Resistance ohm/km at 20°C
1	14/42	0.102	0.1143	1.7	150.79
2	14/39	0.132	0.1915	1.8	90.04
3	23/39	0.132	0.3146	2.2	54.80
4	23/38	0.152	0.4171	2.5	41.33
5	23/36	0.193	0.6725	2.5	25.64
6	40/40	0.122	0.4673	3.5	36.89
7	40/38	0.152	0.7255	3	23.76
8	40/36	0.193	1.1696	3	14.74

TWIN PARALLEL WIRE

S. No.	No. of Strands SWG	Conductor Size in mm	Cross sect. area in mm²	Overall dia. in mm	Conductor Resistance ohm/km at 20°C			
1	7/38	0.152	0.1269	2.0	135.80			
2	7/38	0.152	0.1269	2.0	135.80			
3	14/40	0.122	0.1636	2.0				
4	14/38	0.152	0.2539	2.4	67.90			
5	14/38	0.152	0.2539	1.0	67.90			
6	14/39	0.132	0.1915	2.3	90.04			
7	14/36	0.193	0.4094	2.3	42.12			
8	23/40	0.12	0.2687	2.5	64.16			
9	23/36	0.193	0.6725	2.5	25.64			
10	40/36	0.193	1.1696	3.4	14.74			
11	80/.2	0.203	2.5879	4.0	6.66			

TWIN PARALLEL WIRE T. P.

S. No.	No. of Strand SWG	Conductor Size in mm	Conductor Type	Cross Section Area in mm²	Overall dia. in mm	Conductor Resistance ohms/km at 20° C
1	170/43	0.090	SPCXSPC	1.08	3.65	15.60
2	90/42	0.100	ABC X ABC	0.71	2.55	23.45
3	200/42	0.100	ABC X ABC	1.57	3.50	10.55
4	350/42	0.100	ABC X ABC	2.75	4.60	6.03
5	450/42	0.100	ABC X ABC	3.53	5.50	4.69
6	70/40	0.120	ABC X ABC	0.79	2.85	21.08
7	105/40	0.120	ABC X ABC	1.19	3.25	14.05
8	168/40	0.120	ABC X ABC	1.90	3.50	8.78
9	224/40	0.120	ABC X ABC	2.53	4.00	6.59
10	14/36	0.192	ABC X ATC	0.41	2.30	41.12
11	23/36	0.192	ABC X ATC	0.67	2.50	25.64
12	40/36	0.192	ABC X ATC	1.16	3.20	14.74
13	70/36	0.192	ABC X ATC	2.03	3.55	8.42



TELECOMMUNICATION CABLES

Chetan pair cable products are manufactured in variety of gauge sizes, dimensions, insulation materials, shielding configurations and jacketing materials. Paired cable allow balance signal transmissions which results in lower crosstalk through common mode rejection. Due to the improved noise immunity of twisted pairs, they generally permit high data speed than multi conductor cables.

Most of our pair cables are available ex-stock in a wide variety of colours and packages. Many of these are available off the shelf from our distributors. If you have a new or unusual requirement, you can contact us.

100 ohm/120 ohm Balanced PCM Cables for Transmission Equipment Installation

Conductor: Solid plain annealed copper.

Insulation: PE

Pair Colour: A Wire-Red, B Wire-Blue

Lay-up: Two insulated conductors twisted to form a pair, Screened with numbered Aluminium mylar tape with 0.5mm ATC earth wire. Required number of pairs are laid up, stranded together to form a compact circular cable.

Wrapping: Polyester or polyethylene tapes are taped around the cable for isolation.

Screening: Aluminium mylar tape lapped with overlap. Nominal thickness of tape is 0.05mm with earth wire 0.5mm ATC.

Braiding (Optional): 0.15mm ATC braiding with minimum coverage of 30% and 35-40° braid angle.

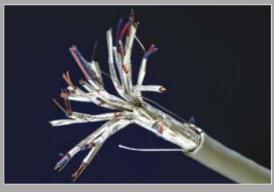
Sheath: PVC/FR/PU

Velocity of Propagation: 66%

Conductor Diameter (mm)	Conductor Resistance (Loop) at 20°C (ohm/km)	Insulation Resistance (Mohm/km)	Capacitance Un-balance Pair to Ground (pF)for 500m	Impedance (ohm)	Resistance Un-balance %	Cross talk db for 500m. Length
0.4	308.0	5000	2000	120	2.5	70
0.5	187.9	5000	2000	120	2.5	70

No. of Pairs	No. of Cores	Numbered Tape	Sheath Thickness (mm) Nominal
1	2	1	0.8
2	4	2	0.8
3	6	3	0.8
4	8	4	0.8
5	10	5	0.8
6	12	6	1.0
7	14	7	1.0
8	16	8	1.0
9	18	9	1.0
10	20	10	1.0
11	22	11	1.4
12	24	12	1.4
13	26	13	1.4
14	28	14	1.4
15	30	15	1.4
16	32	16	1.4











AUTOMOTIVE WIRE/BATTERY CABLES — TECHNICAL SPECIFICATIONS

SINGLE CORE, UNSHEATHED AUTO CABLES

CON	DUCTOR	С	ABLE PARAMETERS	3
Nominal Area sq. mm.	Number/ Diameter of wire (Nom.) mm.	Radial Thickness insulation (Nom.) mm.	Overall Diameter (Approx.) mm.	Current Carrying Capacity amps.
0.50	16/0.2	0.50	2.15	4
0.65	9/0.3	0.60	2.30	6
1.00	14/0.3	0.60	2.65	12
1.50	21/0.3	0.60	3.00	15
2.00	28/0.3	0.60	3.20	17
2.50	35/0.3	0.70	3.55	20
3.00	44/0.3	0.80	4.10	22
4.50	65/0.3	1.00	4.80	28
6.00	84/0.3	1.00	5.20	31
8.00	120/0.3	1.20	6.60	36

SINGLE CORE, PVC INSULATED AUTO CABLES

CON	DUCTOR	С	CABLE PARAMETERS			
Nominal Area sq. mm.	Number/ Diameter of wire (Nom.) mm.	Radial Thickness insulation (Nom.) mm.	Overall Diameter (Approx.) mm.	Current Carrying Capacity amps.		
0.50*	7/0.3	0.6	2.15	4		
0.75*	11/0.3	0.6	2.45	7		
1.00*	15/0.3	0.7	2.70	12		
1.50*	22/0.3	0.7	3.00	16		
2.50*	36/0.3	0.7	3.65	22		
4.00	56/0.3	0.8	4.30	29		
6.00	84/0.3	0.8	5.20	37		
10.00	140/0.3	1.0	6.60	51		

PVC INSULATED BATTERY CABLES

CON	IDUCTOR	CABLE PARAMETERS				
Nominal Area sq. mm.	Number/ Diameter of wire (Nom.) mm.	Radial Thickness insulation (Nom.) mm.	Overall Diameter (Approx.) mm.	Current Carrying Capacity amps.		
16.0	126/0.4	1.0	7.80	57		
25.0	196/0.4	1.2	9.70	71		
35.0	276/0.4	1.2	10.90	91		
50.0	396/0.4	1.4	13.20	120		
70.0	360/0.5	1.4	.30	165		





TECHNICAL SPECIFICATIONS

SINGLE CORE, UNSHEATHED CABLES IN VOLTAGE GRADE 1100 VOLTS

Nominal Number/ Nom. Area Diameter of		Thickness of insulation	Approx. Overall	Current # 2 Cab	Resistance (Max.)		
		(Nom.)	Diameter	In conduit/ Unenclosed clipped directly to a surface		per km. @20°C	
sq. mm.	mm.	mm.	mm.	Amps.	or on cable tray Amps.	Ohms.	
1.0	14/0.3*	0.7	2.80	11	12	18.100	
1.5	22/0.3*	0.7	3.10	13	16	12.100	
2.5	36/0.3*	0.8	3.80	18	22	7.410	
4.0	56/0.3**	0.8	4.40	24	29	4.950	
6.0	84/0.3**	0.8	5.20	31	37	3.300	
10.0	80/0.40 or 140/0.3	1.0	6.60	42	51	1.910	
16.5	126/0.40	1.0	7.80	57	68	1.210	
25.0	196/0.40	1.2	9.70	71	86	0.780	
35.0	276/0.40	1.2	10.90	91	110	0.550	
50.0	396/0.40	1.4	12.80	120	145	0.386	

IS: 694/1990





HARNESS CABLES

Our Wiring Harnesses find a wide variety of application in the automotive industry from material handling equipment, passenger cars to commercial vehicles, two wheelers and three wheelers, multi utility vehicles, farm, amongst others. We also cater to creating harnesses for office automation, medical diagnostic equipments and electronic equipment.

