stuntronic T.M.

TELETYPE STUNTRONIC PARITY ERROR DETECTOR CATALOG
OCTOBER, 1970 EDITION
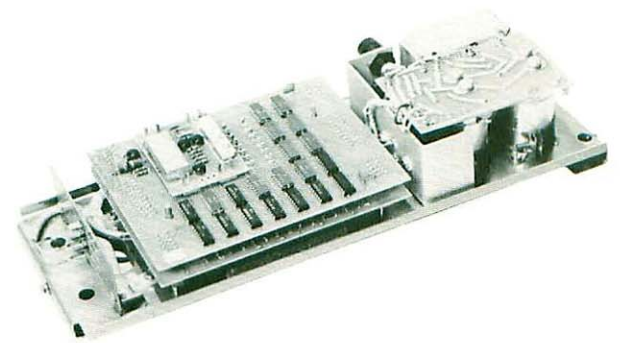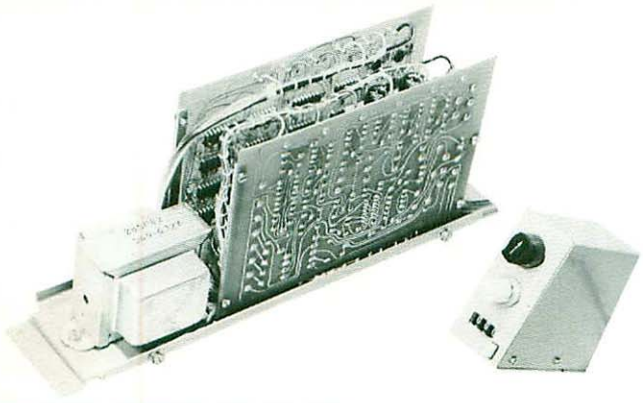
TELETYPE

stuntronic T.M.

parity error detector

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introduction

TELETYPE

Teletype Corporation is constantly searching for ways and means of preventing errors from creeping into data communications systems. For garbled and erroneous data transmission and reception not only consume valuable time, but if undetected may initiate unwanted business happenings.

If data errors are a problem in your communications system, and poor signal reception is the cause, the Stuntronic parity error detector is an accessory worth your consideration.

The Stuntronic parity error detector is a small, solid-state accessory that combats transmission errors by correcting signal distortions, and by detecting and indicating erroneous parity. It can greatly improve the error-free reception capabilities of your data terminal. And, since it is entirely solid-state, maintenance is virtually eliminated. Installation is easy, and requires no additional floor space.

This unique Teletype® accessory is available in a variety of speed and terminal-compatibility interface combinations. Also a variety of error indicating features.

Choose the Stuntronic parity error detector for your particular system requirements from the easy-to-use selection guide, following feature and technical facts.

low-speed
indicator panel
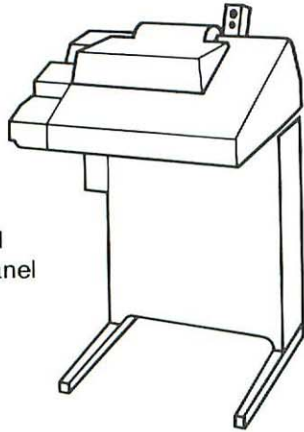
high-speed
indicator panel

![magenta section]

