

COMTEST V35H



**A COMPLETE V.35 INTERFACE TROUBLESHOOTER FOR SPEEDS UP TO 10MB.
ITS LOGICAL DESIGN MAKES IT EASY TO READ. NO EXTRA CABLES ARE NEEDED TO
CONNECT DEVICES WITH EACH OTHER.**

The Comtest V35M is a full featured and easy to use V.35 communication tester. It is a time and trouble saving tool for engineers who install, repair and use V.35 communication equipment. The rugged design and high quality components used makes it nearly indestructible. The logical design of the faceplate shows interface state at a glance.

TECHNICAL INFORMATION:

- High speed monitors (10Mb) for data and clocking signals
- Line monitors for nine assigned single ended (V.28) signals
- Two unassigned monitors/traps to test unassigned signals or short duration events
- Ground Potential Difference test between DCE/DTE.
- One balanced 100 ohm and two 3Kohm S.E. terminations
- Signal Strength test for 0.3, 0.6, 1 and 2 volts.
- Runs 20 hours from one single 9 volt battery, input for external 9 volt.
- One AAA battery for galvanically separated 1.5 volt DC source
- One detachable male and one detachable female V.35 cable
- Logical face plate, easy to use

The Comtest V35H offers many features not available on other testers of its kind. Although several times faster than similar products, it uses less battery power. V35 (high speed) and V28 (control signals) are separated on the face plate for easiness of reading.

The Ground Potential Difference test circuit is an important feature needed if different grounds (wall outlets) are used. The "in line" GPD tests for differences over 2 volts, the unassigned monitor/trap allows test of Ground Potential Differences as low as 0.3 volt. The Signal Strength Adapter allows the user to test the voltage level of the V35 and V28 signals. Voltage sources and terminations for both V35 and V28 are at hand, the voltage source for V35 is galvanically separated.

The breakout switches together with the sockets on DCE/DTE side allow breaking and crosshatching of all 34 lines by means of the switches and the jumper cables supplied with the unit. The high impedance line monitors do not load the circuit. The pulse trap shows short duration (20nS) changes on the circuit not visible to the naked eye on the monitors.

The Comtest V35H runs over 20 hours on one single 9 volt battery, it can also be powered by a 9 volt -stabilised / 100mA- mains adapter (optionally).

Full technical information is provided on panels in case and on the back.

Ground Potential Difference: G. P. D. develops when systems are wrongly grounded or use different grounds, using different wall outlets or UPS. This test is recommended. G. P. D. not only causes problems to the interpretation of the signal state, it can destroy your equipment and even be hazardous to yourself. Read chapter "traps & ticks" in the user manual for more information.

To test G. P. D. open all dual in line switches. LED on # 1 & 2 lights if G. P. D. is over 2 volt. For a more accurate test (300mV) use the extra V. 11 monitor, connect A, resp. B to the left and right socket # 1 & 2, the pulse trap shows short duration pulses.

Signal Strength test: This product complies with the norm V.35/V.28. The minimum voltage needed according to the standard reference for the in-line monitor is too low to assure a reliable communication. The Signal Strength test allows testing for the real voltage strength. For V.28: connect A, resp. B of the signal line to A/B of the extra monitor. Signals exceeding the selected voltage will light the LEDs. For V.35: connect the signal line to the unassigned S.F. monitor. Signals exceeding the selected voltage will light the LEDs. The trap will trigger according to selected range.

V.35 Pin Assignments

Pin #	Abbr.	Description	Source	CCITT
A	FG	Frame Ground	-	100
B	SG	Signal Ground	-	100
C	RTS	Request to Send	DCE	100
D	CTS	Clear to send	DCE	100
E	DSR	Data Set Ready	DCE	100
F	RLSD	Received Line-Signal Detector	DCE	100
H	DR	Data Terminal Ready	DTE	100, 2
J	RI	Ring Indicator	DCE	100
K	LT	Local Test	DTE	100
L	TF	Test Pattern	DCE	-
B	RL	Remote Loopback	DTE	100
A	B			
P	S	Send Data	DTE	100
R	RD	Received Data	DCE	100
U	W	Serial Clock Transmit	DTE	110
V	X	Serial Clock Receive	DCE	110
Y	ca	Serial Clock Transmit	DCE	110

C through b : R-232 (V.28) Electrical characteristics
P through a (a-AA) : V.35 Electrical characteristics

M. N. C. G. S. F. H. J. K. L. M. N unassigned

Panel in the case

Power:

20 hours by one 9 Volt alkaline battery or 9V/100 mA stab. external source (2.6mm mono-plug+ on top) plus one 1.5 V AAA batt. for the DC Source. Power LED is off, or blinking if the battery is more than 90% empty.

V.35 Interface	Balanced (V.35)	Single Ended (V.28)
Red LED	A min. 300mV > B	> 3V higher S.G.
Green LED	B min. 300mV > A	> 3V below S.G.
Input Impedance	> 2KΩ	> 20 KΩ
Dynamic Response	max. 10MHz	Line-monitor > 50Kb Ext monitor > 1Mb
Pulse Trap	Faster than 20ns	Faster than 20ns
Source	galvanically separated 1.5V through 1.6kΩ	±5V through 330Ω
Termination	100Ω balanced	2 x 3KΩ to S.G.

V35H Back panel

The Comtest V35H comes complete with one male and one female detachable V35 cable, jumper cables, batteries, English user manual and small case for transport.

For further information, please contact: