Avanti Communications Interface Converters

MANAGEMENT SUMMARY

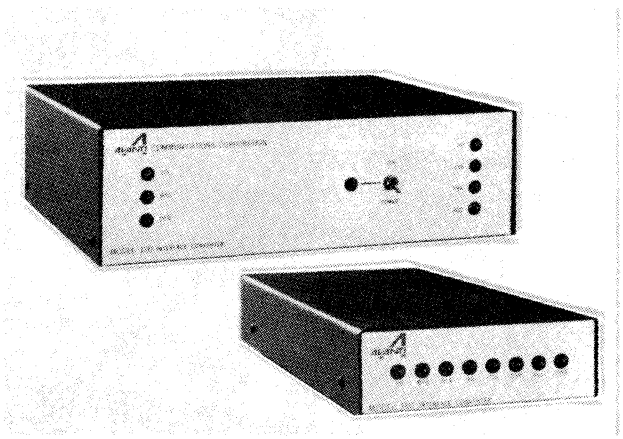
UPDATE: *The vendor has reviewed this report for timeliness and accuracy and has told us that only pricing changes are necessary.*

Avanti Communications Corporation, almost eleven years old, is a well-established manufacturer of interface converters, limited-distance modems, and modem eliminators. The privately held company also manufactures other data communications equipment, including modem sharing units and multiplexers. In this report, we discuss Avanti's line of interface converters, which was first introduced in 1976.

Avanti manufactures seven different standalone converters that effect compatibility between data terminal and data communications equipment that have different mechanical and/or electrical interfaces. The product line also permits interfacing between devices that conform to various combinations of EIA RS-232-C, V.35, current interface for AT&T 301/303 modems, and neutral 20/60 milliampere current loops.

Each converter supports a different set of interface specifications. In some cases, the same physical device can satisfy multiple applications; therefore, the operating environment must be defined at time of order (e.g., 110 or 220 VAC power; 50, 60, 400 Hz; RS-232-C electrical interface; male or female connector for the mechanical interface).

The converters are equipped with front-panel LEDs that permit system monitoring and diagnostic routines. Two cables are required for each installation, one to connect to the terminal equipment and the other to connect to the ➢



Like the other interface converters in the Avanti product line, Models 120 and 160 are entirely transparent to data formats. Model 120 provides conversion between V.35 modem interfaces and AT&T 301/303 current interfaces. Model 140 provides conversion between EIA RS-232-C modem interfaces and neutral current loop modem interfaces.

The seven interface converters in Avanti's product line handle mechanical and electrical conversion between dissimilar devices.

MODELS: Models 100, 110, 120, 130, 140, 160, and 170.
CONVERSION: Model 100—RS-232-C to CCITT V.35; Model 110—RS-232-C to AT&T 301/303; Model 120—V.35 to AT&T 301/303; Model 130—AT&T 301/303 to V.35; Model 140—RS-232-C to neutral current loop; Model 160—AT&T 301/303 to RS-232-C; Model 170—V.35 to RS-232-C.
TRANSMISSION RATES: According to the attached DCE or DTE.
COMPETITION: Gandalf Data, Teleprocessing Products, Inc.
PRICE: From $315 for the Model 140 to $1,695 for the Model 130.

CHARACTERISTICS

VENDOR: Avanti Communications Corporation, Aquidneck Industrial Park, Newport, RI 02840. Telephone (401) 849-4660.

DATE OF ANNOUNCEMENT: May 1976.

DATE OF FIRST DELIVERY: June 1976.

NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: Avanti Communications Corporation.

MODELS

Avanti's family of seven interface converters includes the following (terminal interface to communications interface):

- **Model 100—EIA RS-232-C to CCITT V.35.**
- **Model 110—EIA RS-232-C to AT&T 301/303 current interface.**
- **Model 120—CCITT V.35 to 301/303 current interface.**
- **Model 130—AT&T 301/303 current interface to CCITT V.35.**
- **Model 140—EIA RS-232-C to neutral current loop.**
- **Model 160—AT&T 301/303 current interface to EIA RS-232-C.**
- **Model 170—CCITT V.35 to EIA RS-232-C.**

CONFIGURATION

Avanti interface converters are self-contained units designed for tabletop installation. Rackmountable units are also available on special quotation. Each model is installed between the terminal equipment and the communications ➢

Avanti Communications Interface Converters

communications facility (e.g., modem or DSU). These cables are included in each kit at no extra charge, and additional cable is available for an added cost.

The Model 140 can perform as an RS-232-C to a current neutral loop converter and can also be used as a line driver. When acting as a line driver, the 140 can operate at 2400 bps over distances up to 3.5 miles; at 19.2K bps, the effective range is about 0.75 miles.