description

what the Stuntronic parity error detector is and does

It's an electronic solid-state accessory that receives the incoming signal ahead of the data terminal in which it has been installed. It regenerates the signal to remove distortions, and checks each character for correct parity to determine if an error has occured. If the parity is in error, the Stuntronic accessory declares the char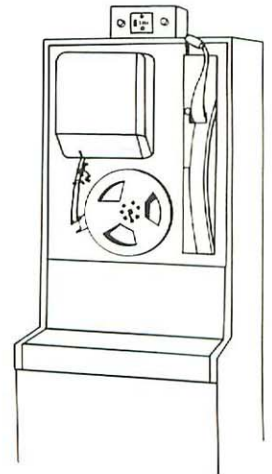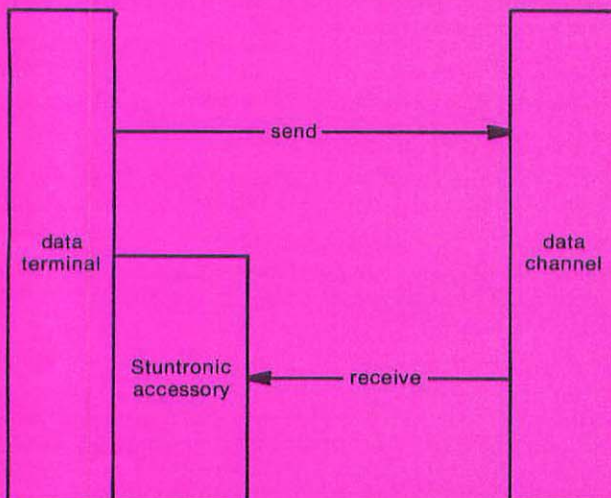acter invalid and alerts the operator of the receiving terminal, or the sending terminal, or both, depending on the choice of optional error indicators being used.

data
terminal

send

data
channel

Stuntronic
accessory

receive

parity

Most data terminals generate parity (for those that do not, Teletype also offers a Stuntronic parity insertor accessory). The addition of the Stuntronic parity error detector provides the important capability of detecting parity.

In detecting parity, the Stuntronic parity detector utilizes an existing scheme for data transmission error control. The scheme involves adding a "parity" bit to the 7 ASCII code bits that represent a character during transmission. The parity bit makes the total number of bits which are in the binary state 1 ("marking") condition an even number, in an "even parity" system, or an odd number, in an "odd parity" system.

What the Stuntronic parity detector does is to check that the number of condition 1 bits received is still even (or odd). If not, then some of the bits must have changed condition such that the character they represent is no longer the intended character.

corrects three types of signal distortion

The Stuntronic parity error detector corrects error-causing distorted bits, false start bits, and broken stop bits.

Bit distortions are a factor of the transmission facilities through which the bits travel. Badly distorted bits may be misinterpreted by the receiving data terminal. The result, of course, is an error. The Stuntronic accessory overcomes this problem by signal regeneration. The signal regenerator will accept bits distorted by as much as 45% and regenerate them to less than 5% distortion before passing them on to the terminal.

False start bits are random condition 0 bits (also called "hits") appearing suddenly on an idle transmission line. To a receiving terminal without Stuntronic accessory capabilities, they can be interpreted as start bits. The Stuntronic accessory separates the "hits" from the bits by requiring a true start bit to be at least ½ bit in duration before passing it on to the terminal.

Broken stop bits can throw a receiving terminal out of synchronization with the sending terminal. This in turn causes garbled reception. The Stuntronic accessory replaces each stop bit received with a new, distortion-free, unbroken, bit to keep send-receive operations synchronous. SA110 series only.

variety of error indicators

The Stuntronic accessory offers a number of optional error indicators to keep the terminal operator informed of parity errors. These indicators enable an operator to take the corrective action best suited to a transmission situation: that of requesting retransmission of the entire message, part of the message, or of making manual corrections when errors are obvious.

Error Lamp This option provides the receiving operator with a visual indication of parity errors as they occur. When the light lights to indicate an error, the operator can let the error remain if the correction is obvious, or initiate a stop procedure.

Error Lamp with Counter The lamp would be programmed to stay lit after receipt of the first error, indicating to the operator that errors were received, and the counter would tell the operator the total number of corrections to be made. Choose the slow response counter for 10 char/sec applications, and the fast or slow counter for 105 char/sec applications. (The slow counter will count individual errors at 10 char/sec and groups of errors at 105 char/sec.)

Substitute Character With this option, detected erroneous characters are replaced with a substitute character (such as *), making errors exceptionally easy to spot in the terminal's print-out. Or if the data is being *recorded* on paper or magnetic tape, errors are recorded as such for ease of machine (or later print-out) identification. SA120 series only.

