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Series 9700 Programmable Time System
Configuration Guide



The Series 9700 product is built in two configurations:

Model 9700AT Programmable Time System
Model 9710AT Programmable Time System

The Model 9700AT and 9710AT are functionally identical, but the chassis height of the Model 9710AT is greater to provide twelve expansion slots rather than six. As shown below, the option modules are inserted into any slot of the expansion bay.

The following pages provide a brief description of each option.



datum

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System Options

Introduction

Each option for the Series 9700 product is identified by an option number, which is listed on the following pagaes. most options are provided by means of a plug-in module that is installed into any available slot in the rear expansion bay. An option can occupy one, two or three adjacent slots. Each description given below indicates the size of the option in terms of slots. For example, the Tape Search Module (Option 02A) is a wide plug-in that occupies two option slots (side-by-side). Another example is the 50-Ohm Distribution Module (Option 39A), which is a single width module that has large components that require that the module be installed in a bottom slot and that the slot directly above be empty. Every option slot is annotated with the number of slots required for installation.

02A Tape Search

Double width module that provides direct motion control to an instrumentation tape drive to replay a selected segment of the tape based on time code recorded on the tape. Includes auxiliary outputs (START pulse, STOP pulse, INTERVAL level/relay, EARLY CLOSURE relay) and tape speed selection relays.
Slots: 2 (Horizontal)

04B Multispeed BCD (D-hmS)

Single width module that outputs days through 0.00001 second resolution while translating any time code. This module will also provide the same resolution while replaying a time code from a tape at fast replay speeds. This module operates at real time speeds and faster.
Slots: 1

06A RS-232 Input/Output

Single width module that provides for control of the unit as well as providing either generated time or translated time output upon receipt of the appropriate ASCII command string.
Slots: 1

07A RS-232 Time Output

Single width module that provides time output only. A time request is triggered by assertion of the RTS signal by the external device or upon receipt of a single character (set by DIP switch).
Slots: 1

14 Single Code Serial Encoder

Single width module that generates one serial time code. Both the modulated (AC) and unmodulated (DCLS) forms of the code are output. Codes that are available are:

Option 14A = IRIG A
Option 14B = IRIG B
Option 14C = IRIG E (100 Hz)
Option 14D = IRIG E' (1 kHz)
Option 14E = IRIG G
Option 14F = IRIG H (100 Hz)
Option 14G = IRIG H' (1 kHz)
Option 14H = NASA 28
Option 14i = NASA 36
Option 14J = XR3
Option 14L = 2137

Slots: 1

15 Multicode Serial Encoder

Single width module that generates either IRIG A, B, G, XR3, 2137 or NASA 36 by operator selection. In the 9700AT this module can regenerate any of its codes from the time code input to the Translator.
Slots: 1

17 Read DC Time Code

Single width module that provides the capability to translate an unmodulated time code (DC level shift).
Slots: 1

18 Five-Rate Slow Code

Single width module that outputs a pulse width/ amplitude modulated DC level shift time code at one of five operator-selected pulse/frame rates. Used for annotating strip charts.
Slots: 1

20B Oven-Controlled Crystal Oscillator (OCXO)

An oven-controlled quartz oscillator for the time code generator time base. The aging rate of the oscillator is $1X10^{-9}$/day.
Slots: 0

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21 Synchronized TCG

Single width module that allows the Model 9700AT generator to be synchronized to within ±2 microseconds of an input IRIG A, B, G, NASA 36 or 2137 time code.
Slots: 1

22 Disciplined Oscillator

This option requires both Option 20 and 21. When operating as a synchronized time code generator with a disciplined oven oscillator, the generator can be synchronized to within 100 nanoseconds of an input modulated time code.
Slots: 0

27 Video Time Inserter

Single width module that processes either a composite video (NTSC or RS-170) signal to add time as 365:23:59:59:999 in the video field. Time is stored upon detection of the vertical frame pulse.
Slots: 1

32A 600-Ohm Distribution Module

Single width module that provides three groups of "1-in X 3-out" distribution buffer amplifiers. Signal inputs and outputs are via miniature SMB coax connectors. Jumper pads are provided to connect a common input to two or three groups simultaneously. Mating SMB connectors are furnished.
Slots: 1

39A 50-Ohm Distribution Module

Double height module that provides three groups of "1-in X 3-out" distribution buffer amplifiers. Signal inputs and outputs are via miniature SMB coax connectors. Jumper pads are provided to connect a common input to two or three groups simultaneously. Mating SMB connectors are furnished.
Slots: 2 (Vertical)

45 50-Ohm Distribution

Provides one group of "1-in X 3-out" distribution buffer amplifier buffers on BNC connectors. The module provides a wide range of selectable pulse rates not available on the basic Model 9700AT. Jumpers on the module are used to select the desired pulse rate. Three configurations are available. Option 45A is a single-ended DC coupled amplifier with DC-10MHz bandwidth. Signal input and outputs are on BNC connectors. Option 45B accepts a TTL logic level input and outputs RS-422 levels. Signal input is on a BNC connector and outputs are on triax connectors. Option 45C is a transformer coupled buffer with 300Hz to 300kHz bandwidth. Signal input is on a BNC connector and outputs are on triax connectors.

Option 45A = DC - 10MHz Buffers
Option 45B = TTL/RS-422 Buffers
Option 45C = 300Hz - 300kHz Transformer Coupled Buffers

Slots: 1

48 Chassis Slides

Chassis slides are available for the two chassis sizes.

Option 48A for the 1.75-inch 9700AT chassis
Option 48B for the 3.5-inch 9710AT chassis

Slots: 0

50 Rear Panel Cover Plate

A rear panel cover plate is custom designed for the configuration provided. The cover plate is required on the 9700AT and 9710AT chassis in order to conform to the CE requirements for units sold within the European community.
Slots: 0

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