COMPETITIVE POSITION

The introduction of AT&T's Dataphone Digital Service (DDS) increased the demand for converters because an application that originally used AT&T 301 or 303 modems with current interface now must conform to the Digital Service Unit (DSU) interface to connect to DDS. The demand for neutral-to-polar conversions has also stimulated activity in this market. The need to convert U.S. standards, like EIA RS-232-C, to international standards, such as CCITT V.35, is another application.

Avanti is one of the major vendors of interface converters. The company's prime competitor in this market is Gandalf, which manufactures a full line of interface conversion products. Both companies offer RS-232-C to V.35 conversions and AT&T 301/303 units. Their product lines differ in two areas: Gandalf offers an RS-232-C/RS-449 unit; Avanti offers RS-232-C to 20 ma/60 ma conversion and competes with DCC/Duracom for sales of this particular product. Avanti has been manufacturing interface converters for about eleven years and has developed a strong customer base of these products. The company's willingness to modify the converters for special applications is a strong selling point. Avanti's interface-converter clients include several *Fortune 200* companies.

ADVANTAGES AND RESTRICTIONS

There are relatively few differences among interface converters because the products operate in a fairly uniform

equipment (modem or facility). The signals from one interface are received, converted to the appropriate signal levels, and transferred to the second interface over an Avanti-supplied cable.

Model 100 is designed to interface terminal equipment with an RS-232-C interface to data communications equipment with a CCITT V.35 interface. It can connect a high-speed synchronous device, such as a multiplexer or concentrator, to AT&T's Dataphone Digital Service (DDS) or to wideband modems, such as the AT&T Model 306, which utilizes the CCITT V.35 interface.

The Model 110 is designed to interface terminal equipment with an RS-232-C interface to data communications equipment with a current interface, such as that employed by the AT&T Model 301/303 modems. It allows a high-speed terminal (or test device) with an RS-232-C interface to operate with (or test) high speed modems or like devices equipped with a current interface.

Model 120 is designed to interface terminal equipment that uses the CCITT V.35 interface to AT&T Model 301/303 modems with a current interface.

The Model 130 permits data communications users to change their wideband services from the AT&T 301/303 modem current interface to the Dataphone Digital Service CCITT V.35 interface.

Model 140 is designed to convert the RS-232-C interface to a current loop interface. This unit allows RS-232-C interface equipment to be connected to Teletype equipment with a neutral current loop interface. The unit can also function as an asynchronous line driver.

The Model 160 is designed to convert AT&T 301/303 current interface on the terminal side to RS-232-C specifications on the communications side.

Model 170 performs conversion from CCITT V.35 on the terminal side to RS-232-C on the communications side.

TABLE 1. SUMMARY OF INTERFACE SPECIFICATIONS

Terminal Interface	Communications Interface			
	EIA RS-232-C	CCITT V.35	AT&T 301/303	20 ma/60 ma Loop
EIA RS-232-C	—	Model 100	Model 110	Model 140
CCITT V.35	Model 170	—	Model 120	—
AT&T 301/303	Model 160	Model 130	—	—
20 ma/60 ma Loop	Model 140	—	—	—

Each Avanti converter is designed for a different set of interface specifications. Users must define the operating environment when ordering equipment.

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manner. Depending upon the interface application, Avanti's converters range in price from $315 to $1,695. In many cases, the sum is small when compared to the alternatives of hardware replacement or modification by the original manufacturer, and Avanti will work with a customer to modify existing units for special applications. □

DEVICE CONTROL

Operation of these devices is straightforward. Once the interface converter is installed by attaching the appropriate cables, power is supplied, and operation consists primarily of turning the device on or off. If in the power-off mode, no signals will pass through the converter.

The interface converters are equipped with front-panel LEDs that monitor selected control signals including receive data, transmit data, request to send, and clear to send. The Model 140 is equipped with two LED displays: one for the receive data signal, and the other for the transmit data signal.

The Model 140 permits the user to select the RS-232-C interface for conversion to a current loop interface. The user selects the output, which can be either a 20 ma or a 60 ma current loop interface with a neutral current loop.

PHYSICAL SPECIFICATIONS

The physical characteristics of the various Avanti interface converters are outlined below:

WEIGHT/DIMENSIONS

	Width, inches	Height inches	Depth, inches	Weight, pounds
Model 100	10	3	9	4
Model 110	10	3	9	4
Model 120	10	3	9	4
Model 130	10	3	9	4
Model 140	5	2	11	2
Model 160	5	2	11	2
Model 170	5	2	11	2

The required power is 110/220 VAC at 50 to 400 hertz.

PRICING

The interface converter kits, which are available for purchase only, include one six-foot modem and/or terminal cable. Additional cable is available for purchase: a Model 200 RS-232-C cable is $25 plus $1 per each additional foot; a Model 202 reversal cable is $575; and a Model 204 reversal cable is $225. A one-year warranty is standard, and quantity discounts are available.