Timed Break With this feature, the Stuntronic accessory automatically generates a condition 0 on the signal line for a specific, programmable, period of time, whenever a parity error is received. Has application in unattended receiver applications where the sender is programmed to stop transmitting upon receipt of timed break.

bypass switch

The addition of a bypass switch enables an operator to turn off the Stuntronic accessory and receive non-parity data directly into the terminal.

solid-state design

The Stuntronic accessory is a solid-state accessory. This means quietness, and plug-in card modularity for easy maintenance.

easy to install

Electronics and power supply contained in rack mountable metal box. Fits easily into data terminal housing. Error lamp, counter, and bypass switch are contained in attractive console ready for eye-level mounting.

parity easily adjusted

Simple strap change for "even" or "odd" parity to meet system requirements.

choice of speed

10 char/sec @ 11 bit/char, or 105 char/sec @ 10 bit/char.

EIA or current interface

SA110 series: adjustable via simple strap change. SA120 series: choice of EIA or current interface.

fits variety of data terminals

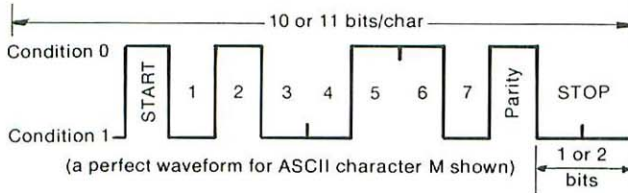Presently designed, styled, and cabled for use with Teletype 33, 35, Inktronic® 2101, or Telespeed™ 1050 data terminals.

parity insertor

If your data terminal lacks parity generation, a Stuntronic parity insertor can be added to the send side of your unit. This accessory provides a transmission capability of odd or even parity to meet your system requirements. Presently designed for Telespeed™ 1050 data terminals.

technical facts

serial signal

─── 10 or 11 bits/char ───

Condition 0

START | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Parity | STOP

Condition 1

1 or 2 bits

(a perfect waveform for ASCII character M shown)

interface

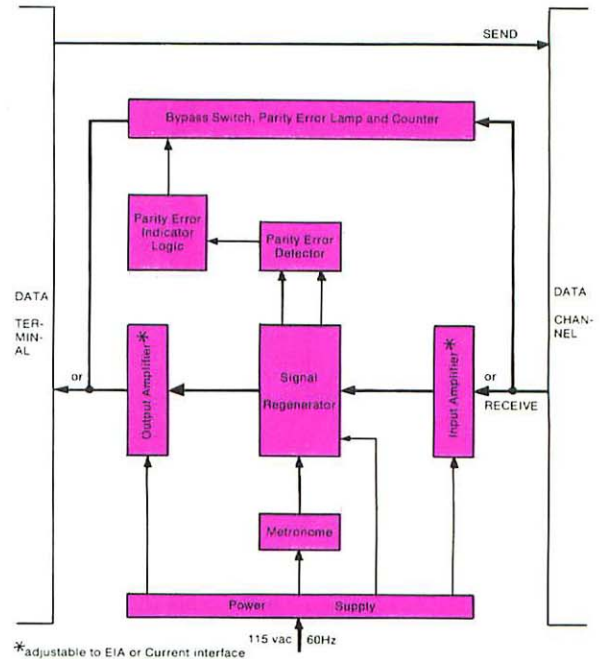|	EIA		Current	
	input	output	input	output
binary condition 0	+3 to +25 vdc	+6±1 vdc	0 ma dc	0 ma dc
binary condition 1	−3 to −25 vdc	−8±2 vdc	30 ma dc	30 ma dc
Input Impedance or Voltage Limit	3300 Ω	3000 Ω	−14 vdc	−48 vdc

power

115 vac @ 50/60 Hz 25 watts

physical

SA110: 12 by 5 by 2½ inches, 10 lbs.
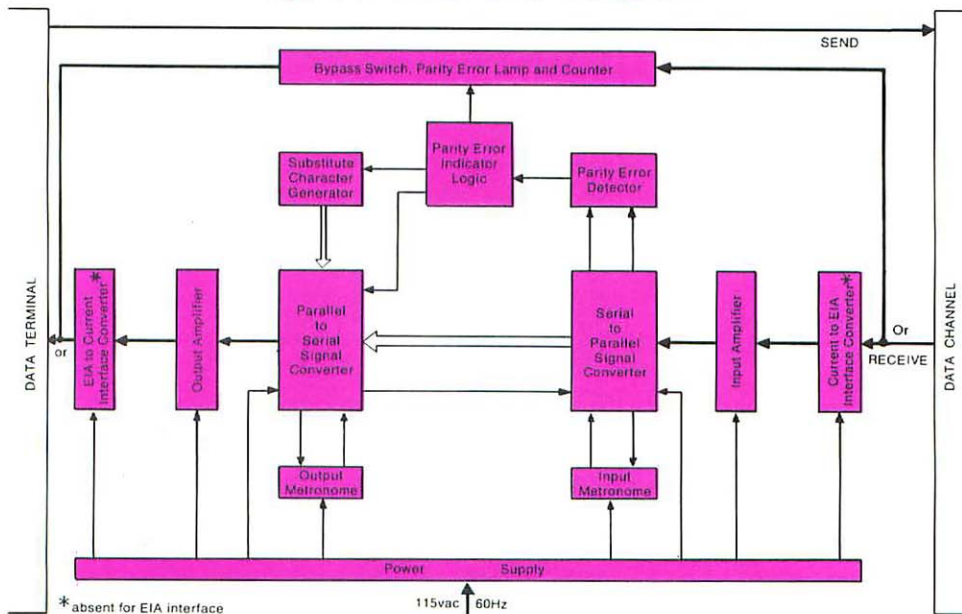SA120: 14½ by 5¼ by 3½ inches, 10 lbs.

environmental

40 to 110°F @ 90% r.h.

typical SA110 block diagram

*adjustable to EIA or Current interface

typical SA120 block diagram

*absent for EIA interface

stuntronic T.M.

parity error detector

low speed

Substitute Character	Line Break	Lamp	Counter, Slow Response	Counter, Fast Response	Bypass Switch	Parity Insertor	10 char/sec @ 11 bit/bit	105 char/sec @ 10 bit/char	EIA (RS-232-B)	Current	Catalog Number
											Method of Parity Error Endication / **Baud Rate** / **Inter-face**
					Compatible with model 33						
	•						•		•	•	SA110AB
	•				•		•		•	•	SA110BA
		•	•		•		•		•	•	SA110BB
•							•		•		SA120AB
•							•			•	SA120AF
•	•						•		•		SA120AK
•	•						•			•	SA120AP
•					•		•		•		SA120BA
•					•		•			•	SA120BB
•	•				•		•		•		SA120BC
•	•				•		•			•	SA120BD
•		•	•		•		•		•		SA120BE
•		•	•		•		•			•	SA120BF
					Compatible with model 35						
	•						•		•	•	SA110AB
	•				•		•		•	•	SA110CA
		•	•		•		•		•	•	SA110CB
•							•		•		SA120AB
•							•			•	SA120AF
•	•						•		•		SA120AK
•	•						•			•	SA120AP
•					•		•		•		SA120CA
•					•		•			•	SA120CB
•	•				•		•		•		SA120CC
•	•				•		•			•	SA120CD
•		•	•		•		•		•		SA120CE
•		•	•		•		•			•	SA120CF