Some of our Harness products include:

Cable & Harness

Wiring Harness

Lead Wire

Battery Cable

Flat Cable Harness

High Tension Cords (Engine Cables)







A coaxial consists of two conductors separated by a dielectric material. The centre conductor and the outer conductor or shield are configured in such a way that they form concentric cylinders with a common axis. Hence the term and name Co-axial cable.

The centre conductor may be made of various materials and constructions. Most common construction are solid or 7 strand conductor. Solid conductors are used in permanent, infrequently handled or low flex applications and stranded copper are used in flexible cable applications. Some common materials include copper, tinned or silver plated copper, copper clad steel and copper clad aluminium. Plated copper is used to aid in solderability of connectors or to minimize the corrosion effect. Because of a phenomena known as skin effect, copper clad materials may be used in higher frequency applications to improve tensile strength and reduce weight and cost. (Skin effect is the result of higher frequency signals, propagating along the outermost surface, or skin, of the conductor

	Dielectric		Dielectric		Velocity	Nominal	Characteristic		
	Material	Conductor	O.D.	Shield (%)	of Propagation	O.D.	Impedance	Capacitance	
50 ohm Cables									
Rg 174	Polyethylene Insulation	(7*.15mm) Tinned Copper	1.5 mm	Tinned Copper (96%)	66%	2.8 mm	50 Ohms	32.8pF per ft	
Rg 58	Polyethylene Insulation	(20*.15mm) Tinned Copper	2.85 mm	Tinned Copper (80%)	66%	4.9 mm	50 Ohms	30 pF per ft	
Rg 58	Polyethylene Insulation	(19*.19mm) Tinned Copper	2.85 mm	Tinned Copper (96%)	66%	4.9mm	50 Ohms	30 pF per ft	
Rg 213	Polyethylene Insulation	(7*.8mm) Bare Copper	7.10 mm	Bare Copper (96%)	66%	10.2mm	50 Ohms	28 pF per ft	
Rg 223	Polyethylene Insulation	(1*1.04mm) Silver Plated Copper	2.95 mm	Double silver plated (96%)	66%	5mm	50 Ohms	28 pF per ft	
Rg 8	Polyethylene Insulation	(19*.29mm) Bare Copper	3.95 mm	Bare Copper (95%)	66%	6.15mm	50 Ohms	26pF per ft	
75 ohm Cables									
Rg 59	Polyethylene Insulation	(1*.81mm) Tinned Copper	3.75 mm	Bare Copper (95%)	66%	6.2mm	75 Ohms	18.4pF per ft	
Rg 59	Polyethylene Insulation	(1*0.71) Tinned Copper	3.70 mm	Bare Copper (75%)	66%	6.2mm	75 Ohms	18.4pF per ft	
Rg 59	Foam Polyethylene	(1*.81mm) Bare Copper	3.75 mm	Alum. Alloy Braid+Foil	83%	6.2mm	75 Ohms	16.2pF per ft	
Rg 6	Foam Polyethylene	(1*1.04) Bare Copper	4.57 mm	Alum Alloy Braid+Foil	83%	6.9mm	75 Ohms	16.2pF per ft.	
Rg 11	Foam Polyethylene	(1*1.61) Bare Copper	7.10 mm	Alum. Alloy Braid+Foil	83%	10.25mm	75 Ohms	16.2pF per ft	

PTFE CABLES

PTFE hook up wires are proofed against Fire, Chemicals, Acids, Sunlight, Moisture & Corona. They have superb temperature constancy suitable for use from (-) 65 Dig. C to (+) 200 Deg. C for silver plated and (+) 260 Dig. C for Nickel plated wires. They adapt to a wide-spanning frequency range (DC to above 10000 MHZ) and over wide temperature ranges. From single solid color / bi colors or customized customer requirement, we are at your service.



			Parameters of conductor				Nominal dia of Insulated wire		
S. No.	Size in A.W.G.	No. of Strands / Dia of each strands (mm)	Dia in mm	Cross Section (Sq. mm)	Resistance ohm km at 20°C	Elongation (min.)	ET (250V) AC	E (600V) AC	EF (1000V) AC
1	30/1	1/0.25	0.25	0.0491	351.41	9.0	0.56	0.75	1.00
2	28/1	1/0.32	0.32	0.0803	214.48	9.0	0.63	0.84	1.09
3	26/1	1/0.4	0.40	0.1256	137.27	9.0	0.71	0.90	1.15
4	24/1	1/0.50	0.50	0.1962	87.85	15.5	0.81	1.00	1.25
5	22/1	1/0.65	0.65	0.3317	51.98	20.0	0.95	1.15	1.40
6	20/1	1/0.8	0.80	0.5024	34.32	20.0	1.10	1.30	1.53
7	32/7/40	7/0.08	0.24	0.0352	490.25	5.5	0.56	0.74	1.00
8	30/7/38	7/0.1	0.30	0.5490	313.76	5.5	0.61	0.81	1.07
9	28/7/36	7/0.13	0.38	0.0929	185.65	5.5	0.69	0.89	1.14
10	26/7/34	7/0.16	0.48	0.1407	122.56	9.0	0.79	0.99	1.24
11	24/7/32	7/0.20	0.60	0.2198	78.44	9.0	0.91	1.12	1.37
12	24/19/36	19/0.13	0.63	0.2521	68.40	9.0	0.91	1.12	1.37
13	22/7/30	7/0.25	0.75	0.3434	50.20	13.5	1.07	1.27	1.52
14	22/19/34	19/0.16	0.80	0.3818	45.15	9.0	1.07	1.27	1.52
15	20/7/28	7/0.32	0.97	0.5627	30.64	13.5	1.27	1.47	1.73
16	20/19/32	19/0.2	1.00	0.5966	28.90	9.0		1.47	1.73
17	18/19/30	19/0.25	1.25	0.9322	18.49	13.5		1.75	2.00
18	16/19/29	19/0.29	1.45	1.2543	13.74	13.5		2.03	2.25
19	15/19/28	19/0.32	1.60	1.5273	11.29	13.5		2.15	2.40
20	14/19/27	19/0.36	1.83	1.9330	8.92	13.5		2.42	2.69
21	13/19/26	19/0.4	2.00	3.0203	7.22	13.5		2.60	2.85
22	12/19/25	19/0.45	2.25	3.1560	5.71	13.5		2.90	3.15
23	11/19/24	19/0.5	2.50	3.8794	4.62	13.5		3.15	3.40
24	10/37/26	37/0.40	2.82	4.6472	3.71	13.5		3.40	3.68
25	10/19/22	19/0.65	3.20	6.3016	2.73			3.80	4.10
26	8/133/29	133/0.29	4.30	8.7805	1.96	13.5			5.31
27	6/133/27	133/0.36	5.41	13.5309	1.27	13.5			6.68
28	26/19/38	19/0.10	0.50	0.1540	115.49	5.5	0.79	0.99	1.24

B.RF CO- AXIAL CABLES

We Also manufacture RF Cables such as RG 196A/U,RG 188A/U,RG187A/U,RG195A/U,as per PTFE SHIELD AND ROUND CABLES

PTFE SLEEVES



The Conductor

When comparing metals, each can be characterised by resistance as the next table shows. Silver, while the best conductor, is expensive and difficult to work with. Copper is the most common metal.

Metals	Resistance			
	Circular mil-ohms per foot at 20° C			
Silver	9.9			
Copper	10.4			
Gold	14.7			
Aluminum	17.0			
Nickel	47.0			
Steel	74.0			

One advantage of Copper is its ability to be "annealed". After being drawn through dies from large rod to small wire, copper will get brittle. By placing it in an oven at around 700° F, the copper will become flexible again.