	Purchase Price ($)
Model 100	500
Model 110	1,395
Model 120	1,595
Model 130	1,695
Model 140	315
Model 160	1,095
Model 170	550 ■

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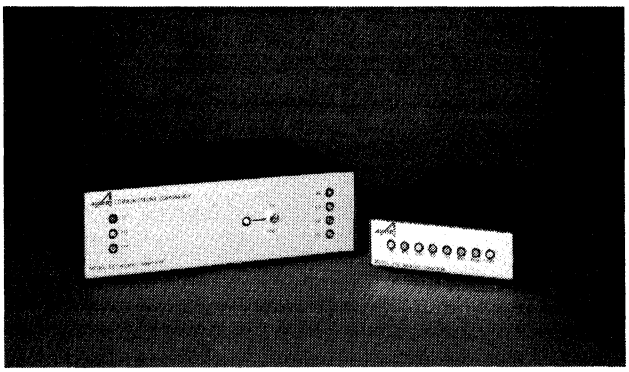

The Avanti Models 120 and 170 interface converters shown here represent the two types of physical characteristics of the seven models.

Avanti interface converters handle mechanical and electrical conversion between dissimilar devices.

MODELS: Models 100, 110, 120, 130, 140, 160, and 170.
CONVERSION: Model 100—RS-232-C to CCITT V.35; Model 110—RS-232-C to AT&T 301/303; Model 120—V.35 to AT&T 301/303; Model 130—AT&T 301/303 to V.35; Model 140—RS-232-C to neutral current loop; Model 160—AT&T 301/303 to RS-232-C; Model 170—V.35 to RS-232-C.
TRANSMISSION RATES: According to the attached DCE or DTE.
COMPETITION: Gandalf Data, Teleprocessing Products, Inc.
PRICE: From $315 for the Model 140 to $1,225 for the Model 130.

MANAGEMENT SUMMARY

UPDATE: *This report has been updated to reflect minor changes in Avanti's product line. Avanti no longer offers MIL-188C conversion on any of its products, and has discontinued the Model 150 unit.*

Avanti Communications Corporation, founded in 1976, is a well-established manufacturer of interface converters and other data communications equipment, including limited-distance modems, modem eliminators, modem sharing units, and multiplexers. In this report, we discuss Avanti's line of interface converters, which were first introduced in 1976.

Avanti manufactures seven different standalone converters that effect compatibility between data terminal and data communications equipment that have different mechanical and/or electrical interfaces. The product line also permits interfacing between devices that conform to various combinations of EIA RS-232-C, V.35, current interface for AT&T 301/303 modems, and neutral 20/60 milliampere current loops.

Each converter supports a different set of interface specifications. In some cases, the same physical device can satisfy multiple applications; therefore, the operating environment must be defined at time of order (e.g., 110 or 220 VAC power; 50, 60, 400 Hz; RS-232-C electrical interface; male or female connector for the mechanical interface).

All of the converters are equipped with front-panel LEDs that permit system monitoring and diagnostic routines. Two cables are required for each installation, one to connect to the terminal equipment and the other to connect to the communications facility (e.g., modem or DSU). These cables are included in each kit at no extra charge, and additional cable is available for an added price.

The Model 140 can perform as an RS-232-C to a current neutral loop converter and can also be used as a line driver.

CHARACTERISTICS

VENDOR: Avanti Communications Corporation, Aquidneck Industrial Park, Newport, RI 02840. Telephone (401) 849-4660.

DATE OF ANNOUNCEMENT: May 1976.

DATE OF FIRST DELIVERY: June 1976.

NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: Avanti Communications Corporation.

MODELS

Avanti's family of interface converters includes the following (terminal interface to communications interface):

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- **Model 130—AT&T 301/303 current interface to CCITT V.35.**
- **Model 140—EIA RS-232-C to neutral current loop.**
- **Model 160—AT&T 301/303 current interface to EIA RS-232-C.**
- **Model 170—CCITT V.35 to EIA RS-232-C.**

CONFIGURATION

Each of the interface converters is a self-contained unit designed for tabletop installation. Rack-mount units are available on special quotation. Each model is installed between the terminal equipment and the communications

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When acting as a line driver, the 140 can operate at 2400 bps over distances up to 3.5 miles; at 19.2K bps, the effective range is about 0.75 miles.

COMPETITIVE POSITION

The introduction of AT&T's Dataphone Digital Service (DDS) increased the demand for converters because an application that originally used AT&T 301 or 303 modems with current interface now must conform to the Digital Service Unit (DSU) interface to connect to DDS. The demand for neutral-to-polar conversions has also stimulated activity in this market. The need to convert from U.S. standards, such as EIA RS-232-C, to international standards, such as CCITT V.35, is another application.