Method of Parity Error Indication					Bypass Switch	Parity Insertor	Baud Rate		Inter-face		Catalog Number
Substitute Character	Line Break	Lamp	Counter, Slow Response	Counter, Fast Response			10 char/sec @ 11 bit/bit	105 char/sec @ 10 bit/char	EIA	Current	
Compatible with Telespeed 1050 receiver											
	●				●			●	●	●	SA110AD
	●				●			●	●	●	SA110EA
		●	●		●			●	●	●	SA110EB
		●			●			●	●	●	SA110EC
		●			●			●	●	●	SA110ED
●								●	●		SA120AD
●	●							●	●		SA120AM
●						●		●	●		SA120EA
●	●				●			●	●		SA120EB
●		●	●		●			●	●		SA120EC
●		●			●			●	●		SA120ED
●		●		●	●			●	●		SA120EE
Compatible with Telespeed 1050 sender											
					●	●		●	●		SA120FA
Compatible with Inktronic 2101 data terminal (RO)											
	●				●			●	●	●	SA110EA
●					●			●	●		SA120EA

main characteristics (Stuntronic parity error detectors)

corrects signal distortions via signal regeneration. Accepts bits up to 45% distorted, provides terminal with bits of less than 5% distortion. Ignores bits of less than ½ bit duration. Replaces broken stop bits with new unbroken stop bits (SA 110 series only).

detects and indicates parity errors.
Choice of error indicators (see table).

