

DCE/DTE Switchable Interface Powered Converters

Quick Reference Guide

[RS232 Based Interface Powered Series]

V35/lp

RS-232(DTE/DCE) ↔ V.35(DCE/DTE)

X21/lp

RS-232(DTE/DCE) ↔ X.21(DCE/DTE)

RS449/lp (CCITT V.36)

RS-232(DTE/DCE) ↔ RS449(DCE/DTE)

Functional Description

The PIM-RS232/lp interface converter allows full conversion between EIA RS232 and RS449/RS530/V.35/X.21.

The interface converter is very easy to implement. Simply connect the appropriate interface cable adapter, no external DC power adapter is required, and select the correct "MODE #".

Features Description

Mode Indicator:

Indicates which mode has been selected

Connect to DTE (RS232) ↔ DCE (V.35/RS449/RS530/X.21)

Connect to DCE (RS232) ↔ DTE (V.35/RS449/RS530/X.21)

Mode Selector:

Use the Mode slide switch to control communication flow.

Mode 1: RS-232 ↔ V.35/RS449/RS530/X.21
(To DTE) (To DCE)

Mode 2: RS-232 ↔ V.35/RS449/RS530/X.21
(To DCE) (To DTE)

External Power Input/Indicator:

When using the converter in a poor communication environment, user can use external DC power adapter connected here. 9V/300mA AC/DC.

V35/lp Pinout Guides

MODE 1				
RS-232(DCE)			V.35(DTE)	
NAME	DB25		MB34	NAME
FG	1	↔	A	FG
TD	2	→	P, S	SD
RD	3	←	R, T	RD
RTS	4	→	C	RS
CTS	5	←	D	CS
DSR	6	←	E	DM
SG	7	↔	B	SG
DCD	8	←	F	RR
+9V	9	→	---	---
TC	15	←	Y, AA	ST
RC	17	←	V, X	RT
DTR	20	→	H	TR
RI	22	←	J	IC
XTC	24	→	U, W	TT

X21/lp Pinout Guides

MODE 1				
RS-232(DCE)			X.21(DTE)	
NAME	DB25		DB 15	NAME
FG	1	↔	1	FG
TD	2	→	2, 9	T
RD	3	←	4, 11	R
RTS	4	→	3, 10	C
SG	7	↔	8	SG
DCD	8	←	5, 12	I
+9V	9	→	---	---
TC	15	←	6, 13	S
RC	17	←	6, 13	S

NOTE:
RS232 TX CLOCK SOURCE=DCE

RS449/lp Pinout Guides

MODE 1				
RS-232(DCE)			RS-449(DTE)	
NAME	DB25		DB37	NAME
FG	1	↔	1	
GND	7	↔	19, 20, 37	SG
TD	2	→	4, 22	SD
RD	3	←	6, 24	RD
RTS	4	→	7, 25	RS
CTS	5	←	9, 27	CS
DSR	6	←	11, 29	DM
DTR	20	→	12, 30	TR
DCD	8	←	13, 31	RR
RI	22	←	15	IC
+9V	9	→	---	---
TC	15	←	5, 23	ST
RC	17	←	8, 26	RT
XTC	24	→	17, 35	TT

MODE 2				
RS-232(DTE)			V.35(DCE)	
NAME	DB25		MB34	NAME
FG	1	↔	A	FG
TD	2	←	P, S	SD
RD	3	→	R, T	RD
RTS	4	←	C	RS
CTS	5	→	D	CS
DSR	6	→	E	DM
SG	7	↔	B	SG
DCD	8	→	F	RR
+9V	9	→	---	---
TC	15	→	Y, AA	ST
RC	17	→	V, X	RT
DTR	20	←	H	TR
RI	22	→	J	IC
XTC	24	←	U, W	TT

MODE 2				
RS-232(DTE)			X.21(DCE)	
NAME	DB25		DB 15	NAME
FG	1	↔	1	FG
TD	2	←	2, 9	T
RD	3	→	4, 11	R
RTS	4	←	3, 10	C
SG	7	↔	8	SG
DCD	8	→	5, 12	I
+9V	9	→	---	---
RC	17	→	6, 13	S
XTC	24	↔		

NOTE:
RS232 TX CLOCK SOURCE=DCE

MODE 2				
RS-232(DTE)			RS-449(DCE)	
NAME	DB25		DB37	NAME
FG	1	↔	1	
GND	7	↔	19, 20, 37	SG
TD	2	←	4, 22	SD
RD	3	→	6, 24	RD
RTS	4	←	7, 25	RS
CTS	5	→	9, 27	CS
DSR	6	→	11, 29	DM
DTR	20	←	12, 30	TR
DCD	8	→	13, 31	RR
RI	22	→	15	IC
+9V	9	→	---	---
TC	15	→	5, 23	ST
RC	17	→	8, 26	RT
XTC	24	←	17, 35	TT