Avanti, a privately held corporation, is one of the major vendors of interface converters. Avanti's major competitor in this market is Gandalf, which manufactures a full line of interface conversion products. Both companies offer RS-232-C to V.35 conversions and AT&T 301/303 units. Their product lines differ in two areas: Gandalf offers an RS-232-C/RS-449 unit; Avanti offers RS-232-C to 20 ma/60 ma conversion and competes with DCC/Duracom for sales of this particular product. Avanti has been manufacturing interface converters since 1976 and has developed a strong customer base of these products. Avanti's willingness to modify the converters for special applications is a strong selling point. The company's interface converter clients include several *Fortune 200* companies.

ADVANTAGES AND RESTRICTIONS

There are relatively few differences among interface converters because the products operate in a fairly uniform manner. Depending upon the interface application, Avanti's converters range in price from $315 to $1,225. In many cases, the sum is small when compared to the alternatives of hardware replacement or modification by the original manufacturer, and Avanti will work with a customer to modify existing units for special applications.

USER REACTION

Datapro interviewed four Avanti Interface Converter users, who reported their experiences with Model 140s, Model 130s, and Model 150s (now discontinued). Two of the users represented telephone companies, and two represented manufacturing firms. One user reported his/her experiences with over 300 Model 140s, including some custom-built units. The second user reported on 60 Model 130s, the third had approximately 25 custom-built Model 140s, and the fourth had about 10 Model 150s. The respondents had worked with the products for an average of one year. Those contacted gave the following user ratings:

	Excellent	Good	Fair	Poor	WA*
Overall performance	3	1	0	0	3.8
Ease of operation	2	2	0	0	3.5
Reliability	2	1	1	0	3.2
Maintenance service/ technical support	3	1	0	0	3.8
Documentation	0	0	3	1	1.8

*Weighted Average based on a scale of 4.0 for Excellent.

equipment (modem or facility). The signals from one interface are received, converted to the appropriate signal levels, and transferred to the second interface over an Avanti-supplied cable.

The Model 100 is designed to interface terminal equipment with an RS-232-C interface to data communications equipment with a CCITT V.35 interface. It can connect a high-speed synchronous device, such as a multiplexer or concentrator, to AT&T's Dataphone Digital Service (DDS) or to wideband modems, such as the AT&T Model 306, which utilizes the CCITT V.35 interface.

The Model 110 is designed to interface terminal equipment with an RS-232-C interface to data communications equipment with a current interface, such as that employed by the AT&T Model 301/303 modems. It allows a high-speed terminal (or test device) with an RS-232-C interface to operate with (or test) high speed modems or like devices equipped with a current interface.

The Model 120 is designed to interface terminal equipment that uses the CCITT V.35 interface to AT&T Model 301/303 modems with a current interface.

The Model 130 permits data communications users to change their wideband services from the AT&T 301/303 modem current interface to the Dataphone Digital Service CCITT V.35 interface.

The Model 140 is designed to convert the RS-232-C interface to a current loop interface. This unit allows RS-232-C interface equipment to be connected to Teletype equipment with a neutral current loop interface. This unit can also function as an asynchronous line driver.

The Model 160 is designed to convert AT&T 301/303 current interface on the terminal side to RS-232-C specifications on the communications side.

The Model 170 performs conversion from CCITT V.35 on the terminal side to RS-232-C on the communications side.

DEVICE CONTROL

Operation of these devices is straightforward. Once the interface converter is installed by attaching the appropriate cables, power is supplied, and operation consists primarily of turning the device on or off. If in the power-off mode, no signals will pass through the converter.

The interface converters are equipped with front panel LEDs that monitor selected control signals including receive data, transmit data, request to send, and clear to send. The Model 140 is equipped with two LED displays: one for the receive data signal, and the other for the transmit data signal.

The Model 140 permits the user to select the RS-232-C interface for conversion to a current loop interface. The user selects the output, which can be either a 20 ma or a 60 ma current loop interface with a neutral current loop.

PHYSICAL SPECIFICATIONS

The physical characteristics of the various Avanti interface converters are outlined below:

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All of the users were generally well pleased with the Avanti converters. Each mentioned the excellent technical support provided by Avanti, which responded quickly and efficiently to problems. One user chose Avanti converters because the company was willing to modify the devices so that they could be used on any port with any device to facilitate moving equipment quickly and easily. This same respondent had several hundred units; only three or four units had required maintenance during a year's time.

One user, who had problems with the converters during their initial installation, reported that after Avanti modified the boards, the converters worked very well. After looking at several competitors' models, another user purchased Avanti converters because it was the only company willing to modify the products for specialized applications.

The users had only one general negative response, and this concerned the company's documentation. Two users felt that the documentation was poorly organized, another said that the diagrams were inconsistent, and two felt that the authors who wrote the documentation assumed that their readers knew more about the products than they, in fact, did know.