input-output signal
Any 10 bit/char (@ 105 char/sec) or 11 bit/char (@ 10 char/sec) serial signal consisting of 1 start bit, 7 information bits, 1 parity bit, and 1 or 2 stop bits.
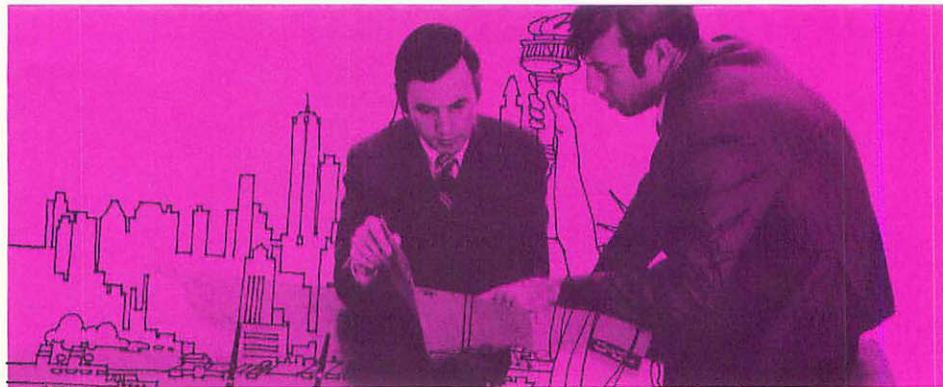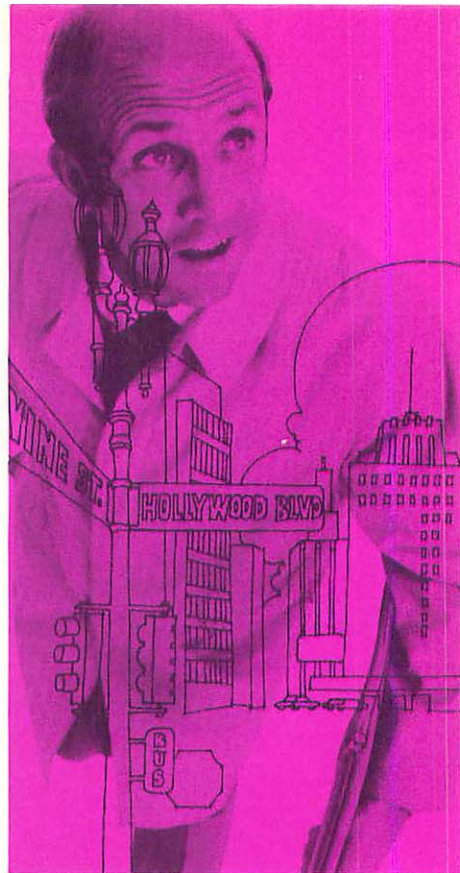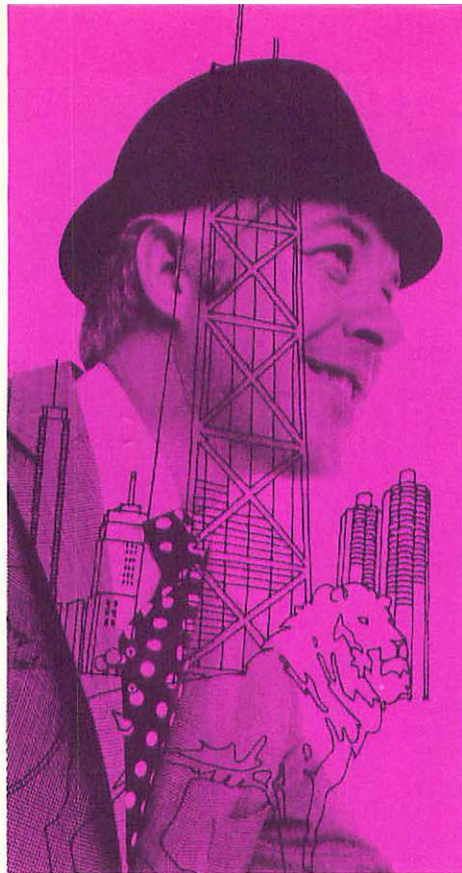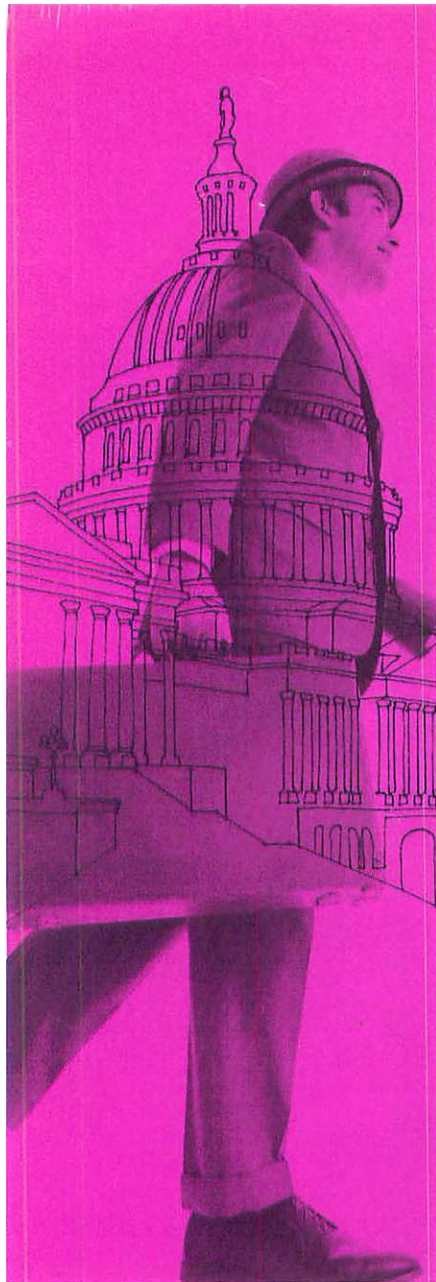
interface
adjustable to EIA or current on SA110's. choice of EIA or current on SA120's.

power
115 vac @ 50/60 Hz 25 watts

Accessories
SA120 Current Interface—to field convert your EIA SA120 to current interface. Order: 323512.

when you need assistance

There's a man from Teletype Corporation ready to help you. Backed by all the resources of Teletype. Ready to bring experienced technical assistance right into your business . . . no matter your location. Ready with answers that work to give you the most from your Teletype equipment. Solutions to problems in systems and application design. Answers like: application seminars for management people; a maintenance training program planned to give your key service personnel a basic working knowledge of Teletype equipment; product service, including maintenance and repair. Wherever you are, whatever your data communications problem, call on the man from Teletype.

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