Gold is most commonly used on connectors because it will not oxidize. Aluminum is often used in low-cost cable constructions such as CATV/broadband shields, or in low-cost consumer audio interconnect cables.

Insulation

Basic insulation prevents wires from touching each other and creating a short circuit or grounding portions of a circuit that should not be grounded.

When the insulation affects the signal being carried on the wire, it is called a "dielectric". Every non-conductor varies in its ability to insulate. Plastics, and other materials, can be compared by a number that describes their quality, called a "dielectric constant". Below is a list of materials and their dielectric constant. Note that vacuum is the standard by which all other materials are compared, and therefore, has a dielectric constant of one.

Vacuum	=1
Air	= 1.0167
Teflon™	= 2.1
Polyethylene	= 2.25
Polypropylene	= 2.3
PVC	= 3 to 5

Air is so close to "1" that it is most often used as "1", in formulas. As we will see, the dielectric constant of air makes it a highly prized commodity in dealing with cable construction.



Solid Wire - Annealed and Hard-Drawn Copper

GAUGE NUMBER		NOMINAL DIAMETER		CALCUL	NOMINAL WEIGHT	
SWG	AWG	INCH	ММ	INCH ² MM ²		Kg/Km
50	50	0.0010	0.025	0.000007854	0.0005067	0.004505
_	49	0.0011	0.028	0.000000950	0.0006131	0.005452
49	48	0.0012	0.030	0.0000011310	0.0007279	0.006487
	47	0.0014	0.036	0.0000015394	0.0009931	0.008829
48	46	0.0016	0.041	0.000002011	0.001297	0.01153
	45	0.0018	0.046	0.000002545	0.001642	0.01459
47	44	0.0020	0.051	0.000003142	0.002027	0.0180
40	43	0.0022	0.056	0.000003801	0.002452	0.02180
46	- 42	0.0024	0.061 0.064	0.000004524	0.002919	0.02595
45	42 41	0.0025 0.0028	0.064 0.071	0.000004909 0.000006158	0.003167 0.003973	0.02816 0.03531
45	40	0.0026	0.071	0.000006156	0.003973	0.03331
44	40	0.0031	0.079	0.000007330	0.004809	0.04529
_	39	0.0032	0.090	0.000000042	0.006207	0.05518
43	_	0.0036	0.091	0.000010179	0.006567	0.05838
42	38	0.0040	0.102	0.0000126	0.008107	0.07207
41	-	0.0044	0.112	0.000015205	0.009810	0.08721
_	37	0.0045	0.114	0.0000159	0.01026	0.09122
40	_	0.0048	0.122	0.000018096	0.01168	0.10379
	36	0.0050	0.127	0.0000196	0.01267	0.11262
39	_	0.0052	0.132	0.00002124	0.01370	0.12180
-	35	0.0056	0.142	0.00002460	0.01589	0.14126
38	_	0.0060	0.152	0.00002827	0.01824	0.16217
	34	0.0063	0.160	0.00003120	0.02011	0.17874
37	_	0.0068	0.173	0.00003632	0.02343	0.2083
-	33	0.0071	0.180	0.00003960	0.02554	0.2271
36	-	0.0076	0.193	0.00004536	0.02927	0.2602
	32	0.0080	0.203	0.00005030	0.32430	0.2883
35	Ξ.	0.0084	0.213	0.00005542	0.03575	0.3178
_	31	0.0089	0.226	0.00006220	0.04014	0.3568
34	_	0.0092	0.234	0.00006648	0.04289	0.3813
33 32	30	0.0100 0.0108	0.254 0.274	0.00007854 0.00009161	0.05067 0.05910	0.4505 0.5252
32 _	_ 29	0.0106	0.274	0.00009161	0.05910	0.5252
31	29	0.0113	0.267	0.000100	0.06818	0.6063
30	_	0.0110	0.293	0.00010308	0.00818	0.6928
	28	0.0124	0.313	0.00012070	0.08064	0.7153
29	_	0.0126	0.345	0.00014527	0.09372	0.8334
_	27	0.0142	0.361	0.000158	0.10217	0.9081
28		0.0148	0.376	0.00017203	0.11099	0.9865
	26	0.0159	0.404	0.000199	0.12810	1.1388
27	_	0.0164	0.417	0.0002112	0.13628	1.2116
_	25	0.0179	0.455	0.000252	0.16258	1.4434
26	_	0.0180	0.457	0.0002545	0.16417	1.4595
25	_	0.0200	0.508	0.0003142	0.20270	1.8018
_	24	0.0201	0.511	0.000317	0.20470	1.8199
24	-	0.0220	0.559	0.0003801	0.24520	2.1800
_	23	0.0226	0.574	0.000401	0.25880	2.3010
23	_	0.0240	0.610	0.0004524	0.29190	2.5950
_	22	0.0253	0.643	0.000503	0.32430	2.8830
22	-	0.0280	0.711	0.0006158	0.39730	3.5310
-	21	0.0285	0.724	0.000638	0.41160	3.6590
21	20	0.0320	0.813	0.000804	0.51890	4.6130
20	19	0.0359	0.912	0.00101	0.65160	5.87
20 19	-	0.0360 0.0400	0.914	0.0010179 0.0012566	0.65670	5.836
	_ 18	0.0400	1.020 1.020	0.0012566	0.81070 0.82580	7.207 7.315
_	18	0.0403	1.020	0.00128	1.03900	9.243
18	- 1 <i>1</i>	0.0455	1.130	0.00181	1.16800	10.379
-	_ 16	0.0480	1.220	0.0018090	1.30800	11.625
17		0.0560	1.420	0.002463	1.58900	14.126
	15	0.0571	1.450	0.002465	1.65100	14.680
		0.0071	1.700	0.00200	1.00100	11.000