All of the users recommended Avanti's converters to prospective buyers and felt that the products were well priced and extremely reliable. □

PHYSICAL SPECIFICATIONS

WEIGHT/DIMENSIONS

MODEL	Width, inches	Height inches	Depth, inches	Weight, pounds
Model 100	10	3	9	4
Model 110	10	3	9	4
Model 120	10	3	9	4
Model 130	10	3	9	4
Model 140	5	2	11	2
Model 160	5	2	11	2
Model 170	5	2	11	2

The required power is 110/220 VAC at 50 to 400 hertz.

PRICING

The interface converter kits, which are available for purchase only, include one six-foot modem and/or terminal cable. Additional cable is available for purchase: a Model 200 RS-232-C cable is $25 plus $1 per each additional foot; a Model 202 reversal cable is $575; and a Model 204 reversal cable is $225. A one-year warranty is standard, and quantity discounts are available.

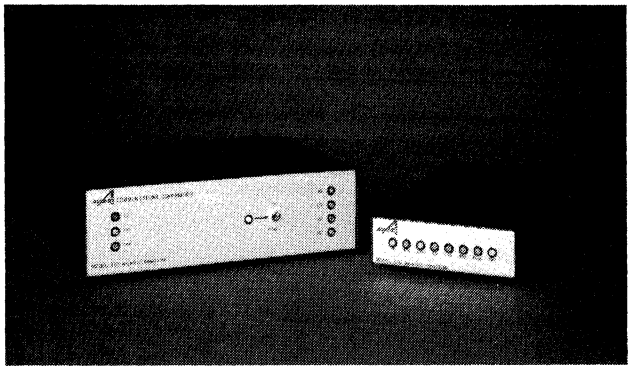
	Purchase Price ($)
Model 100	550
Model 110	1,000
Model 120	1,150
Model 130	1,225
Model 140	315
Model 160	750
Model 170	550 ■

TABLE 1. SUMMARY OF INTERFACE SPECIFICATIONS

Terminal Interface	Communications Interface			
	EIA RS-232-C	CCITT V.35	AT&T 301/303	20 ma/60 ma Loop
EIA RS-232-C	—	Model 100	Model 110	Model 140
CCITT V.35	Model 170	—	Model 120	—
AT&T 301/303	Model 160	Model 130	—	—
20 ma/60 ma Loop	Model 140	—	—	—

Each of the seven Avanti converters is designed for a different set of interface specifications. Users must define the operating environment when ordering equipment.

Avanti Communications Interface Converters



The Avanti Models 120 and 170 interface converters shown here represent the two types of physical characteristics of the seven models.

Avanti interface converters handle mechanical and electrical conversion between dissimilar devices.

MODELS: Models 100, 110, 120, 130, 140, 160, and 170.
CONVERSION: Model 100—RS-232-C to CCITT V.35; Model 110—RS-232-C to AT&T 301/303; Model 120—V.35 to AT&T 301/303; Model 130—AT&T 301/303 to V.35; Model 140—RS-232-C to neutral current loop; Model 160—AT&T 301/303 to RS-232-C; Model 170—V.35 to RS-232-C.
TRANSMISSION RATES: According to the attached DCE or DTE.
COMPETITION: Gandalf Data, Teleprocessing Products, Inc.
PRICE: From $315 for the Model 140 to $1,225 for the Model 130.

MANAGEMENT SUMMARY

UPDATE: *This report has been updated to reflect minor changes in Avanti's product line. Avanti no longer offers MIL-188C conversion on any of its products, and has discontinued the Model 150 unit.*

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CHARACTERISTICS

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COMPETITIVE POSITION

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Ease of operation	2	2	0	0	3.5
Reliability	2	1	1	0	3.2
Maintenance service/ technical support	3	1	0	0	3.8
Documentation	0	0	3	1	1.8

*Weighted Average based on a scale of 4.0 for Excellent.

equipment (modem or facility). The signals from one interface are received, converted to the appropriate signal levels, and transferred to the second interface over an Avanti-supplied cable.

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The Model 120 is designed to interface terminal equipment that uses the CCITT V.35 interface to AT&T Model 301/303 modems with a current interface.

The Model 130 permits data communications users to change their wideband services from the AT&T 301/303 modem current interface to the Dataphone Digital Service CCITT V.35 interface.

The Model 140 is designed to convert the RS-232-C interface to a current loop interface. This unit allows RS-232-C interface equipment to be connected to Teletype equipment with a neutral current loop interface. This unit can also function as an asynchronous line driver.

The Model 160 is designed to convert AT&T 301/303 current interface on the terminal side to RS-232-C specifications on the communications side.

The Model 170 performs conversion from CCITT V.35 on the terminal side to RS-232-C on the communications side.

DEVICE CONTROL

Operation of these devices is straightforward. Once the interface converter is installed by attaching the appropriate cables, power is supplied, and operation consists primarily of turning the device on or off. If in the power-off mode, no signals will pass through the converter.