RS232 side DB25 pinout

Pin #	Name	Pin #	Name
1	FG	8	DCD
2	TD	9	+9V
3	RD	15	TC
4	RTS	17	RC
5	CTS	20	DTR
6	DSR	22	RI
7	SG	24	XTC

RS232



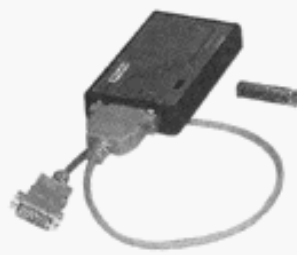
RS-449

RS449 side DB25 pinout

Pin #	Name	Pin #	Name
1	FGND	14	SD(B)
2	SD(A)	15	ST(A)
3	RD(A)	16	RD(B)
4	RS(A)	17	RT(A)
5	CS(A)	18	—
6	DM(A)	19	RS(B)
7	SG	20	TR(A)
8	RR(A)	21	IC
9	RT(B)	22	DM(B)
10	RR(B)	23	TR(B)
11	TT(B)	24	TT(A)
12	ST(B)	25	—
13	CS(B)		

RS-449

RS232



X.21

X.21 side DB25 pinout

Pin#	Name	Pin#	Name
1	FGND	9	S(B)
2	T(A)	10	I(B)
3	R(A)	14	T(B)
4	C(A)	16	R(B)
7	GND	17	S(A)
8	I(A)	19	C(B)

X.21 Interface

SOURCE	ABBR.	PIN NO.	PIN NO.	ABBR.	SOURCE
DTE	T(B)	9	1	FGND	COMMON
DTE	C(B)	10	2	T(A)	DTE
DCE	R(B)	11	3	C(A)	DTE
DCE	I(B)	12	4	R(A)	DCE
DCE	S(B)	13	5	I(A)	DCE
—	—	14	6	S(A)	DCE
—	—	15	7	—	—
—	—	—	8	SG	COMMON

V.24/RS-233 Interface

SOURCE	ABBR.	PIN NO.	PIN NO.	ABBR.	SOURCE
—	—	14	1	FG	COMMON
DCE	TC	15	2	TD	DTE
—	—	16	3	RD	DCE
DCE	RC	17	4	RTS	DTE
—	—	18	5	CTS	DCE
—	—	19	6	DSR	DCE
DTE	DTR	20	7	SG	COMMON
—	—	21	8	DCD	DCE
DCE	RI	22	9	+9V	COMMON
—	—	23	10	—	—
DTE	XTC	24	11	—	—
—	—	25	12	—	—
—	—	—	13	—	—

RS232



V.35

V.35 side DB25 pinout

Pin #	Name	Pin #	Name
1	A	11	W
2	P	12	AA
3	R	14	S
4	C	15	Y
5	D	16	T
6	E	17	V
7	B	20	H
8	F	22	J
9	X	24	U

V.36/RS-449 Interface

SOURCE	ABBR.	PIN NO.	PIN NO.	ABBR.	SOURCE
COMMON	RC	20	1	FGND	COMMON
—	—	21	2	—	—
DTE	SD(B)	22	3	—	—
DCE	ST(B)	23	4	SD(A)	DTE
DCE	RD(B)	24	5	ST(A)	DCE
DTE	RS(B)	25	6	RD(A)	DCE
DCE	RT(B)	26	7	RS(A)	DTE
DCE	CS(B)	27	8	RT(A)	DCE
—	—	28	9	CS(A)	DCE
DCE	DM(B)	29	10	—	—
DTE	TR(B)	30	11	DM(A)	DCE
DCE	RR(B)	31	12	TR(A)	DTE
—	—	32	13	RR(A)	DCE
—	—	33	14	—	—
—	—	34	15	IC	DCE
DTE	TT(B)	35	16	—	—
—	—	36	17	TT(A)	DTE
COMMON	SC	37	18	—	—
—	—	—	19	SG	COMMON

V.35 Interface

SOURCE	ABBR.	PIN NO.	PIN NO.	ABBR.	SOURCE
COMMON	SG	B	A	FG	COMMON
DCE	CTS	D	C	RTS	DTE
DCE	DCD	F	E	DSR	DCE
DCE	RI	J	H	DTR	DTE
—	—	L	K	—	—
—	—	N	M	—	—
DCE	RD(A)	R	P	TD(A)	DTE
DCE	RD(B)	T	S	TD(B)	DTE
DCE	RC(A)	V	U	XTC(A)	DTE
DCE	RC(B)	X	W	XTC(B)	DTE
—	—	Z	Y	TC(A)	DCE
—	—	BB	AA	TC(B)	DCE
—	—	DD	CC	—	—
—	—	FF	EE	—	—
—	—	JJ	HH	—	—
—	—	LL	KK	—	—
—	—	NN	MM	—	—