Appendix E

Mark/Search Commands in Jupiter Control System

This appendix is to clarify the operation and implementation of these two commands when used with the MC 3000 control panel and in the TCS 1 translators.

MC 3000 CONTROL PANEL OPERATION

The operation of the MC 3000 control panel is generalized to support time code and non–time code oriented machines. This insures that the operator interface is consistent. Descriptions are included for operation with time code and without.

MARK Command Pushbutton

If the operator presses the **MARK** push button, the following operations are performed by the MC 3000 control panel driver:

1) The current time code value is captured by the MC 3000 driver. This value is stored locally and is used for the Search command. If the machine being controlled does not provide a time code value; i.e., TCS 1 machine interface, an *invalid* time value is stored.

2) A ES–bus **PRESET <time value>** command is sent to the machine being controlled. In the case of a serial controlled machine; i.e., ES–bus, Sony, Ampex, etc. this time value may be used for future search commands. If the command is sent to a non–serial machine, i.e., GPI or TCS 1 control, the command results in the TCS 1 bit command or GPI corresponding to the machine CUE/MARK push button is sent. Time code values are meaningless.

SEARCH Command Pushbutton

If the operator presses the **SEARCH** push button, the following operations are performed by the MC 3000 control panel driver:

1) The current machine **PREROLL** time value is subtracted from the *previously stored* **MARK** time value. The preroll time value is found by interrogating the controlled machine and recovering the defined preroll time value. If the time values are *invalid*; i.e., GPI or TCS 1 control, an invalid time value is generated.

2) An ES–bus **TARGET SEARCH <time value>** command is sent to the machine being controlled. In the case of a serial controlled machine; i.e., ES–bus, Sony, Ampex, etc., the machine is placed in search mode and is *moved to the time value* included in the TARGET SEARCH command. Since the time value sent to the machine incorporates the preroll time value, the machine will be moved to the PREROLL location. If the command is sent to a non–serial controlled machine; i.e., GPI or TCS–1, the time value is ignored and a command corresponding to the SEARCH/CUE push button is sent to the machine. The actual result of this command is determined by the operations of the controlled machine. In most cases, the machine will cue to the previously marked location, this is usually less the PREROLL value.

JUPITER CONTROL WITH INVALID TIME VALUES

It is possible to have control panel and serial machine connections which do not provide the time values required for MC 3000 control panel operation. In the case of TCS 1 and GPI control panels, the time values are not available. In order for the MARK and SEARCH commands to function properly, the Jupiter control system must anticipate operation with invalid (missing) time values. These functions may take place at the local port translator. In general, the following guidelines need to be followed:

1) A **MARK** command generating a **PRESET <invalid time value>** causes the *current local tim*e of the machine to be saved. This time is not necessarily presented to the LAN. This is similar to doing a mark on the control panel of the machine. This stored value will be used for future search commands involving invalid time code values.

2) A **SEARCH** command generating a **TARGET SEARCH <invalid time value>** causing the current device preroll time value to be subtracted from the *previously stored* mark time value and the device is then moved to the new location. NOTE: A search command to a serial control machine with an invalid time value causes a cue to point with preroll.

TCS 1 AND GPI MACHINE CONTROL INTERFACES

The Jupiter control system is designed to use and transfer time code values. As noted above, the MC–3000 control panel *always* uses time values. In the case of TCS 1 and GPI control, *no time values* are available; invalid time values are created and used for commands with these devices.

The commands and status used for TCS 1 control is defined by the **V25 TCS1 SOFTWARE DESIGN SPECIFICATION**, dated January 16, 1990. This translator *does not support* time values. TCS 1 control always ignores time values sent or received. The selection of the ES–bus commands is designed to provide an active command which may be used to close a relay type control.

The actual operation of devices controlled by TCS 1 or GPI control, is determined by the *device itself*. Some commands may not operate as defined for the corresponding ES–bus command.