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Avanti Communications Interface Converters

All of the users were generally well pleased with the Avanti converters. Each mentioned the excellent technical support provided by Avanti, which responded quickly and efficiently to problems. One user chose Avanti converters because the company was willing to modify the devices so that they could be used on any port with any device to facilitate moving equipment quickly and easily. This same respondent had several hundred units; only three or four units had required maintenance during a year's time.

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The users had only one general negative response, and this concerned the company's documentation. Two users felt that the documentation was poorly organized, another said that the diagrams were inconsistent, and two felt that the authors who wrote the documentation assumed that their readers knew more about the products than they, in fact, did know.

All of the users recommended Avanti's converters to prospective buyers and felt that the products were well priced and extremely reliable. □

PHYSICAL SPECIFICATIONS

WEIGHT/DIMENSIONS

MODEL	Width, inches	Height inches	Depth, inches	Weight, pounds
Model 100	10	3	9	4
Model 110	10	3	9	4
Model 120	10	3	9	4
Model 130	10	3	9	4
Model 140	5	2	11	2
Model 160	5	2	11	2
Model 170	5	2	11	2

The required power is 110/220 VAC at 50 to 400 hertz.

PRICING

The interface converter kits, which are available for purchase only, include one six-foot modem and/or terminal cable. Additional cable is available for purchase: a Model 200 RS-232-C cable is $25 plus $1 per each additional foot; a Model 202 reversal cable is $575; and a Model 204 reversal cable is $225. A one-year warranty is standard, and quantity discounts are available.

	Purchase Price ($)
Model 100	550
Model 110	1,000
Model 120	1,150
Model 130	1,225
Model 140	315
Model 160	750
Model 170	550 ■

TABLE 1. SUMMARY OF INTERFACE SPECIFICATIONS

Terminal Interface	Communications Interface			
	EIA RS-232-C	CCITT V.35	AT&T 301/303	20 ma/60 ma Loop
EIA RS-232-C	—	Model 100	Model 110	Model 140
CCITT V.35	Model 170	—	Model 120	—
AT&T 301/303	Model 160	Model 130	—	—
20 ma/60 ma Loop	Model 140	—	—	—

Each of the seven Avanti converters is designed for a different set of interface specifications. Users must define the operating environment when ordering equipment.

Avanti Communications Interface Converters

MANAGEMENT SUMMARY

Avanti Communications corporation, founded in 1976, is a well-established manufacturer of interface converters and other data communications equipment, including limited-distance modems, modem eliminators, and modem sharing units. In 1983, Avanti announced the addition of two high-end products to its line of data communications equipment: the high-speed LADDs limited distance modems and the UltraMux, a new time division multiplexer that operates at up to 10M bps. In this report, we shall discuss Avanti's line of interface converters, which were first introduced in 1976.

Avanti manufactures eight different standalone converters that effect compatibility between data terminal and data communications equipment that have different mechanical and/or electrical interfaces. The product line also permits interfacing between devices that conform to various combinations of EIA RS-232-C, MIL STD 188C, CCITT V.35, current interface for AT&T 301/303 modems, and neutral 20/60 milliampere current loops.

Each converter supports a different set of interface specifications. In some cases, the same physical device can satisfy multiple applications; therefore, the operating environment must be defined at time of order (e.g., 110 or 220 VAC power; 50, 60, 400 Hz; RS-232-C or MIL STD 188C electrical interface; male or female connector for the mechanical interface).

Depending upon the interface application, the converters range in price from $315 to $1,225. In many cases, the sum is small when compared to the alternatives of hardware replacement or modification by the original manufacturer. The introduction of AT&T's Dataphone Digital Service (DDS) has increased the demand for converters since an application that originally used AT&T 301 or 303 modems with current interface now must conform to the Digital Service Unit (DSU) interface to connect to DDS. Conversion from military hardware to commercial devices and other neutral-to-polar conversions have also stimulated

Avanti interface converters handle mechanical and electrical conversion between dissimilar devices.

MODELS: Models 100, 110, 120, 130, 140, 150, 160, and 170.
CONVERSION: Model 100—RS-232-C or MIL STD 188C to CCITT V.35; Model 110—RS-232-C or 188C to AT&T 301/303; Model 120—V.35 to AT&T 301/303; Model 130—AT&T 301/303 to V.35; Model 140—RS-232-C or 188C to neutral current loop; Model 150—RS-232-C to 188C; Model 160—AT&T 301/303 to RS-232-C or 188C; Model 170—V.35 to RS-232-C or 188C.
TRANSMISSION RATES: According to the attached DCE or DTE.
COMPETITION: Gandalf Data, Black Box, Versitron.
PRICE: From $550 for the Model 100 to $1,225 for the Model 130.

CHARACTERISTICS

VENDOR: Avanti Communications Corporation, Aquidneck Industrial Park, Newport, RI 02840. Telephone (401) 849-4660.

DATE OF ANNOUNCEMENT: May 1976.