COMPOUNDS OF OUR CABLES

Polyethylene (Solid and Foamed)

A very good insulation material in terms of electrical properties. Low dielectric constant, a stable dielectric constant over all frequencies, very high insulation resistance. In terms of flexibility, polyethylene can be rated stiff to very hard, depending on molecular weight and density – low density being the most flexible, with high-density, high-molecular weight formulation being very hard. Moisture resistance is rated excellent. Correct Brown and Black formulations have excellent weather resistance. The dielectric constant is 2.3 for solid insulation and typically 1.64 for foam designs. Flame retardant formulations are available with dielectric constants ranging from about 1.7 for foam flame retardant to 2.58 for solid flame retardant polyethylene.

Polypropylene (Solid and Foam)

Similar in electrical properties to polyethylene. This material is primarily used as an insulation material. Typically, it is harder than polyethylene. This makes it suitable for thin wall insulations. UL maximum temperature rating may be 60° C or 80° C. Most UL style call for 60° C maximum. The dielectric constant is 2.25 for solid and typically 1.55 for foam designs.

PVC

Sometimes referred to as vinyl or polyvinylchloride. Extremely high or low temperature properties cannot be found in one formulation. Certain formulations may have -55° C to 105° C rating. Other common vinyls may have 20° C to 60° C. There are many formulations for the variety of different applications. The many varieties of PVC also differ in pliability and electrical properties. The price range can vary accordingly. Typical dielectric constant values can vary from 3.5 to 6.5.



Teflon

This material has excellent electrical properties, temperature range and chemical resistance. It is not suitable where subjected to nuclear radiation and does not have good high voltage characteristics. FEP Teflon is extrudable in a manner similar to PVC and polyethylene. This means that long wire and cable lengths are available. TFE Teflon is extrudable in a hydraulic ram type process. Lengths are limited due to amount of material in the ram, thickness of the insulations, and perform size. TFE must be extruded over silver – or nickel- coated wire. The nickel – and silver-coated designs are rated 260° C and 200° C maximum, respectively. The cost of Teflon is approximately 8 to 10 times more per pound than PVC compounds.

SWG - Standard Wire Gage

ATC - Annealed Tinned Copper

SPC - Silver Plated Copper

ABC - Annealed Bare Copper

ATC - Annealed Tinned Copper



Chetan Cabletronics Put. Ltd.

E-445 & 446, Chopanki Industrial Area, Alwar - 301707, Rajasthan, India **Phone:** +91-1493-513109 • **Fax:** +91-1493-512200

Email: chetan_cabletronics@hotmail.com
Website: www.chetancabletronics.com