DATE OF FIRST DELIVERY: June 1976.

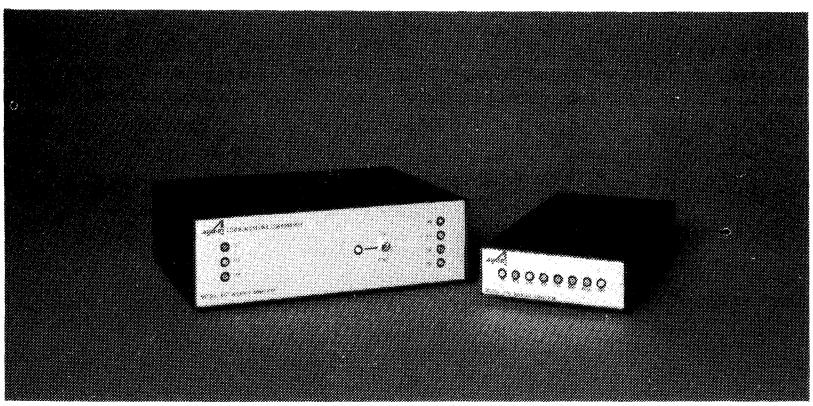
NUMBER DELIVERED TO DATE: Information not available.

SERVICED BY: Avanti Communications Corporation.

MODELS

Avanti's family of interface converters includes the following (terminal interface to communications interface):

- **Model 100 converts EIA RS-232-C or MIL STD 188C to CCITT V.35.**



The Avanti Models 120 and 170 interface converters shown here represent the two types of physical characteristics of the eight models. Model 120 is 10 inches wide, 3 inches high, 9 inches deep, and weighs 4 pounds. Model 170 is 5 inches wide, 2 inches high, 11 inches deep, and weighs 2 pounds.

Avanti Communications Interface Converters

activity. The need to convert from U.S. standards, such as EIA RS-232-C, to international standards, such as CCITT V.35, is another obvious application.

All of the converters are equipped with front-panel LEDs that permit system monitoring and diagnostic routines. Two cables are required for each installation, one to connect to the terminal equipment and the other to connect to the communications facility (e.g., modem or DSU). These cables are included in each kit at no additional charge.

The Model 140 can perform as an RS-232-C to a current neutral loop converter and can also be used as a line driver. When acting as a line driver, the 140 can operate at 2400 bps over distances up to 3.5 miles; at 19.2K bps, the effective range is about 0.75 miles.

COMPETITIVE POSITION

Avanti is a privately held corporation. The company employs 100 people, has a nationwide sales force, and has plans to market its products in Europe.

Avanti's major competitors in the interface converter market are Black Box Catalog, which manufactures nine models, including the BBIC Series that contains four types of converters; Gandalf Data, the Canadian manufacturer of the IFC200 Series; and Versitron, whose most popular converters include Models R42M and R42F. Avanti has been a prime seller of interface converters since 1976 and has developed a strong customer base. Avanti's willingness to modify the converters for special applications is a strong selling point. The company's interface converter clients include several Fortune 200 companies.

ADVANTAGES AND RESTRICTIONS

There are relatively few differences among interface converters because the products operate in a fairly uniform manner. However, Avanti does include a six-foot cable with each converter kit, and because cable can be expensive, this inclusion represents an economic advantage to prospective buyers.

USER REACTION

In May, 1983, Datapro contacted four Avanti Interface Converter users, who reported their experiences with Model 140s, Model 130s, and Model 150s. Two of the users represented telephone companies, and two represented manufacturing firms. One user reported his/her experiences with over 300 Model 140s, including some custom-built units. The second user reported on 60 Model 130s, the third had approximately 25 custom-built Model 140s, and the fourth had about 10 Model 150s. The respondents had worked with the products for an average of one year. Those contacted gave the following user ratings:

	Excellent	Good	Fair	Poor	WA*
Overall performance	3	1	0	0	3.8
Ease of operation	2	2	0	0	3.5
Reliability	2	1	1	0	3.2
Maintenance service/ technical support	3	1	0	0	3.8
Documentation	0	0	3	1	1.8

*Weighted Average based on a scale of 4.0 for Excellent.

- **Model 110 converts EIA RS-232-C or MIL STD 188C to AT&T 301/303 current interface.**
- **Model 120 converts CCITT V.35 to 301/303 current interface.**
- **Model 130 AT&T 301/303 current interface to CCITT V.35.**
- **Model 140 EIA RS-232-C or MIL STD 188C to neutral current loop.**
- **Model 150 EIA RS-232-C to MIL STD 188C.**
- **Model 160 AT&T 301/303 current interface to EIA RS-232-C or MIL STD 188C.**
- **Model 170 CCITT V.35 to EIA RS-232-C or MIL STD 188C.**

CONFIGURATION

Each of the interface converters is a self-contained unit designed for table-top installation. Rack-mount units are available on special quotation. Each model is installed between the terminal equipment and the communications equipment (modem or facility). The signals from one interface (connector) are received, converted to the appropriate signal levels, and transferred to the second interface over an Avanti-supplied cable. As the model listing indicates, some units can accept either RS-232-C or MIL STD 188C, which must be specified at time of order.

The Model 100 is designed to interface terminal equipment with RS-232-C interface to data communications equipment with CCITT V.35 interface. It can connect a high speed synchronous device, such as a multiplexer or concentrator, to AT&T's Dataphone Digital Service (DDS) or to wideband modems, such as the AT&T Model 306, which utilizes the CCITT V.35 interface.

The Model 110 is designed to interface terminal equipment with RS-232-C or MIL STD 188C interface to data communications equipment with a current interface such as that employed by the AT&T Model 301/303 modems. It allows a high-speed terminal (or test device) with RS-232 interface to operate with (or test) high-speed modems or like devices equipped with a current interface.

The Model 120 is designed to interface terminal equipment which utilize the CCITT V.35 interface to AT&T Model 301/303 modems which utilize the current interface.

The Model 130 permits data communications users to change their wideband services from the AT&T 301/303 modem current interface to the Dataphone Digital Service CCITT V.35 interface.

The Model 140 is designed to convert RS-232-C or MIL STD 188C interfaces to current loop interfaces. This unit allows RS-232-C or MIL STD-188C interface equipment to be connected to Teletype equipment utilizing a neutral current loop interface. This unit can also function as an asynchronous line driver.

The Model 150 is a straight EIA RS-232-C (terminal side) to MIL STD 188C (communications side) converter.

The Model 160 is designed to convert AT&T 301/303 current interface on the terminal side to either RS-232-C or MIL STD 188C specifications on the communications side.

The Model 170 performs conversion from CCITT V.35 on the terminal side to either RS-232-C or MIL STD 188C interface on the communications side.

Avanti Communications Interface Converters

TABLE 1. SUMMARY OF INTERFACE SPECIFICATIONS

Terminal Interface	Communications Interface				
	MIL 188C	EIA RS-232-C	CCITT V.35	AT&T 301/303	20mA/60mA Loop
MIL 188C	—	Model 150	Model 100	Model 110	Model 140
EIA RS-232-C	Model 150	—	Model 100	Model 110	Model 140
CCITT V.35	Model 170	Model 170	—	Model 120	—
AT&T 301/303	Model 160	Model 160	Model 130	—	—
20mA/60mA Loop	Model 140	Model 140	—	—	—

Each of the eight Avanti converters is designed for a different set of interface specifications. Users must define the operating environment when ordering equipment.

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DEVICE CONTROL

Operation of these devices is straightforward. Once the interface converter is installed by attaching the appropriate cables, power is supplied, and operation consists primarily of turning the device on or off. If in the power-off mode, no signals will pass through the converter.

The interface converters are equipped with front panel LEDs that monitor selected control signals including receive data, transmit data, request to send, and clear to send. The Model 140 is equipped with two LED displays: one for the receive data signal, and the other for the transmit data signal.

The Model 140 permits the user to select either RS-232-C or MIL STD 188C interface for conversion to a current loop interface. The user selects the output, which can be either a 20mA or a 60mA current loop interface with a neutral current loop.

PHYSICAL SPECIFICATIONS

The physical characteristics of the various Avanti interface converters are outlined below:

	Width, inches	Height, inches	Depth, inches	Weight, pounds
Model 100	**10**	**3**	**9**	**4**
Model 110	**10**	**3**	**9**	**4**
Model 120	**10**	**3**	**9**	**4**
Model 130	**10**	**3**	**9**	**4**
Model 140	**5**	**2**	**11**	**2**
Model 150	**5**	**2**	**11**	**2**
Model 160	**5**	**2**	**11**	**2**
Model 170	**5**	**2**	**11**	**2**

The required power is 110/220 VAC at 50 to 400 hertz.

PRICING

The interface converter kits include one six-foot modem and/or terminal cable and are available for purchase only. A one-year warranty is standard, and quantity discounts are available.

	Purchase Price
Model 100	$ 550
Model 110	1,000
Model 120	1,150
Model 130	1,225
Model 140	315
Model 150	425
Model 160	750
Model 170	550

Avanti Communications Interface Converters

Additional cable is available for purchase at the following prices; all cable lengths are six feet unless otherwise specified:

	Purchase Price
Model 200: RS-232-C cable (specify male/male, male/female, female/female	$ 25*
Model 202: AT&T 301/303 reversal cable	575
Model 204: CCITT V.35 reversal cable	225
Model 206: Additional length AT&T 301/303 cable	15/ft.
Model 208: Additional length CCITT V.35 cable	1/ft.

*Plus $1 per foot for additional cable.■